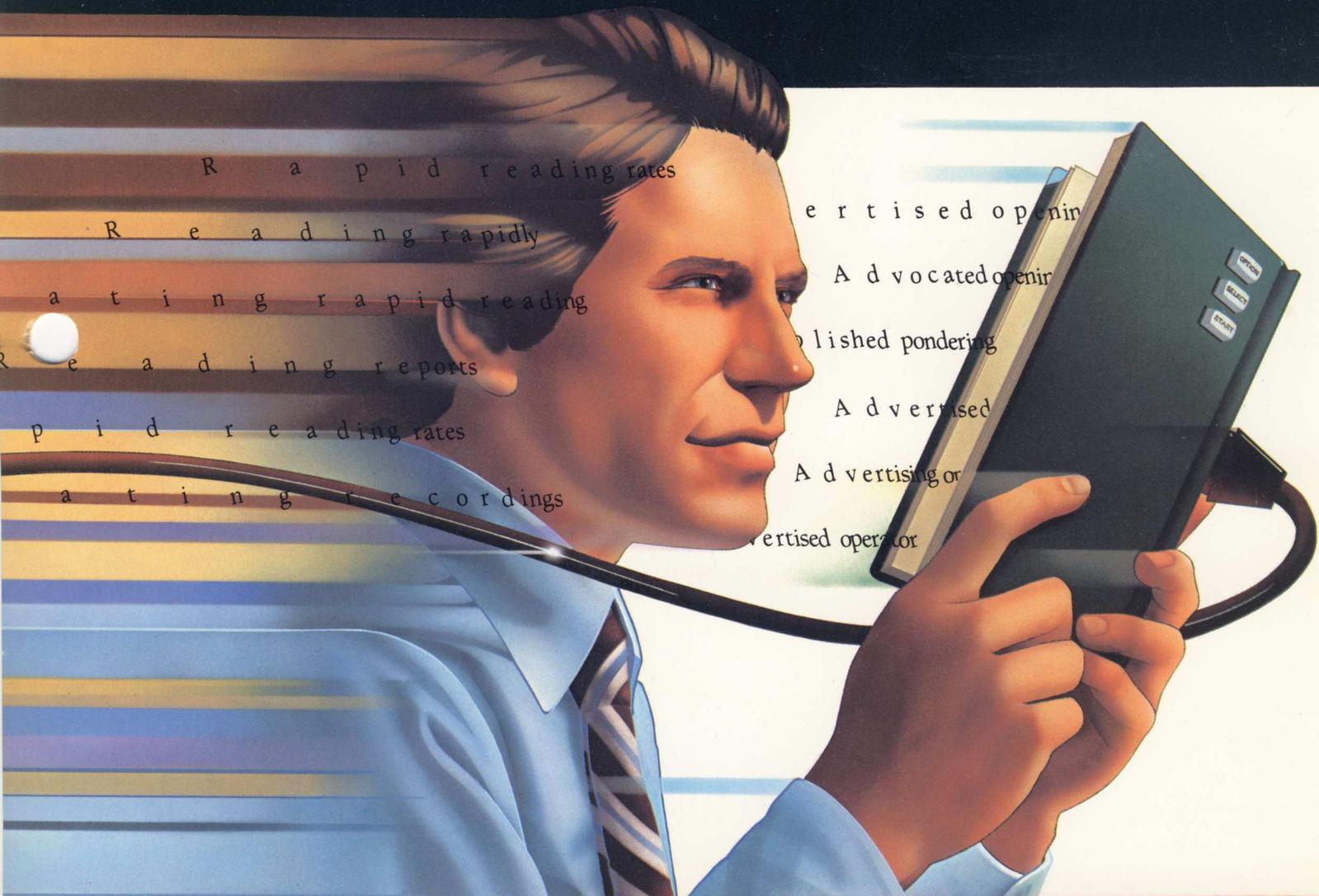


ATARI® 400/800™

ATARI® SPEED READING WORKBOOK

Develop Advanced Speed and Comprehension Skills
And
Discover Your New Reading Potential



A Warner Communications Company 

Use with
ATARI® 400™ or ATARI® 800™
HOME COMPUTER

ATARI® SPEED READING

WORKBOOK

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INTRODUCTION

ATARI® Speed Reading is a unique way to increase your reading speed. With the help of this do-it-yourself program, you could double your speed in only 30 days if you are an average reader now. And, with practice, your reading comprehension can even improve. The two most important elements required are you and your ATARI Home Computer.

THE NEED FOR SPEED READING

Today's students and business people are expected to read and retain a tremendous amount of information. Individuals must continually improve their communication skills. The ATARI Speed Reading program offers a chance to acquire more knowledge simply and easily. Working with your computer as a guide, you can relax, make your own schedule, and have the fun of competing with yourself.

How much and how rapidly your reading rate increases depends on you. Successful new reading habits are easy to develop with the computer as your coach. This new program is a time-tested method that works for those who work at it. Each unit gives you valuable tips on how to read more effectively. You also learn to identify any bad habits that might slow you down.

The eight units in ATARI Speed Reading give you a specific program to follow that is an improved version from a course that has worked for thousands of people. With the practice exercises, you also get words of encouragement to keep your enthusiasm and confidence high. You'll find the course a pleasure, and the results should help ease the demands on your schedule. For instance, you may learn to do the reading necessary for your job or your studies in half the time it now takes. Your success will depend on how well you read now, how regularly you practice, and how fast you learn.

SPEED READING THE ATARI HOME COMPUTER WAY

This program offers many advantages over other speed reading approaches. The combination of the ATARI Home Computer with a skill-oriented instructional program gives you an educationally sound method of learning. The computer provides several features to enhance your reading skills:

- A built-in "tutor" gives you immediate feedback, acts as a guide to show you what to do next, and sharpens your reading skills.
- A timing method automatically computes your reading rate in words per minute.
- Special reading-improvement exercises allow you to:
 - Practice high-speed perception of words and phrases in a drill that warms you up for reading and processing information faster;
 - Pace yourself at faster rates in a gradual and systematic way;
 - Read independently with the aid of audible tones that stimulate your reading pace.
- A separate pacing and timing program (Cassette 5) for use with materials other than the ATARI Speed Reading Workbook lets you pace yourself independently. It is a practice tool and review technique for use at any time.
- A Reading Window paces you with a band of color highlighting the words you are to read. You adjust the rate with the joystick to increase your speed systematically. The Warm-up exercises use a Reading Window Rate (RWR) which is the number of times per minute that a new word or phrase appears in the Reading Window. Phrase-reading also uses the Reading Window to guide you through the selections at a rate established by the words per minute desired.
- An Audio Metronome Pacing Program provides a series of tones that sound while you read the Paced and Timed selections. You can adjust the number of tones per minute (tpm) with the joystick. As you increase the tpm, you will be prompted to read faster.

You will learn more about these features when you begin the course.

MATERIALS

The ATARI Speed Reading package includes a workbook and five cassettes. In addition, you will need the ATARI 400™ or 800™ Home Computer, an ATARI 410™ Program Recorder, an ATARI BASIC cartridge (CXL 4002), a Joystick Controller (CX40), and your television set.

Workbook. The Workbook contains a variety of exercises, reading materials, helpful suggestions, and new ideas to help you read with better understanding. There are eight units in the book. The first step in Unit 1 is a pretest. Answers to exercises are included in the Answer Key.

Cassettes. The Workbook units are contained on the four program cassettes as follows:

<u>Units</u>	<u>Cassette</u>
1 and 2	1
3 and 4	2
5 and 6	3
7 and 8	4

The directions for using Cassette 5 are included in the section Maintaining Your ATARI Speed Reading Skills.

Joystick Controller. The joystick changes the speed of words appearing in the Reading Window. When you move the lever forward, the speed increases, and slows down when you move it backward. The computer timer starts and stops when you press the red button.

SIX ELEMENTS IN EACH UNIT

Each unit is organized into six elements designed to get you going, pace you, and help you develop new reading techniques:

WARM-UP EXERCISE. This drill with the computer is designed to increase your word recognition rate, get you reacting faster, and improve your concentration.

PHRASE-READING EXERCISE. In this exercise the Reading Window helps you read at new speeds. Your rate should gradually and systematically increase with each unit. This exercise will help you read at a faster rate than you might achieve on your own, and will give you confidence when you read without the Reading Window. The material used for each Phrase-reading exercise is the first 750 words of the Paced reading selection from your Workbook.

PACED AND TIMED READINGS. You read these articles in your Workbook with the Audio Metronome Pacing Program and a timer. These readings will reinforce and help you maintain the new reading speed achieved in the Phrase-reading exercise. The selections are from a wide range of sources. The articles, which vary from 1500 to 2500 words, are fairly easy reading. Each one is followed by a quiz to test your comprehension. The easy materials will encourage you to build speed without sacrificing comprehension.

NEW TECHNIQUES. Each unit focuses on one or more valuable techniques to improve your reading efficiency. Master and apply all of these techniques to ensure faster comprehension.

FLEXIBLE READING. This is the payoff exercise! Read the selection on your own, using the computer timer to check your speed. The material varies from easy to difficult. Try to maintain your new reading rates, but slow down when necessary to maintain your understanding of the material. The key is to be flexible and vary your pace according to the difficulty of the material.

READING PROGRESS GRAPH. This is a chance to see what you have accomplished. Following each reading selection is a Success Log Box where you record your reading rate and comprehension score. Enter these scores into the computer at the end of each unit. The computer will calculate your Reading Efficiency Index (REI). This index is based on the average number of words per minute for the Paced, Timed, and Flexible readings multiplied by the average comprehension score for each. The REI is expressed in words per minute and plotted on a graph to show your progress.

RAPID PROGRESS

There are eight units in the program. Most readers make the best progress when they successfully complete two units each week over a period of one month. Each unit takes about two hours to complete. If you're an average reader, your reading speed could be doubled in about a month with the kind of practice recommended.

Do each unit in sequence without skipping around. The sequential steps are carefully designed to increase your reading rate in the shortest time possible. As you do each unit, you will encounter special instructions, new techniques, and discussions of common problems that readers experience. Follow all of the instructions to get the best results.

The advantage of this program is that you can vary the schedule to suit your personal needs and abilities.

STARTING UP

For directions on how to hook up your ATARI 800 or ATARI 400 Home Computer and ATARI 410 Program Recorder, refer to the respective operators' manuals. Then follow the steps below to get started in ATARI Speed Reading.

1. Make sure the ATARI BASIC Computer Language cartridge is inserted firmly into your home computer and that the joystick is plugged into Controller Jack 1.
2. Turn on the television, and then the computer. The television screen will display a **READY** prompt.
3. Insert the appropriate cassette into the Program Recorder. If necessary, press **REWIND** to return the tape to the beginning. When the tape is rewound, press **STOP/EJECT**. Each unit is listed below with the corresponding cassette and side number. For example, for Unit 1 you insert Cassette 1 with Side 1 up.

Unit 1	Cassette 1	Side 1
Unit 2	Cassette 1	Side 2
Unit 3	Cassette 2	Side 1
Unit 4	Cassette 2	Side 2
Unit 5	Cassette 3	Side 1
Unit 6	Cassette 3	Side 2
Unit 7	Cassette 4	Side 1
Unit 8	Cassette 4	Side 2

4. Set the tape counter (see Note 1) on your Program Recorder to 000 by pressing the tape counter reset button on the Program Recorder.
5. Type the command **CLOAD** and press **RETURN**. You will hear a beep from the computer to remind you to press **PLAY** on the Program Recorder. (The **PLAY** button should remain engaged throughout Unit 1.)
6. After pressing the **PLAY** button on the Program Recorder, press the **RETURN** key.
7. When the **READY** prompt appears on the screen, type **RUN** and press **RETURN**. This signals the computer to load the program. During this time an introductory audio segment will give you some tips on getting started.

Note 1: Tape Counter. This counter is an aid designed to help you return to particular locations on a program cassette. At the start of a tape always set the counter to 000 and then make a note of the counter number as you begin to load each exercise.

A record of the tape counter setting for each exercise is useful in the event you:

- Want to load an exercise out of sequence; for example, you are interrupted in the middle of a lesson and later want to fast-forward to a certain exercise on the cassette tape; or
- Get an "error message" (see Note 2) while loading an exercise. In both cases you may use the tape counter as a guide, and then either fast-forward or rewind to the beginning of the exercise.

Once you have located the portion of the program to be replayed, type the command **POKE 65, 0**, press **RETURN**, and follow Steps 5-7 above. Notes are included in the text directions to remind you to write down the tape counter settings.

Note 2: Error Message. If an error message appears on your screen, refer to Appendix B, "Error Messages" in your *ATARI BASIC Reference Manual*.

UNIT 1

GETTING OFF TO A GREAT START

- To begin Unit 1 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 1 with Side 1 up.
- After listening to the audio segment, turn to the Pretest and read the directions.

Get Ready. Get Set. Go.

PRETEST

Directions. How fast do you read now? Find out by timing yourself while you read the following selection. Read at your *normal* rate, and time yourself with the computer-controlled timer. Be prepared to answer 10 factual questions about this selection. But don't look back to answer the questions.

When the Pretest screen appears, the computer is ready for you to begin reading. Position the joystick so the button is in the upper left corner. Push the button to start the timer, and then begin reading right away. When you finish, push the joystick button again to stop the timer. Your rate in words per minute will appear on the screen. Record this rate in the Success Log Box following the questions.

Note: The Pretest screen contains an option to skip this exercise. This option is for *future* use, once a reader has completed the exercise and is, perhaps, reviewing certain material in Unit 1.

More than once I wished I had one of those hand-sewn sealskin outfits the Greenlanders were wearing. My fancy American parka and waterproof pants, which by the end of my trip were so torn I couldn't wear them, just didn't make me feel as warm as the smiling, casual Greenlanders *looked*.

Their smiles did more than anything to warm my spirits, though. Whenever I felt the limitations of my improvised sign language, I'd look into my guide's ready-smiling face — there was more comradeship and assurance there than I could put into words.

Of course a lot of times I knew the Greenlanders must have been smiling, kindly, at the sight of 13 foreign adventurers, most of us grandparents, shivering like puppets in the wind during their "balmy" springtime.

I was truly a "grandmother on ice." Swept along on a wildly careening sledge behind a fan of tireless huskies, I thought, "Thase, what in the world are you doing here?" And looking at myself, wedged into place between sleeping bags and foam pads and furry robes, clutching my camera in mittened hands, I had to laugh.

That kind of reverie never lasted for long though. A booming "You, you, you" from my driver to his straining dogs alerted me . . . at his command the huskies made a united left just in time to avoid what looked like a mile-wide chasm. But after one runner slipped halfway in and was jerked out by the force of sheer dog-power, I reassessed the crack's 20-inch width. "Not so big," I said to myself . . . but big enough to yawn open and swallow a sledge and its riders.

Daniel, Thase. "Grandmother on Ice,"
International Wildlife, December, 1974, pp. 12-16.

I knew then that this guided sledge trip across southern Greenland, while expertly planned to ensure the safety of all involved, would be one of the most rigorous and demanding events in my life.

We weren't crossing solid ground. It was all ice — the frozen, rippled surface of Greenland fjords. And in April the growling restless tides beneath it butt their heads against their ceiling, buckling it, slicing it, opening great zigzagging cracks. But the Greenlanders don't worry . . . they just keep an eye peeled, much as children do when skittering pell-mell down a sidewalk, careful not to "break their mother's back."

My incredible sleighride was hurtling me straight into the magic realm of the Snow Queen. Crystal glinting sparkling walls of ice, palaces of green and blue and rosy luster, halls of light and silence more entrancing than any Hans Christian Anderson could dream of.

But always my imagination tripped on the smaller-than-fairy-tale camera, that hard black commanding object I had carried over 3000 miles. Every iceberg, every silver-tipped, faceted arc of snow, was new beauty. I wanted to photograph everything, to take it all back with me, rolled up in the darkness of celluloid.

By the time we stopped each evening to make camp, my consciousness was utterly dazed by conflicting impressions . . . hours of skimming slippery ice and lurching over bumps in the sledge had left my body aching for rest . . . just to stand still and upright was incredibly pleasurable. The simple constant coldness of the world — the air, the sledge, my clothes, my face — had seemed like a nagging pain.

The succession of images that had literally rushed past my eyes in blurs and stills now swirled in a maelstrom inside my head.

But I managed. All of us did. And after a dinner of frozen stew cooked over a cauldron of boiling snow-water, I wiggled into a zipperless sleeping bag, damp wool socks stretched across my body to dry, cameras and exposure meter next to my ribs to keep them from freezing.

Someone, however, forgot to tell me about my boots. And who but a Hollywood cowboy goes to bed with his boots on? The next morning my once-soft leather boots were riveted to the ground, standing as solid as a baby's shoes cast in bronze. Fifteen minutes of rubbing and stomping softened them just enough for me to force my feet into their icy depths.

I knew it was April. The sun shone almost all night long. The Greenlanders acted as if it were spring. But all we knew was, it was cold. Eighteen degrees one night. Ten degrees the next. After that we left the thermometer in its case . . . Some things are better left unknown.

Whenever the going got tough Major Mike Banks, the crusty veteran of polar expeditions who was leading this first amateur trek across southern Greenland, got tougher.

"This is an expedition," he bellowed, "not a picnic." I must say we needed his gruff advice as much as we needed the chocolate we'd brought along for quick energy. Especially when the dogs would flounder in a heavy drift and we had to get out and push the sledge, usually up an incline. With all the great expanse of air around me, it seemed that there wasn't enough to fill my lungs.

Almost every day we traveled by sledge — from Kulusuk, which lies on the DEW Line, to Kap Dan, a storybook village of red, green and blue houses, then 43 miles in one day to Kungmiuk, an even smaller town of 400 people on Angmagssalik Fjord. Finally north to Tsilag Fjord, where we camped out in our tunnel-like tents.

On the way to Kungmiuk I really began to learn about Greenlander ways. This was no trial run, and I was expected to keep up . . . there wasn't even an "or drop out" clause attached. The howling, trembling huskies seemed tremendously eager to start, so eager that the faster I leaped on the sledge the better . . . the possibility of 12 dogs taking off without me was very real. It was at these times the exuberant dogs gave their masters the most trouble. Bursting with energy, they broke out in noisy fights as they waited in harness, or often as not began a hasty courting. The drivers had to race from group to group, hauling each dog into line by its furry tail, shouting commands, then leaping back into place on the sledge before the ruckus began all over again.

On the trail, however, it was a different matter. The huskies could run for hours without slowing, but the moment they heard the brief command to stop, they dropped in their tracks, curled their bodies into fluffy, nose-under-tail balls, and fell asleep. The command to start off again, whether moments or an hour later, found them instantly alert and ready.

It was on the way to Kungmiuk that I began to realize how difficult life for the Greenlanders was. I knew that they lived mainly by hunting and fishing, that their dogs depended on the shark meat and the scraps of seal and fish their owners provided. I knew their clothing was handmade, their children's toys an empty oil drum or a handmade sled.

On the trail that day I heard three unmistakable shots crack the stillness. My driver looked knowing and elated. In Kungmiuk we discovered the source of his pleasure. Hunters had brought down a great tawny polar bear and were already skinning the carcass. I think all of us making the trip were dismayed that such a rare and beautiful creature had been killed, and even more that her death had orphaned a very young cub.

But I soon realized what this polar bear meant to the Greenlanders. Native Greenlanders are the only people allowed to hunt the polar bear in this country . . . a strikingly human allowance in Greenland law. I don't think that even the villagers felt the bear's downfall an unmixed blessing. They took the cub into the village and began feeding it with milk, hoping someday to return it, half-grown, to the wild. But few if any of these adopted cubs ever survive, I learned.

We spent a day out of Kungmiuk fishing for arctic char. Our drivers cut plate-sized holes in the ice of a fresh-water stream and we practiced jerking the line to snare the fish hidden beneath us. My tentmate, Helen, probably had her "most unforgettable experience" at that fishing spot. Stepping too close in the tracks of her driver, she crashed through the ice into the equally icy water. After being hauled out, stripped down to her red flannels and bundled up, she rode back to Kungmiuk on a sledge. But the uncomprehending driver, whose knowledge of English was limited to "Hello," let her off right in the middle of the village. From there she had to run barefoot in her thermal underwear to the schoolhouse we called home.

The day we had to leave Kungmiuk the cobalt sky had disappeared behind masses of tumbling gray clouds. Deep snow and low mists made traveling hard and we stopped early to make camp. As if to ward off the coming storm, we celebrated Helen's birthday with exaggerated gusto.

That night I must have woken a dozen times to the sound of sleet pelting our small tent. And in the morning we were so totally snowed into our tents

that we simply stayed put till noon — then warily set off into the storm.

Sleet and snow pounded us in 30 mph gales. Visibility grew so poor we soon lost sight of the sledge ahead of us. Suddenly we were in a “whiteout,” an eerie phenomenon in which sky and land merge, horizons disappear. The cold around me took on a new dimension, a new power; the total unreality of my surroundings shook me to my bones. Probably the only thing that kept me from absolute panic was the knowledge that my driver was unalterably determined and calm. All at once I had confidence he would get us through.

And he did. Somehow all the sledges came to a

stop near an old fishing hut which seemed to be a landmark for the drivers. We made camp there, bracing ourselves for another night in the storm, listening to the winds buffet our tents. The falling tide cracked the ice beneath us with a sound like rumbling thunder, and three tents were hurriedly moved to avoid disaster. The possibility of a crack opening up under my tent kept me wide awake until 4:00 a.m., when the leaders called out, “Let’s travel!”

At last we sighted Kulusuk on the horizon. Ahead of us lay three days of lay-over waiting for the mists to clear before we could fly back to Reykjavik . . . three days to take pictures, to share experiences with my fellow travelers, to take stock of my journey.

Press the joystick button to **STOP** the timer.

Record your reading speed displayed on the screen in the Success Log Box following the questions. Then answer the questions without looking back at the selection.

1. Which of the following did the author feel warmed her most?
 - a. her hand-sewn sealskin outfit
 - b. the temperate spring winds from the sea
 - c. the smiles of her native companions
 - d. the frequent, reassuring comments from the guides
2. Which best characterizes the group making the expedition?
 - a. mostly grandparents like the author
 - b. mainly college students on spring vacation
 - c. a group of retired school teachers
 - d. members of the Kokomo, Indiana, Rod and Gun Club
3. Which of the following was the main danger during most of the sled trip?
 - a. the inexperience of the guides
 - b. cracks and chasms in the ice
 - c. the possibility of a total “whiteout” occurring
 - d. half-starved polar bears on the prowl
4. How many people were in the group of adventurers that made the tour?
 - a. 6
 - b. 13
 - c. 48
 - d. 107
5. What was the time of the year?
 - a. April
 - b. July
 - c. September
 - d. December
6. Helen, the author’s tentmate, had her “most unforgettable experience” when
 - a. her boots froze solid during the night
 - b. she fed the orphaned polar bear cub
 - c. her birthday greeting was a howling blizzard
 - d. she slipped into an ice fishing hole

7. From information given in the selection, what would you judge the author to be?
 - a. missionary
 - b. meteorologist
 - c. photographer
 - d. schoolteacher

8. Which of the following was mentioned as the cause for the rumbling cracking of the ice?
 - a. the passage of the heavy sledges
 - b. volcanic activity and earth tremors
 - c. the accumulation of wind-swept snow
 - d. the rising and falling tides

9. A "whiteout" occurs when
 - a. fog blankets roll in
 - b. a person becomes snow-blind
 - c. the horizons disappear
 - d. the sun on the snow creates mirages

10. The author made her sledge trip
 - a. in southern Iceland
 - b. in southern Greenland
 - c. on a large Alaskan lake
 - d. in Finland's fjord country

Check your answers using the Answer Key in the back of the Workbook. Record your comprehension score in the Success Log Box.

SUCCESS LOG PRETEST READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

Enter your comprehension score by typing the percent correct. Then press **RETURN**. Your Reading Efficiency Index (REI) for the Pretest is now displayed on the screen. Record it in the space below *and* on the REI Record page in the back of this Workbook.

PRETEST
 READING EFFICIENCY INDEX _____

Note: Record the tape counter setting on your Program Recorder. Write this number in the space provided at the beginning of the next exercise, the Warm-up. This number marks the location of the Warm-up on the cassette tape, should you want to fast-forward to this exercise at a later time.

PRESS **START** TO CONTINUE.

WARM-UP EXERCISE

Tape Counter Setting _____

Discussion. An important reminder! The purpose of this exercise is to get you moving fast and concentrating. Practice limiting your subvocalization by trying to see words without saying them. Remember, once you can read without pronouncing every word, your potential speed is limited mainly by your ability to understand, not by your ability to talk fast!

Directions. In this exercise you note one word and then quickly match it. The Reading Window—a band of color surrounding a word—highlights a word on the left of the screen and then moves across to the right, highlighting additional words. When you see the same word reappear in the window, press the joystick button. For example, if the initial word is car, push the button when the Reading Window surrounds *car*.

car bar far car can cat auto

To get started, watch for the Warm-up screen to appear. Then select your own Reading Window Rate (RWR)—the speed at which the words appear in the Reading Window. Choose a number between 50 and 200—50 is quite slow and 200 is very fast—and push the joystick forward until the desired number appears on the bottom of the screen. (Be sure the joystick is *always* positioned correctly—with the button in the upper left corner.)

We suggest you start at 60. Then press the joystick button to begin the exercise and each time you match a word. The idea is to go as fast as you can, yet still be accurate. Try to increase your speed during the exercise by pushing the joystick forward.

After pressing the joystick button for the last item, your time and number of correct answers will be shown. You'll also have an option to repeat the exercise to improve your speed and accuracy. Record your results in the space below.

Note: The Warm-up screen contains an option to skip this exercise. This option is for future use, once you have completed the exercise and are, perhaps, reviewing certain material in this unit.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES _____
	SCORE _____
SECOND TRY	MINUTES _____
	SCORE _____

Note: Record the tape counter setting on your Program Recorder in the space provided at the beginning of the Phrase-reading exercise. This number marks the location of the Phrase-reading exercise on the cassette tape, should you need to find this exercise at a later time. Are you going to repeat this exercise?

PRESS Y OR N, THEN RETURN .

PHRASE-READING EXERCISE

Tape Counter Setting 101

Audio Review. You have just heard a number of important facts about the reading process and the intent of this exercise. Because these reading facts are important to keep in mind from time to time, we've printed our audio discussion of them below. You may refer to it now to be sure you have them straight; or later, for a quick review. Remember! While they will not automatically make you read faster, they may make you aware of bad habits that limit your concentration and speed.

Reading Facts You Need to Know

Readers tend to subvocalize, or talk silently to themselves. Trying to see words without saying them every time you read will help increase your rate. Being aware of your eye *fixations* also helps. A fixation occurs when your eyes stop and focus on a certain point. As your eyes move over a line of print they proceed in a series of jerky movements. While your eyes are moving you see nothing. You see only when they are stopped or "fixed." What you see in a fixation can vary from a single letter to more than a word.

The movements between fixations are called *saccadic* movements. They should be rapid and efficient because they serve no purpose but to move you from one fixation to the next as you read a line of print.

This is what happens when an average or better reader reads a line of print. Each X is a fixation and each \longrightarrow is a saccadic movement.

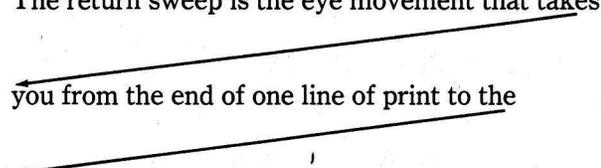
X \longrightarrow X \longrightarrow X \longrightarrow X \longrightarrow X \longrightarrow X

As your eyes move over a line of print, they proceed in a series.

Note that each fixation takes in one or more words. A beginning reader or any reader attempting to read unfamiliar words would take many more fixations to read a line of print. She or he might average several fixations per word. As the number of words you can handle per fixation increases, reading efficiency and speed increase.

With efficient reading, saccadic movements proceed from *left to right*. Any right-to-left movements within a line are *regressions*. Some regressions are necessary, like rechecking a new or difficult word or rereading a phrase or sentence to get the facts straight. But, excessive regressions are usually a symptom of bad reading habits or poor concentration. To read more rapidly and effectively, you'll need to eliminate most regressive movements. The Reading Window can help because it forces you to keep moving ahead.

The *return sweep* is the eye movement that takes you from the end of one line of print to the beginning of the next. A poorly executed return sweep can cause you to wind up a line or two from where you need to be. The results are lost time and interrupted concentration while the necessary adjustment is made. If you find that return sweeps are causing difficulties for you, draw some lines on a printed page like this:

The return sweep is the eye movement that takes

you from the end of one line of print to the
beginning of the next.

Draw the lines on several pages and use them to guide your eyes from the end of one line to the beginning of the next. If some practice with the guide lines doesn't solve the problem, hold a marker under each line as you read. But, don't become dependent on the marker. The back sweep should be a smooth, almost automatic movement. Ultimately, it must be accomplished without assistance from lines or markers.

To become an efficient reader, you need to be aware of these basic eye movements, but try not to dwell on them while you read. During a rapid reading exercise, concentrate only on reading as fast as you can grasp the material. The most effective thing you can do to increase your rate is to read as rapidly as you can! Decide now that it's important to read faster and that you *can* read faster.

Discussion. A brief reminder of the purpose of the Phrase-reading exercise: To achieve new reading speeds you might not initiate on your own. Let the Reading Window *push* you to take in more information with each eye stop than you would normally take in. Apply your new skills at new reading rates!

The Reading Window will highlight phrases in a left-to-right movement at a rate you determine before starting the exercise. In Units 1-3 the length of the phrases is about 8-12 letters. The phrase length increases in later units.

Directions. To begin the Phrase-reading exercise, select your new reading rate by adding 50 words per minute (wpm) to your Pretest rate. For example, if you read 200 wpm on the Pretest, your new rate would be 250 wpm. Enter this number when the screen prompts you to do so. Note the words-per-minute box on the screen and push the joystick forward or back until your new reading rate appears. Each single push or pull will change the displayed reading rate up or down by 25 wpm. If your new reading rate is a number between the available rates, simply choose the rate closest to yours.

After you have entered your wpm, press the joystick button and begin. You will have an option to repeat this exercise for additional practice if you wish. Record your wpm rate in the space below when finished.

As you read, you will notice an audio pacing tone that accompanies each Reading Window stop. We'll talk about the purpose for the tones later.

Note: The Phrase-reading screen contains an option to skip this exercise. This option is for future use, once you have completed the exercise and are, perhaps, reviewing certain material in this unit.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	<u> </u>	WPM
SECOND TRY	READING SPEED	<u> </u>	WPM

Note: Record the tape counter setting on your Program Recorder in the space provided at the beginning of the Paced reading.

Are you going to repeat this exercise?

Press **Y** or **N**, THEN **RETURN** .

Set Your Pace

PACED READING

Tape Counter Setting _____

Discussion. Recall our discussion of subvocalization and the basic eye movements — fixations, return sweeps, and regressions — and keep these facts in mind as you push for speed on this selection. The article is fairly readable, so you can concentrate primarily on your rate. But try to answer at least 7 of the 10 questions correctly.

Directions. Read this selection with the aid of the computer-controlled timer and Audio Metronome Pacer. Your goal is to match or exceed the speed you achieved on the Phrase-reading exercise. When the Paced reading screen appears, set your tones-per-minute (tpm) rate at 60 with the joystick.

As you start reading, increase your tpm rate — by pushing the joystick forward — until you feel the pace of the tones generally corresponds with the pace of your fixations (eye stops). For each push forward the tpm increases by 20. Remember to read fast enough to eliminate pronouncing every word to yourself! Then adjust to the new pace!

Press the joystick button to begin reading and press it again when you finish. Answer the questions without looking back at the selection and record your scores in the Success Log Box.

Gannon, Robert. "So You Want to Read Faster." Reprinted courtesy of *Popular Science*, February, 1968, pp. 97-99, 212. © 1968 Popular Science Publishing Co., Inc.

I just read a detective novel. It wasn't very good so I didn't waste much time. It took me 36 minutes. Yesterday I read Hal Clement's *Needle*, an excellent book. I wanted to savor it so I took my time — one hour and 33 minutes' worth.

Two months ago it would have taken me half a day to plow through either of these. In the meantime, though, I've taken a speed-reading course, and now I can gobble up books at what used to seem an astronomical rate.

But is it *reading*? Some authorities claim it isn't. Personally, I don't much care; the technique does what I want it to — sort of.

The thing that prompted me to take the course was the threat of asphyxiation: The piles of unread newspapers, books, and magazines towering about the house might fall on me. But two things held me back:

- Doubts that any system could radically and permanently increase my speed.
- Money: \$175 for the course given by the Evelyn Wood Reading Dynamics Institute. (Other schools charge anywhere from \$15 or so for classes to more than \$200 for individual instruction.)

But I concluded that if I could double my speed —

a goal far short of what the ads promise — the \$175 investment, stretched out over a lifetime, wouldn't be so much after all. I'd gamble.

Certainly I was in good company. Among the names of the 360,000 Wood graduates appear Senators Stuart Symington (who says he "can now read technical journals about 10 times faster" than before the course) and Herman Talmadge (who wants speed reading introduced to the country's educational system).

Evelyn Wood started it all two decades ago when she was teaching in Utah. "I began to work with the idea of increasing the reading speed of my students," she says. "I knew there must be a faster way of reading." She searched for fast readers, located 50 of them who could top 1,500 words per minute (w.p.m.). "These 50 exceptional readers, I found, had several reading characteristics in common: 1) they all read in a downward direction, rather than from left to right; 2) they absorbed the meaning of whole areas of a page at a time; and 3) they adjusted their speed to the type of material they were reading."

Inhaling reading matter. She quit teaching, developed a program, and began telling adults how to

practically inhale reading matter. Today 50,000 students a year take the Wood course.

At the first class I found with a shock that my present workaday reading was abysmally slow: 200 w.p.m. compared with about 300 for the rest of the class. My retention/comprehension rate, though, was high: 85 percent.

Instructor Frank North pointed out some of the bad reading habits we'd have to overcome:

- Many readers "subvocalize" — tend to subtly form words with their vocal cords. Studies at Berkeley's Institute of Human Learning show that an individual who subvocalizes to any great extent "is limited to a top reading speed of approximately 150 w.p.m. — a maximum attainable while reading aloud."

- Slow readers are sloppy readers. Plodding at rates far below their ability, they get bored, day-dream, have trouble concentrating, miss whole sections. People who say they read slowly in order to concentrate are fooling themselves.

- When a person reads, his eyes don't sweep smoothly across the page, but stop every so often when the actual seeing is done. Slow readers pause a lot, fast readers rarely.

- Most readers not only stop but go back. The sentence: "A rider came racing down the road out of control," may seem to read, "A driver came racing down the road racing down the road out of control." Poor readers may regress from eight to 11 times per 100 words, good readers not at all.

- Most readers fight changing their habits because relearning is hard work, and they somehow feel that a suggestion for change is an attack.

Reading schools try to eliminate bad habits by forcing a student to go so fast he hasn't time for nonsense. Most do this by using machines. Some use a tachistoscope to flash words or phrases rapidly on a screen so students learn to see quickly. (This is something like the device used in aircraft-spotter classes during World War II.) Other schools use pacers, desk-top gadgets that slide curtains down pages of text slightly faster than the reader's "comfortable" speed.

The Evelyn Wood school uses a finger. Yours. "We train you to use your hand to pull your mind down the page," says North. "Soon you find your mind controlling your hand."

Out go the bad habits. Sounds simple. And it is, really. But that first lesson was the start of eight weeks of mental misery — a 2½-hour session a week plus an hour-a-day drill — in which my old comfortable way of reading would be strained, uprooted, and twisted out of shape.

The first week consisted mainly of learning how to use the finger as a pacer. The primary object is to "underline" a line or block of lines by sweeping the

hand across the page at one-second intervals. The action pulls your eyes along, preventing flip-backs. (Eventually you learn to slant the sweep so the pattern resembles that of a flat Z then an S stretched vertically — and then, with some students, a line straight down the page.)

Each week we would be given individual minimum reading speeds we must adhere to in our homework drill, said North. The first week we'd all have the same minimum: 800 w.p.m. (That's two of these PS lines a second.) "But you don't have to stay at that low rate."

At home we practiced first with our books upside down, simply to get the rhythm of hand sweeps. Then, using what the school calls a "lazy-S" hand motion, we ran through 10 pages at two sweeps (two seconds) per page, then at three sweeps per page, finally dropped down to the sluggish 800 w.p.m. — or about 25 sweeps (depending on the book). At two sweeps, if we understood what we were "reading," we would be going at something like 10,000 w.p.m. But at that speed the only story line I picked up was that a couple of guys did something. And that, it seems, is as much as we were expected to get out of it.

Faster and faster. A week later, everyone was disgruntled. North's response was to urge, egg, and insult us to go faster and faster. The important thing was not comprehension, North said, but to get the *feeling* of going fast.

The prime assignment for the second week's homework was to concentrate on the Z form of finger-tracing — extremely difficult because when you're on the downward stroke you're forced to sort of read backwards. "It's your introduction to the art of out-of-order reading," North said. "And I've never seen anyone come out of this week with a heck of a lot." He was right. I didn't.

But on my homework paper I noticed that my reading minimum had climbed to 1,000 w.p.m.

One object of speed-reading courses is to get you used to seeing chunks of reading matter. So during our third week's class session we used booklets with word groupings. We'd flip by these as quickly as possible, trying to pick them up on the way. On one page, for instance, was this:

WHEN IS
YOUR BIRTHDAY?

On other pages were other groupings:

WHAT SHOULD WE
DO ABOUT THE
CITIES?

I WENT TO
THE STORE.

I WENT TO THE

STORE TODAY
AND BOUGHT.
I WENT TO THE
STORE TODAY AND
BOUGHT A BOX
OF STARCH.

We were then given a test in what the institute called an impossibly tough book: Willy Ley's *Satellites, Rockets and Outer Space*. The test was on a chapter on Mars, read at above 1,000 w.p.m. My comprehension score: an amazing 90 percent. My nearest competitor got something like 40 percent. (But I had just researched an article on Mars.)

The third week of homework upped my rate to 2,000 w.p.m. Ridiculous. But I *was* moving my hand rhythmically.

By the fourth lesson, though, I was really discouraged. I was learning to skim, but not very effectively. North had me reading at 2,500 w.p.m., but I retained virtually nothing. I found myself simply watching my finger go down the page and thinking about other things.

And the practice time was hard to fit in. During this fourth week I lost so much time I had to join another class, one that had begun a week after mine.

My new teacher was Jeff Weisenfeld, who spoke fast and frequently, like a lawyer — which he is during the day.

Students in *his* class were complaining, too. No retention, they said. "You're wrong," answered Weisenfeld. "Have you ever tried to think of nothing? You can't do it. Now, as your hand travels down the page your mind picks up some of what your eyes are seeing. You're gathering in a good amount, but you don't realize it."

During that session we exercised through our first whole book. John Steinbeck will be unhappy to learn that I zipped through his 29,500-word novel, *The Pearl*, at the rate of 2,110 w.p.m. Took me 14 minutes. But please don't ask questions.

Now I was pretty well convinced the whole course was one gigantic put-on. But then I had to cull data

from a volume of 250,000 words. At my old rate of 200 w.p.m., I'd need 20 hours to get through the book.

But I sped along at the fastest clip I could — maybe 2,000 w.p.m. In three hours I had finished. Did I understand it? Not at all. But I picked up what I needed for an article I was researching.

Weisenfeld had us take a whole minute to read one 300-word page during our sixth class. It was excruciating to go so slowly. And 300 w.p.m. is 100 words faster than my beginning speed.

Better and better. Finally, the last session. And another test. The book was the same we had used for our entrance exam, a biography of Albert Einstein. Eight weeks before, I was reading at 200 w.p.m. with 85-percent comprehension. My final score: 1,520 w.p.m., 92½-percent comprehension. My speed had multiplied more than seven times.

Can I honestly say I *read* that fast?

No, though Evelyn Wood will heartily disagree. I believe I did get two important things: the ability to *skim* effectively at anywhere from 1,000 to 2,000 w.p.m., though I get very little of the "flavor"; and possibly a tripling of my "comfortable" reading rate.

Whether or not I'll lose the technique is another question. The only wide survey of ex-students — 1,800 of them from the San Francisco area — showed that after a year one-third of the people weren't using the method at all, and had slipped back to their old rates. Another third said they use it sometimes, and that probably they have maintained speed. But the rest of the students — many of whom had attended free brush-up workshops — said they felt they were reading faster a year later.

In day-to-day use, I find a few minor negatives. For example, in order to keep at my new rates I must continue to use my finger. And reading while eating presents a problem.

Also, there is a nagging doubt that at those high speeds I'm giving the author a fair shake. But then, if I didn't skim many books, I wouldn't have time to read them at all.

Press the joystick button to **STOP** the timer.

Record your reading speed in the Success Log Box following the questions. Then answer the questions without looking back at the selection and check your work using the Answer Key in the back of the book. Also record your comprehension score in the Success Log Box.

1. According to the article, exceptional readers read rapidly because they
 - a. don't concern themselves with comprehension
 - b. keep up a steady rhythm of eye movement
 - c. read in a downward direction
 - d. never slow down to deal with any material

2. The main problem of slow readers is that they
 - a. comprehend more than they really need to
 - b. are sloppy readers who tend to miss whole sections of a page
 - c. do not pause frequently enough to "digest" key points
 - d. read at different rates, depending on the material
3. Speed reading schools get you to read faster by
 - a. convincing you it's for your own benefit
 - b. charging high prices to make you want to get your money's worth
 - c. creating a spirit of competition among students
 - d. forcing you to go so fast there is no time for nonsense
4. Why does the Evelyn Wood school use the finger as a pacer?
 - a. because it serves to "pull the mind" down the page
 - b. because once you learn how to use it, you always have it handy
 - c. because no other device works so well
 - d. because the finger is an extension of the self
5. At first, the important thing in speed reading is
 - a. to emphasize the importance of comprehension
 - b. to set a goal that is realistic but challenging
 - c. to follow "S" and "Z" patterns in reading a page
 - d. getting the feel of going fast
6. One object of speed reading courses is to
 - a. get you to see chunks of reading matter
 - b. get you to read paragraphs at a glance
 - c. improve comprehension and critical thinking abilities
 - d. sharpen perception by improving eye movements
7. As your hand pulls your eyes rapidly down a page
 - a. you will probably comprehend very little
 - b. you must not be aware of the words
 - c. you gather more information than you realize
 - d. you pick up only the words your finger touches
8. What was the range of the author's beginning and ending reading rates?
 - a. 200 - 1340
 - b. 200 - 1520
 - c. 100 - 1,000
 - d. 300 - 10,000
9. The two ways in which the author feels he benefited most from his speed reading course are that
 - a. now he is able to skim effectively and to retain the "flavor" of what he reads
 - b. he succeeded in tripling his "comfortable" reading rate, so now he can read three times as many things
 - c. he is able to read more books and to scan newspapers faster
 - d. now he has the ability to skim at 1,000 - 2,000 w.p.m. and has tripled his "comfortable" reading rate
10. The author feels skimming over novels is justifiable because
 - a. he gets as much out of them as he did before
 - b. he has time to read many more books than he could before
 - c. all he ever wanted from reading were the main points
 - d. he has too much to read to go slow

SUCCESS LOG PACED READING

READING SPEED _____ WPM

COMPREHENSION SCORE _____ %
(10 points per correct answer)

PRESS **START** TO CONTINUE.

Time Out

TIMED READING

Discussion/Directions. The discussion and directions are the same for the Timed as for the Paced reading. A word of encouragement: Keep pushing! The skills you are using now are new; you need practice to learn them. We'll help you all we can!

Set your tones-per-minute rate at 100. This rate represents about 40 tpm faster than *your* beginning tpm rate for the Paced reading. If this pace seems slower than the one you achieved on the Paced reading, increase the tpm rate right away. If this pace seems comparable or even a little faster than your Paced reading speed, try to maintain it. Keep in mind the pace you select should always feel slightly uncomfortable, or a little fast. Try to correctly answer at least 7 of the 10 questions.

When the Timed reading screen appears, set the rate, and press the joystick button to begin and again when you finish reading.

White, Whitney. "A Lamp at Dusk: Adjusting Puts Peace Into Growing Old." Reprinted with permission from *The National Observer*, December 15, 1973, p. 20. © Dow Jones & Company, Inc., 1973.

Dear Daughter:

Your visit gave me a big lift, and, despite our no-stop chatter, I thought of a dozen other things we should have discussed.

I am sorry you dread old age so much. I confess it is not my most favorite of life's chapters, but as Samuel Hopkinson Smith once said: "Old age? There is nothing one can do about it, and after all, one is only old once." This is probably the most factual thing that can be said about it, and much nearer the truth than calling it the "Golden Age" or other Pollyanna names, trying to make it sound like a glorious romp.

You asked me to write down some thoughts I have on it. So here goes. I know full well that anything I say will soon be dated, as doctors will find new drugs that will keep the octogenarian agile on the tennis court and will decrease for many old people the crippling discomforts and poignant experience of growing old.

Many thoughts are tumbling around in my head, asking to be expressed. If I tried to voice them all it would make a 1,000-page tome covering such subjects as belief in life hereafter, health, habits, hazards, financial security, and on and on. I will spare you much of it.

I believe in some sort of life hereafter, and it stimulates me constantly to prod my spirit onward and upward. Since I have this belief, I think this period, as far as possible, should be one of continuing education; for whatever going-on or coming back I am assigned, I want to be qualified for at least the work of the intermediate grade rather than that of the pre-nursery. So if you have a spark of belief in life hereafter, feed and fan it, for it minimizes immeasurably

the sense of futility we elders so often have.

Jumping from the subject of our heavenly home to that of our earthly one, now with three unused bedrooms, an unused rumpus room, an oversize living room, plus a yard once given over to baseball but now to crabgrass, one, two if lucky, must inevitably come to terms with what to do with it.

Throughout life there are crisis moments when tough decisions have to be made. How and where to live this last chapter is one of these decisions. Here are some of the alternatives: (1) move in with one's children; (2) stay in one's own home; (3) move to an apartment; (4) go to a retirement home.

Dialog With a Gremlin

As I discuss these with my contemporaries, all but a few seem to agree not to live with one's children. That is not because you are not charming and hospitable and that we do not love you, but your pace is too fast, your household too active, and your space too limited. Besides, you have enough responsibilities without taking on us old crocks.

I wobble as to what to do with our house, where we have lived 50 years. I know now I should have given it up when my last birdling left the nest. Then it would have been easier to adapt to a new environment, and I would not have found the luxury of having empty rooms into which I could toss things and decide later what to do with them.

Yes, I might as well admit it. I am a space addict. I like to roam from room to room and out into the yard where little things that once gave me a backache when I planted them are rewarding me now by blossoming. I like to come into the house and see my cherished possessions standing in their familiar places,

so many reminding me of the lives of my ancestors.

Until I tangled with this problem I did not realize what a hold the old homestead had on me, each inch of it harboring fun-filled — and some tear-filled — memories. Like a turtle's shell, it is part of me. I can draw into it and let the world go by or, when feeling sociable, emerge. Blessed be my independence!

I wish the gremlin that keeps needling me to solve this problem with my head and not my heart would cease its noisy chatter. I keep telling it how like Paradise it would be to stay put. It chuckles sardonically and says, "No, not like Paradise, with its host of ministering angels. Face it, old lady. (It knows how I hate to be called senior citizen.) Just because some of your friends have been lucky and found helpers does not mean you will be. So who will talk to you when the winter's icy sidewalks isolate you? With your unsteady legs, who will market for you, bank, and do your sundry errands, or pick you up when you fall and break your hip?"

This dialog between my gremlin and myself makes vivid the intense silence of the house as the snow piles up to the windowsills and the frustration of wanting things and not being able to totter up to the village to get them. It is amazing how distance lengthens as the years ahead grow fewer.

The argument for an apartment is that I can still maintain more or less my independence. I will have a door I can close and people to summon in an emergency. I know I will miss space and a garden plot, and that with the present cost of apartments I will not save any money, but at least you kids will not have me on your minds and you will inherit some nice pieces of furniture while you are still in the social whirl.

I know you asked me to consider a retirement home. There is much to be said for them: perpetual care, people constantly around, release from responsibility, and planned activities and entertainment. However, I am not sure I am the type to enjoy all these goodies.

You are a child of the herd. You like noisy cocktail parties, crowded ballroom floors, and droppers-in for coffee. I, however, am more like your sister. Do you remember when she wanted to leave college because she hated eating in the noisy dining room with a hundred "chewers and chatterers"? She and I have to have some solitary days just to mooch around in, and the independence of choosing the people we want to see and the places we want to go. Don't think I feel our type is superior to yours, for goodness knows it would be a drab, colorless world without people with bounce like you.

Two Ways to Meet Aging

The number of words I have devoted to this dwelling problem may lead you to think that, having set-

tled it, old age has no other adjustments to make. Far from it, dear daughter. As I sit here and write I am aware that my body has grown creaky with wear. Never having been afflicted with chronic ills, I have not been conscious of it before, and always expected it to do the things I ask of it.

Today, however, trying to get going in the morning is much like trying to crank our old Model T Ford. I have to crank and crank it, and several times during the day's travail it sputters and falters, crying out for bed rest. My doctor is sympathetic as I tell him how my knees buckle and my legs wobble. He, however, has no advice to offer, and ends by saying, "What do you expect at your age?"

I know I must learn to live with this dissipation of my bodily strength and accept a less active life; but I do deplore it happening to my friends. It is sad indeed to see them failing; first giving up walking, then driving, then growing housebound, and finally going to a nursing home for their last days. There are lots worse things than death for those who experience it, but for those they leave there is an aching void, difficult at our age to fill.

When I was a youngster my nurse taught me a hymn sung to a jolly little tune. "Count your many blessings, count them one by one" were the words of the chorus. We sang them in duet, I beating time with a comb on the bedpost. Now in my advanced age I find it is good therapy to do just that, and the blessings really mount up when I put my mind on it. Old age certainly has its compensations: freedom from being responsible for the young in this day of the new morality, freedom from committee work, freedom from caring about status, and freedom from outside pressures.

There seem to be two ways of meeting old age. One is to resign to it, letting it take over your life. The other is to adjust to it, still keeping in the stream of life and prodding oneself gently into the activities one can still do.

My grandmother chose the former. I can still see her, sitting and rocking on her porch in Brookline. She wore frilly caps, thus hiding her hair (or the lack of it; I never knew which) and abolishing the need to struggle to a beauty shop and sit for a precious hour under a dryer. A lace shawl took the curve of her bent shoulders, and I always smelled a faint fragrance of lavender as I kissed her. To all appearances there was no turbulence in her soul. And thanks to not having television shouting daily of the agonies of the world, she was able to say, and often did say, "This is a good, good world." She went to her Creator from the house where she had lived 60 years and in which she had brought up eight children, rather than having been toted off to a nursing home to spend her last days among strangers. I think hers was the easier way.

However, today with the doctors stressing circulation and the importance of keeping going, we have little chance of doing it.

As I said in the beginning of this all-too-long letter, this is not my favorite chapter in life. I do realize, however, that the Twentieth Century grandmother has a better life than any previous ones. With discrimination she can have pleasant entertainment on television or radio. With the telephone she can share her doings or the lack of them with her friends, or listen to theirs. The Government is concerned with her and gives a slight but welcome boost to her finances. Many communities have committees that plan ways of getting her out and amusing her, as well as sending in hot nourishing meals to her. Who knows what will be offered you when you reach this chapter!

Ulysses, returning home from the Trojan wars tired

and grown old, is reported by Tennyson to have said: "Though much is taken, much abides, and though we are not now that strength which in old days moved heaven and earth, that which we are, we are. One equal temper of heroic hearts made weak by time and fate but strong in will to strive, to seek, to find, and not to yield."

So now, inspired by those words that I say often to myself, I must go out for a short walk, thus helping my heart — which feels less than heroic — do its pumping job. When I come in there will be the philharmonic to listen to. I will light the fire, take up my knitting, and, shutting out the world, I will agree with my grandmother that there are moments in this chapter when I can say this is a good world.

I hope I have not exhausted you. Keep cheerio, and with love,

Mother

Press the joystick button to **STOP** the timer.

How fast did you read this time? Remember you're competing only against yourself. Answer the questions without looking back at the selection. Check your work in the Answer Key and record your scores in the Success Log Box.

1. The reason Granny wrote to her daughter was to
 - a. get advice on where to live
 - b. tell her the benefits senior citizens receive
 - c. express her thoughts concerning old age
 - d. express her irritability at all her inner aches and pains
2. Because Granny believed in life hereafter, she was determined to
 - a. continue her education
 - b. continue discussions with the Gremlin
 - c. attend church regularly
 - d. be kindly to all of her friends
3. Granny's "tough decision" in her last chapter of life was to decide whether or not to
 - a. become more involved in community activities
 - b. be like her own grandmother had been
 - c. accept old age gracefully
 - d. move from her beloved home
4. Why didn't Granny want to live with her children?
 - a. They lived too far from her friends.
 - b. Their house was too small and their pace too fast.
 - c. She enjoyed living alone too much.
 - d. She felt she could never leave her memory-filled home.
5. Granny perceives her home as a
 - a. place to grow and especially to die in
 - b. good meeting place for neighbors
 - c. turtle's shell into which she can draw herself
 - d. rambling, spacious place that has too many stairs

6. What kind of lifestyle does Granny prefer?
 - a. lots of people around to go to lunches and teas with
 - b. structured days with plenty of projects or activities to keep her from becoming depressed
 - c. living in pure isolation from the world in her own home
 - d. solitude with the option of going and coming when she pleases
7. Granny compares her body to a Model T Ford by mentioning that
 - a. it's hard to "get going" in the morning
 - b. frequent "repairs" are needed
 - c. they both are old, tired, and out of date
 - d. they always cry out for rest
8. What does Granny think she has little chance of doing?
 - a. being able to keep walking much longer
 - b. being remembered like her grandmother was
 - c. dying like her own grandmother did
 - d. seeing her grandchildren often
9. What are the two ways Granny saw as a way to meet old age?
 - a. resigning or adjusting
 - b. stagnating or becoming involved
 - c. living in your home or going to a nursing home
 - d. living with your children or living all alone
10. What is Granny going to do after she finishes her letter?
 - a. go out to dinner with one of her friends
 - b. go out for a walk and come home to her knitting and warm fire
 - c. watch television and telephone a neighbor
 - d. write her other daughter that she believes this is a good world

SUCCESS LOG TIMED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

Note: Record the tape counter setting on your Program Recorder in the space provided at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

To Help You Read Faster

TECHNIQUES

Tape Counter Setting _____

Discussion. Learn to read faster than you talk! Most people can pronounce words (speak) only between 150 and 250 words per minute. To read faster than this rate, you have to begin seeing words without saying them to yourself. The activities below will help you to begin recognizing words without pronouncing them. Be sure to complete the activities before beginning the Flexible reading.

1. Cover the first groups of words below with an index card or piece of paper. Allowing yourself only a 1-second exposure*, quickly glance at the words in the group. When the card is back in place, think of one word or a short phrase that describes *all* the words in the group. For example, if the words are terrier, cocker, poodle, and Siamese, you might write down, "animals" or "pets." "Canine" or "dogs" would be unacceptable. Record all your answers in the appropriate space next to the group of words. Sometimes you will see the **STOP** symbol in the units, which will remind you to *stop* and compare your answers with those in the Answer Key.

1. terrier
cocker
poodle
Siamese _____

2. California
Maine
Kansas
Wisconsin
Florida _____

3. tulip
rose
lily
carnation
pansy _____

4. fir
maple
poplar
pine
redwood _____

5. tiger
panther
leopard
tabby
lynx _____

6. hammer
saw
pliers
screwdriver
level _____

7. Erie
Superior
Huron
Michigan
Ontario _____

8. halter
girth
bridle
saddle
stirrup _____

9. cauliflower
broccoli
asparagus
eggplant
corn _____

10. splint
gauze
adhesive
bandage
antiseptic _____

11. snap
hook
button
zipper
buckle _____

12. spatula
strainer
grater
beater
tongs _____

13. sock
shoe
pants
shirt
skirt _____

14. yarn
fish line
string
rope
wire
ribbon _____

15. stein
can
bucket
bowl
mug
pail
cup _____

16. trigger
nozzle
handle
barrel
hammer _____

17. sling
hammock
cot
bed
mattress _____

18. chalk
paint
wax
lead
ink _____

19. rake
hoe
mower
hose
sickle _____

*A 1-second exposure is approximately the time it takes you to say "one-one-thousand." As you remove the card, say "one-one-thousand" to yourself. As you finish saying this phrase, the card should be back in place.

- | | | |
|---|---|---|
| 20. mirror
calm water
glass
shiny metal
waxed floor _____ | 28. seat
frame
pedal
handlebar
gear
fender _____ | 36. ward
patient
surgery
nurse
technicians _____ |
| 21. compass
sun
stars
map
wind sock _____ | 29. tent
sleeping bag
back pack
dried food
gas burner _____ | 37. Hume
Plato
Socrates
Descartes
Thoreau _____ |
| 22. lens
film
meter
tripod
filter _____ | 30. alligators
snakes
turtles
lizards
crocodiles _____ | 38. House
electorate
President
judiciary
Senate _____ |
| 23. hood
helmet
goggles
ear muffs
shoulder pads _____ | 31. pistil
bud
leaf
root
stamen _____ | 39. Volkswagen
Datsun
Toyota
Maverick
Gremlin _____ |
| 24. choker
scarf
tie
collar _____ | 32. coat
sweatshirt
jacket
sweater
windbreaker _____ | 40. Rhode Island
Maine
New Hampshire
Connecticut
Vermont _____ |
| 25. bus
train
airplane
subway
car _____ | 33. sad
angry
happy
excited
nervous _____ | 41. Oregon
Washington
Idaho
California
Nevada _____ |
| 26. heater
washer
refrigerator
furnace _____ | 34. reading
knitting
bridge
bingo
writing _____ | 42. beans
green vegetables
spinach
lettuce
brussels sprouts _____ |
| 27. cuckoo
flamingo
robin
mallard
thatcher _____ | 35. red cloak
crowd
bull
swords
matador _____ | |



2. Now cover the phrase at the left with an index card or piece of paper. Allow yourself only a 1-second exposure. Then, using a pencil, check the one phrase to the right that makes a complete, sensible sentence. See how fast you can do this exercise. Do not look back at the initial phrase when marking your answers. Check your accuracy on this part by reviewing your work at a slower pace.

1. When the fox chased the hen,
- since he was hungry
 - or he liked eggs
 - many feathers flew
 - and he stole a chick

2. Since the plane was shuddering,
 - a. with no landing gear
 - b. but was brand new
 - c. couldn't take off
 - d. Matt circled to land

3. The little red squirrel
 - a. and found a bag of nuts
 - b. packed away his winter food supply
 - c. since he was a clever scavenger
 - d. with the nuts in his pouch

4. When Claudia socked Tom,
 - a. since she's a tough woman
 - b. it was in her own self-defense
 - c. he is a weakling
 - d. because she dislikes him

5. Wherever the antelope ran,
 - a. and they got tired
 - b. in prairies of grass
 - c. the tigers pursued them
 - d. because they were afraid

6. In order to start a beer can collection,
 - a. Wayne had to do some searching
 - b. because he's an alcoholic
 - c. to collect junk
 - d. because it's a fun hobby

7. If everything goes wrong,
 - a. because you didn't do it right
 - b. in order to fix it
 - c. about time to quit
 - d. you are apt to feel defeated

8. Because Harold embarrasses the family,
 - a. we keep him locked in the basement
 - b. if he would shut his mouth
 - c. since he's our son
 - d. and he's a real dope

9. When the waves became dangerous,
 - a. because the canoe was tippy
 - b. and the winds were high
 - c. we got off the lake
 - d. if our boat tipped over

10. If those mushrooms we ate were actually toadstools,
 - a. I have been poisoned
 - b. because we weren't sure
 - c. when you make a mistake
 - d. if I can't tell the difference

11. Because Marxism is only an ideal,
 - a. when the doctrine is changed
 - b. it cannot be put into absolute practice
 - c. if communism is powerful
 - d. belongs in the political process

12. When she painted the "Little Princess,"
 - a. because she is an artist
 - b. if it were her canvas
 - c. and she likes those colors
 - d. she was a beginning student

13. When the furry kitten meowed,
 - a. since it was hungry
 - b. because it was the runt
 - c. wants its mother
 - d. its mother caressed it

14. If she buys that new car,
 - a. because she needs transportation
 - b. she can drive to work
 - c. and can't pay the installment
 - d. since it's a cash deal

15. Because the elevator jammed,
- the passengers became acquainted
 - and everyone was scared
 - but remained for hours
 - as an emergency erupted
16. Since there was a blizzard,
- and it was all white out
 - when the snow plows were clearing roads
 - all schools and stores closed
 - if it ever stops
17. If you pass the exam,
- and got on the honor roll
 - because you'll do well
 - or if the questions are too hard
 - you will certainly pass the course
18. Since the Pine Mountains are so rough and jagged,
- but are hard to get across
 - we know they are a young formation
 - or mountain climbers go there
 - full of mountain goats
19. When the 4th of July is celebrated,
- since everyone hangs out a flag
 - because children buy many sparklers
 - fireworks flash through the sky
 - because the nation's birthday
20. When the dog lunged at Julie,
- she retreated in fright
 - since it was a vicious creature
 - and she was scared
 - because she was teasing him
21. After Phillip won the pie-eating contest,
- since he is a glutton
 - but the lemon was better than the chocolate
 - he didn't eat for a week
 - because he is obese
22. Since the bicycle has no brakes,
- my brother couldn't ride it
 - because it was old
 - and the seat was broken
 - if I could repair it
23. Just when spring seemed here for good,
- because it's warm
 - there was a blizzard
 - since the flowers were up
 - if there was a frost
24. When Harold put the cat out,
- since it wanted out
 - whenever it meowed
 - because it likes the neighbor's garage
 - it ran to its mate
25. When the horses balked,
- when the lightning scared them
 - because they were nervous
 - since the fire frightened them
 - the cart swerved dangerously
26. If my plant isn't watered,
- because I'm leaving town
 - since it required a lot of care
 - it will shrivel up immediately
 - when it's a dry climate
27. Whenever Charlie rewards Fang,
- because he did a trick
 - he gives him a biscuit
 - but he's a beggar
 - since he's very fond of his pet

28. After the race cars started out,
- a. the "red flame" was in first position
 - b. because the speed demons were careless
 - c. since I wanted "the flame" to win
 - d. while the field cars roared by
29. Whenever I write a story,
- a. since I like to express my thoughts
 - b. it has a dramatic ending
 - c. when I recorded an event
 - d. but I misspell a lot of words
30. When the movers lifted the piano,
- a. because it was too heavy
 - b. while we were busy packing
 - c. but it was very heavy
 - d. the keys fell out



3. Cover the sentences on the left with an index card or piece of paper. Allow yourself a 1-second exposure and then, using a pencil, check the one word to the right that describes *all* the actions in each sentence. Check your answers by reviewing your work at a slower pace.

- | | |
|---|---|
| 1. Once the hole was dug, Ceil lowered the seedling in and covered it with dirt. | <ul style="list-style-type: none"> a. planting b. burying c. watering d. growing |
| 2. John wiped the chain and then mended the links. | <ul style="list-style-type: none"> a. oiling b. repairing c. biking d. breaking |
| 3. The child went from the kitchen to the living room at a fast pace on all fours. | <ul style="list-style-type: none"> a. crawling b. shuffling c. sliding d. sneaking |
| 4. Leo went back to the store and returned the sweater for one that was a size larger. | <ul style="list-style-type: none"> a. presenting b. buying c. selling d. exchanging |
| 5. Sonia tore out the check, signed it, and gave it to the clerk. | <ul style="list-style-type: none"> a. saving b. writing c. buying d. earning |
| 6. The speeding car lurched to the left as the wheels angled right. | <ul style="list-style-type: none"> a. stopping b. skidding c. crashing d. braking |
| 7. Marc added full power, pulled back on the stick and watched the building grow smaller. | <ul style="list-style-type: none"> a. landing b. turning c. crashing d. taking off |
| 8. The boys tested the rope and then pulled themselves up onto the next rock. | <ul style="list-style-type: none"> a. sliding b. watching c. jumping d. climbing |

9. After successfully countering the opposing viewpoints for an hour, Jake saw that his plan was finally accepted.
10. The coach threw a party for the winning team.
11. The moment Kent saw the envelope, he closed his eyes in fear.
12. When the other players weren't looking, Mark slipped an extra card into the deck.
13. Sam gently twirled Joy by her arm, while moving his feet smoothly to the steady beat.
14. Sue carefully inspected the stock of soup cans, looking for the one with the red label.
15. With a sudden spurt of energy Albert jumped up from the side lines when the Bears scored.
16. After a pause the dog leaped in the direction of the scent and pursued his prey.
17. Dick released the clip and jumped into a void of temporary weightlessness.
18. Sitting erect in her chair, Ericka pressed the switch and proceeded to tap the keys with phenomenal speed.
19. After the long drive, Mike put his feet up and head back.
20. John removed the barrel of the gun and turned the swab carefully inside the long steel tube.
21. Charles nailed the two boards together and then screwed on the pulleys.
- a. fighting
b. teasing
c. persuading
d. lecturing
- a. punishing
b. admiring
c. celebrating
d. competing
- a. loving
b. anticipating
c. developing
d. organizing
- a. pick-pocketing
b. punishing
c. rebelling
d. cheating
- a. walking
b. observing
c. dancing
d. exercising
- a. choosing
b. cleaning
c. smelling
d. eating
- a. clapping
b. cheering
c. addressing
d. acknowledging
- a. fighting
b. hunting
c. playing
d. escaping
- a. racing
b. fleeing
c. sky diving
d. skin diving
- a. sewing
b. singing
c. spelling
d. typing
- a. eating
b. driving
c. working
d. relaxing
- a. shooting
b. cleaning
c. aiming
d. loading
- a. destroying
b. sawing
c. building
d. sanding

22. With great precaution the two boys slipped into the locked store and ran away with a dozen new toasters.

- a. stealing
- b. visiting
- c. borrowing
- d. begging

23. With a damp rag Janet scrubbed the windows until they sparkled in the sun.

- a. opening
- b. painting
- c. washing
- d. soaking

24. James studied the records so he could account for every penny spent.

- a. examining
- b. neglecting
- c. buying
- d. cheating

25. Sue pierced the material with the sharp point and pulled the thread through.

- a. cutting
- b. stitching
- c. snapping
- d. tearing

26. The teacher used her red pen to mark the exams.

- a. noting
- b. studying
- c. constructing
- d. grading

27. John dribbled the ball and then bounced it to his partner so he could score the winning point.

- a. practicing
- b. teaming
- c. listening
- d. fighting

28. The two men battled the white water and then finally found some flat water to leisurely paddle in.

- a. motoring
- b. cruising
- c. canoeing
- d. drifting

29. Tony adjusted the sights and crept slowly into range of the target.

- a. aiming
- b. shooting
- c. discharging
- d. reloading

30. Sue totally disagreed and proceeded to do what she wanted.

- a. punishing
- b. following
- c. voting
- d. rebelling

31. Mary reached Jon in time to tell him of the dangers she'd discovered.

- a. following
- b. informing
- c. confessing
- d. searching

32. The farmer plowed his land in preparation for next year's crops.

- a. harvesting
- b. fertilizing
- c. growing
- d. cultivating

33. Joe's older sister threatened to take his toys away if he didn't do what she said.

- a. playing
- b. sharing
- c. asking
- d. commanding

34. The troops withdrew from the front lines to reorganize.

- a. escaping
- b. deserting
- c. retreating
- d. liberating

35. Droplets began to appear at the bottom of the thickly crusted icicle.
36. Bozo the clown is able to keep four dishes up in the air for five minutes.
37. David sprang from the board, raised his arms over his head, and went into the water head first.
38. Jimmy threw the rolled paper onto the door step as he pedalled past the house.
39. Mr. Fredericks hammered a spout into the tree and hung a bucket from it.

- a. rusting
 b. leaking
 c. melting
 d. vaporizing
- a. bouncing
 b. juggling
 c. breaking
 d. weighing
- a. swimming
 b. jumping
 c. racing
 d. diving
- a. delivering
 b. selling
 c. waving
 d. playing
- a. washing
 b. building
 c. tapping
 d. emptying



4. Read the article below and try not to subvocalize. Placing your fingers lightly on your throat as you read will quickly tell you if there is any movement there. Biting a pencil or chewing gum may help you overcome talking to yourself as you read.

Stokes, William. "Love at First Grade," *Ship the Kids on Ahead*.
 Madison, Wisconsin, Forrest Publishing Co., 1968.

A special message this day to all of you out there who have fallen in love with your first grade teacher.

I know how you suffer, fellows, and that there is no comforting you.

But let me only say that what you are going through is by no means a new affliction. It has been around a long time.

Now you take Miss Rosenberg. Ah, boys there was a woman for you. I loved her like no woman was ever loved.

I'll never forget the day she held my hand and showed me how to make a small "a." I could smell her perfume and her hair tickled my ear, and, well, it was just too much for me at that age and I bit her elbow.

She apparently understood, because she looked at me for a minute or two and then she smiled. Oh, there was a woman. I get a shiver in my ribs to this

day if I get involved in a word with more than one or two small "a's."

As the year wore on, I remember that Miss Rosenberg and I grew closer to each other. Part of this was because she caught me snapping a rubber band at Lucy Caldwell and moved me up to the front desk.

This was all right with me, because it made it easier for me to stare at her.

We had a little ritual we went through, Miss Rosenberg and I. I would stare at her until she looked at me and said, "Billie, will you please get at your work now."

Then I would pretend to read Dick and Jane, except that I would pretend that it was Miss Rosenberg and Billie instead of Dick and Jane. "See Miss Rosenberg run. See Billie run. Run Miss . . ."

I'm not sure when I fell out of love with Miss Rosenberg, but it might have been about the time

first grade ended and I took up with a white rat that my brother and I kept in an old canary cage.

Anyway, fellow first graders, try not to get too involved with this older woman. The first thing you

know, she'll be telling you to wash behind your ears and to stuff your shirt-tail in; and, take it from me, a fellow gets plenty of this sort of thing as he takes on more of life's ballast.

Need more help in fighting your tendency to subvocalize? There's more practice on reading without subvocalizing in Unit 2.

Now proceed to the Flexible reading and read the directions.

FLEXIBLE READING

Discussion. The Flexible reading differs from the previous two readings. We have varied the difficulty of it—some articles deal with technical subjects; others are more like newspaper editorials—to encourage you to be flexible. Having flexibility is the key to efficient reading—not reading fast all the time, but adjusting your rate when the material calls for it. And remembering to speed right back up when you can.

Directions. Read the Flexible article with the timer. You will not hear the audio metronome pacing tones, so be ready to maintain your pace all on your own. The selection presents information on feet and foot care that is probably new to you but will also probably interest you. Your two purposes for reading are: 1) to read as rapidly as you can, and 2) still be assured that you can answer at least 7 of the 10 comprehension questions. Push the joystick button when you are ready to read and again when you finish.

Galton, Lawrence. "Your Feet." Reprinted courtesy of *Popular Science*, February, 1968, pp. 79-81, 196-97. © 1968 Popular Science Publishing Co., Inc.

Foot trouble hit the headlines recently — a nasty business called "warm-water-immersion foot" which has put troops in Vietnam out of action as effectively as bullets. In one Mekong Delta operation, more marines came down with it than were killed or wounded.

It starts when calluses expand and contract painfully on water-soaked, wrinkled skin: boot friction aggravates this, and soon the victim can't walk.

Happily, medics have turned up a silicone ointment, the same compound used as a lubricant in high-speed drills, which when smeared on feet and socks is remarkably effective in preventing immersion foot.

Keeping feet in shape is not just a military problem. Except for the common cold and tooth decay, no human ailments are more prevalent than foot troubles. As many as 80 percent of adults have one kind or other in their lifetimes.

And experts say many, if not most, foot troubles are needless, and are mistreated when they do occur. Much of the \$2 billion we spend annually on foot powders, sprays, pads, supports, and potions to correct foot ailments is wasted because of misinformation and neglect.

Engineering masterpieces. In terms of anatomical engineering, your feet are masterpieces — and they have to be. When you stand, your feet carry the dead weight of the body. Walk — and if you're average, you'll walk some 65,000 miles in your lifetime — and you jolt them with a force of hundreds of tons a day. A 150-pound man walking a mile brings down on his feet a total work load of 132 tons — 264,000 pounds.

Your feet have to absorb the impact of body weight and keep the shock from traveling up the network of nerves and joints throughout the body.

In addition, they have to balance the body, propel it, and, working against gravity, get blood flowing

back up the legs to the heart.

To accomplish all this, you have 52 bones in your feet — one-fourth of the total number in the body and — they're encased in an intricate system of some 200 ligaments, 40 muscles, and millions of muscle fibers and blood vessels.

Your biggest foot bone is the heel, one of the seven tarsal bones; the other six tarsals arch in front of it — and meet five long bones, the metatarsals, whose heads make up the ball of the foot.

A major part of the body load is borne by bones in the rear; the rest is spread among the long bones in the forepart of the foot. When you walk, body weight comes down on the heel but is quickly transferred to the ball — and from there some goes to the toes which, by their spreading action, prevent turning on the ankles and aid in takeoff for the next step.

When something goes wrong with your feet, the trouble isn't necessarily confined there. Foot discomfort may cause a shift in gait or a change in posture. Other parts of the body, including the spine, may be thrown out of kilter to cause other troubles. Some low back disturbances, joint complaints, even headaches are being blamed on the feet.

Out of whack. About 99 percent of us are born with perfect feet and manage to quickly acquire trouble.

One recent study carried out in seven cities found that 74 percent of children in elementary schools had foot problems; by high school, 88 percent. Here's why. Throughout life the feet are subjected to the stress of standing on hard surfaces. Man doesn't do enough walking, which is good for feet. "Standing," says Dr. Charles Turchin, a Washington, D.C. podiatrist and vice-president of the American Podiatry Assn., "is a great enemy to the feet. It involves 100-percent use; walking, only 50 percent use (in walk-

ing, one foot rests while the other supports weight).”

And shoes — poorly fitted and often designed for the eyes, not the feet — also get blamed.

Dr. Henri L. DuVries, a foot specialist who has examined many thousands of feet during the last 30 years, laments “man’s insistence on forcing a square into a triangle.”

Suggests DuVries: “Slide a shoe off and look straight down at your foot. The sides make roughly parallel straight lines — even the front can be described more or less as a straight line running from big to little toe somewhat like a piece of lumber sawed at a right angle. But look at your shoes — more than likely the toes are shaped like triangles.

“Only when we clothe our feet with shoes do we begin to worry about corns, calluses, ingrown nails, hammer toes, bunions, and other foot ailments,” DuVries says.

The myths. We’re surrounded by foot myths. They range from the idea that many foot troubles stem from wearing sneakers in childhood (not really harmful) to wearing loafers which are supposed to be bad because they let the feet spread. “Undoubtedly, the foot will grow somewhat larger and wider if not restricted by ill-shaped shoes, but this is healthy,” says one authority.

The biggest misconceptions center around flat feet and fallen arches. Because the Army during World War II rejected thousands of men with flat feet, the idea that there’s something inevitably wrong with them persists.

Dr. Dudley Morton, one of the nation’s outstanding investigators of the foot, says many people with arches “as flat as pancakes” never have experienced foot pain, while some of the most painful and obstinate cases involve feet with well-formed arches.

According to some authorities, only one out of 1,000 persons with flat feet has pain because his feet are flat. The best bet for the flat-footed person, and anyone else with a painful foot problem for which there is no clear-cut, obvious cause, is to get advice and treatment from a physician or podiatrist rather than to keep buying arch supports.

Here are some common foot problems, though, which authorities say can be corrected with simple remedies:

For feet that just ache. All that may be needed is rest and elevation — as much of both as possible — and washing in cold water with an antiseptic soap followed by a sponging with rubbing alcohol.

Excessive sweating. This often can be helped simply with rubbing alcohol and foot powder — applied especially between the toes.

Calluses. On the balls of the feet or tops of the toes, calluses usually come from badly fitted shoes. For lasting relief the shoes must be changed. If the

callus is thick, a physician or podiatrist can speed its disappearance by careful paring (something not to be done by yourself).

Heel discomfort. Some physicians recommend nightly soaks in hot water containing Epsom salts and use of a heel pad with a hole at the point of greatest discomfort.

Painful heel problems. These are common among policemen and others whose jobs require much standing or walking. Dr. Paul W. Lapidus of New York, an orthopedist, reports that patients respond readily to medical treatments.

Bunions. This is bursitis of the big toe, caused by tight shoes that press on the toe joint and the bursa, a little fluid-filled sac in the joint. The joint becomes inflamed — and the metatarsal bone becomes misshapen. “Bunion-last” shoes, made wide through the forefront section, may help. Surgery is sometimes required.

Hammer toe. Also called claw toe, this is another deformity that can be caused by poorly fitted shoes. It leads to undue pressure and corn formation. While severe cases may require surgical correction, conservative treatment — which includes use of corn plasters, new and well-fitted shoes, and toe-stretching — often offers relief.

Plantar warts. These common warts that develop on the soles of the feet and then are flattened by pressure can be exquisitely tender. Sometimes they yield to medication. Recently, Dr. Bernard E. Tropp, a Newark, N.J., Health Department podiatrist, has reported promising results with ultrasonic waves in eliminating plantar warts.

Athlete’s foot. Much that passes for athlete’s foot really isn’t. Real athlete’s foot is a fungus infection called *tinea pedis* and ringworm. It often can be licked with a special antifungal antibiotic.

In many cases of athlete’s foot, moisture from excessive sweating and the maceration of the skin it produces may be more important sources of inflammation than funguses. To combat the moisture and maceration problem, doctors prescribe thorough drying between the toes after bathing, rubbing away of the macerated skin, and routine use of a drying powder (either zinc stearate or a combination of zinc stearate and zinc oxide with talc).

Allergic reactions to shoe materials can cause what seems to be athlete’s foot. Nonallergic shoes may clear this up.

Chronic corns. Friction and pressure cause a corn to develop. Corn plasters may provide some relief — and, if the friction and pressure came from badly fitted shoes, a change of shoes may solve the problem.

But in many cases of recurring corns, the cause is a bone deformity — a bony growth that produces trouble by rubbing against the underside of the skin

during walking.

Dr. Milton Roven, a podiatrist at Linden General Hospital, Brooklyn, N.Y., reports a simple surgical procedure to correct the bone deformity. It involves making a small incision near the bony growth, inserting a tiny rasp, and literally filing away the offending bone. The procedure can be carried out in a podiatrist's office and the patient can resume walking immediately with little or no pain.

Avoiding trouble. Most common foot troubles can be prevented from happening in the first place — or from recurring.

Good shoes properly fitted are essential to foot health. Buy them late in the afternoon; your feet will be bigger then. Don't tell the salesman your size; let him measure. Make certain the shoes are wide enough to accommodate the widest part of your foot and that there is room to extend your toes fully.

What should you look for in a good shoe? Soft

upper, moderately broad heel, narrow waist, straight border along the inner sole. Socks should be a quarter-inch longer than the longest toe. If you perspire a lot, wool or cotton is preferable to synthetic material.

Tips on foot care. Clip toenails straight across — no rounding of the corners — to minimize any chance of ingrown nails. Bathe your feet daily and dry completely with a terry-cloth towel.

Don't monkey with your feet. If any kind of trouble pops up and persists for more than a few days, do what you'd sensibly do if the trouble were in an arm or the throat or the chest: Get professional help to diagnose it and treat it before it can get worse.

It was Abraham Lincoln who once complained: "When my feet hurt, I can't think." Enough is known today so that with a little forethought your feet aren't likely to hurt — and, if the foot doctors are right, you'll be less likely to hurt elsewhere.

Press the joystick button to **STOP** the timer.

Answer the questions without looking back at the selection. Check your work in the Answer Key and record your scores in the Success Log Box.

1. Which is more common among human ailments than foot problems?
 - a. broken bones
 - b. soft gums
 - c. common colds
 - d. hayfever
2. The author mentions several reasons why the feet must be engineering masterpieces. Which of the following did he not mention?
 - a. They must coordinate the movement of multiple bones, joints, and muscles.
 - b. They must support the entire weight of the body.
 - c. They must absorb the great impact when a person walks or runs.
 - d. They must get the blood flowing back up to the heart.
3. What fraction of your body's bones are in your feet?
 - a. $\frac{1}{8}$
 - b. $\frac{1}{4}$
 - c. $\frac{1}{10}$
 - d. $\frac{1}{12}$
4. The most critical outcome of foot discomfort is
 - a. blisters and bunions
 - b. a shift in gait or posture
 - c. migraine headaches
 - d. mental anxiety

5. Standing is harder on feet than walking because
 - a. feet need exercise to stimulate circulation
 - b. pressure on the transverse arch is extreme
 - c. people who stand still are usually overweight
 - d. it involves constant 100% use
6. Dr. Henri L. DuVries comments on
 - a. the fact that wearing moccasins causes flat feet
 - b. the sneakers-to-loafers syndrome
 - c. designing shoes to save money
 - d. forcing square tipped feet into triangular shaped shoes
7. According to the author, excessive sweating can be helped by
 - a. wearing lighter socks or sandals
 - b. using rubbing alcohol and powder
 - c. washing in cold water and using antiseptic soap
 - d. wearing well-fitting shoes
8. Athlete's foot
 - a. can be caught in any locker room
 - b. is actually an allergic reaction to shoe material
 - c. is caused by sweating and maceration of skin
 - d. is a fungus infection or ringworm
9. Shoes should be bought in late afternoon because
 - a. your feet will be more tired and thus sensitive to any future shoe problems
 - b. that's when your feet are the biggest
 - c. your circulation will be at its peak
 - d. your sales resistance to fashionable but uncomfortable shoes will be high
10. Why should toenails be clipped straight across?
 - a. to minimize chances of ingrown nails
 - b. to reduce the occurrence of hangnails
 - c. to facilitate keeping them clean and trimmed
 - d. to reduce friction between the toes

SUCCESS LOG FLEXIBLE READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 1

READING EFFICIENCY INDEX _____

Directions

1. Refer to the three Unit 1 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
2. Record your Unit 1 REI above *and* on the REI Record page in the back of your Workbook.
3. Press **START** to load the Reading Progress Graph. While the graph loads, read "Picking Up Speed" below.

PICKING UP SPEED

You should have a feeling of accomplishment! One unit is completed. Probably the most difficult one in the book for you, because you had so many new things to remember. Both facts and procedures.

Throughout the units, of course, you'll be learning new facts and new techniques. That's an important part of becoming a fast, skilled reader.

But the unfamiliar procedures will soon become second nature. You'll be able to take them for granted and concentrate on improving your skills. Until you get comfortable with them, don't feel awkward. Good reading habits can be quickly formed.

You can make it easier by forming the habit of doing the units regularly, as we suggested. Keep all your materials together so you don't have to waste time hunting. Pick a reasonably quiet place and time when you won't be interrupted. *And* set to work immediately. With enthusiasm.

Use your time actively—to pick up speed. And remember how much time you'll save later. By reading twice as fast. The ATARI way.

Helpful Hint: Choose a light, recreational book you enjoy and keep it handy as you work in each unit. It can be a great way to get extra reading practice on easy material. Pick it up when you have a few minutes in between the exercises.

4. Enter your Pretest and Unit 1 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
5. Press **START** to view your graph.

UNIT 2

MAKING MORE PROGRESS

- To begin Unit 2 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 1 with Side 2 up.
- After listening to the audio segment, turn to the Warm-up exercise and read the directions.

WARM-UP EXERCISE

Directions. The Warm-up exercise is similar to the first one you did, only the words may be slightly longer. Also, after the Reading Window moves to the right, it will stay stationary and the words will appear in the window.

Your beginning Reading Window Rate for Unit 1 was 60. Try increasing it to 90 this time. Remember, the purpose of this exercise is to get going and concentrating. Challenge yourself on it as much as you can.

Enter your RWR when the Warm-up screen appears and press the joystick button to start. Record your results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting in the space provided at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

Press **Y** OR **N**, THEN **RETURN** .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Discussion. Keep in mind that you want to limit your subvocalization and respond to more words and ideas at one time. But focus mainly on grasping the material as fast as you can. Your increased concentration will be a great assistance in improving your reading ability. And don't forget to think positively!

Directions. Remember! The purpose of the Phrase-reading exercise is to help you read at speeds you might have difficulty initiating on your own. Let the Reading Window *push* you. When the screen appears, set your rate 50 words per minute faster than you did in Unit 1 and try to keep up. You want to read at a rate fast enough to *not* allow you to mentally pronounce each word or go back and recheck material. Push the joystick button to start. Record your results below when you finish.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting in the space provided at the beginning of the Paced reading.

Are you going to repeat this exercise?

PRESS **Y** OR **N**, THEN **RETURN** .

Keeping Up The Pace

PACED READING

Tape Counter Setting _____

Directions. If you scored right answers to at least 7 out of 10 questions for the Paced and Timed readings in Unit 1, you're ready to increase your speed on this exercise. Set your beginning tones-per-minute rate at 120. Again, if this pace seems slower than the one you achieved on the previous Timed reading, increase it right away. If it seems about the same, make a modest increase in the tpm rate, for example, push the joystick forward once.

If you scored fewer than 7 out of 10 questions correct, you probably need a little more practice at the same rate. So, start with the same beginning tpm rate (100) as you did last time. Don't be discouraged. The important thing in these first lessons is to strike a balance—one that permits you to read faster and faster while remembering the important facts. With a little practice, you can do it. Be sure to increase the tpm rate while you are reading, if the pace seems too comfortable! Try to match each eye stop with the sound of a tone.

You're going to read "Bermuda Triangle: Mystery or Myth?" Through reading, you'll explore some mysterious happenings at sea. Try to get the facts so you can answer correctly at least 7 of the 10 questions that follow. As usual, record your rate and comprehension score. Don't look back at the article when you're answering the questions. When the Paced reading screen appears, press the joystick button to begin and again when you finish.

Marx, Robert. "The Bermuda Triangle: Mystery or Myth?"
Argosy, February, 1974, pp. 52, 54-55.

Legends concerning this area go far back into the misty past. Carthaginian mariners as early as 530 B.C. are reported to have discovered the Sargasso Sea, a large area of ocean between Bermuda and the Bahamas. They noted that the sea there was carpeted with floating seaweed which caught ships and held them fast until they rotted or sank. This belief was still part of mariner's lore as late as the 19th century. Columbus, on his first voyage, wrote that in this same area he saw "a remarkable bolt of fire fall into the sea . . ." and that his men were terrified by the baffling disturbance of the ship's compass. Other early seafarers reported that sea monsters and giant whirlpools pulled hapless vessels to the bottom.

Today there are still many who continue to feel there is something mysterious about the Bermuda Triangle and who do not accept the fact that the disappearances are attributable to natural causes. Countless theories have been offered, some quite bizarre. According to Norman Slater of Kenosha, Wisconsin, who claims extraordinary powers of ESP, there are three "hot spots," all within a 20-mile radius off the Florida coast, which he has located. Any vessel or plane passing over them will be sucked down into the depths of the Gulf Stream and become trapped in a time machine — a sort of funnel that holds them in an invisible dimension before suddenly releasing them. Others have expounded a similar theory, especially flying saucer buffs, who feel that the whole Triangle may be a sort of collecting basin of human specimens for creatures from other worlds.

Over the past five years I have been especially

interested in the Bermuda Triangle. I have flown hundreds of hours in many types of planes and spent more than a year aboard boats while searching for shipwrecks in this area. In the course of my investigation I have interviewed scores of persons — sea captains, sailors, airline pilots and navigators, anyone who might shed light on the mysterious, puzzling losses in this notorious area. In most cases I found the disappearances turned out to be not so mysterious after all but the result of human error or the area's unique environmental features.

Of the many large ships which have disappeared in the Triangle, none has received so much public attention as the 19,000-ton Navy supply ship, *Cyclops*. On March 4, 1918, the 500-foot ship, laden with a cargo of manganese ore and 309 passengers and crew, sailed from Barbados for Norfolk, Virginia — and was never heard from again. Then, in 1940, two of the *Cyclops*' sister ships were sold to a private company and used to carry bauxite from the Virgin Islands to the U.S. The two vessels, *Nereus* and *Proteus*, after several trips, both vanished somewhere in the Triangle during November and December of 1941. Since the *Cyclops* disappeared during WWI and her two sister ships on the eve of WWII — at a time when German submarines were already prowling those waters — many believe that all three ships were torpedoed, although German Naval Archives have no record of this. It must be remembered that many ships are lost in war time and the facts concealed. Perhaps the submarine destroying the *Cyclops* was itself sunk before reporting and if the other two ships had been torpedoed before the U.S.

entered the war the Germans would certainly have kept silent.

It may be that these three ships and others which have disappeared over the years fell victim to the ravages of nature. According to a spokesman for Lloyds of London, more than a hundred large ships are lost each year in bad storms throughout the world: some capsize due to shifting cargo and others simply break up in rough seas. Single mountainous seas, called freak waves, have been known to engulf large ships. Not much is known about these monstrous waves, some of which have been more than 100 feet high. Off Japan they are believed to be the result of underwater volcanic activity which is not known to occur in the area of the Bermuda Triangle. However, in 1954 such a freak wave accounted for the loss of the freighter *Mormackite*, which sank further north, off Cape Henry, Virginia. According to several lucky survivors, an enormous wave caught their vessel on its beam, rolling it over and sinking it in less than one minute.

This is an example of how a ship can disappear without sending a distress message. According to many experienced pilots and mariners there are areas in the Bahamas and elsewhere in the Atlantic known as "dead spots" where radio communications are virtually impossible. I have experienced this strange phenomenon myself many times while working in the Bahamas.

It is true that when a large vessel like a freighter or tanker sinks, many objects float free and telltale oil slicks usually mark the scene of the disaster. The fact that debris, bodies and oil slicks are rarely sighted in the Triangle can be attributed to the extremely swift and turbulent Gulf Stream and other ocean currents which can quickly erase evidence of a catastrophe. Sharks and other ocean predators could account for the scarcity of bodies. It should be borne in mind that many of these alleged disappearances occurred when the position of the vessel or plane wasn't known within hundreds or even thousands of miles, putting the search efforts in the same category as looking for the needle in a haystack.

Another well known ship disappearance was that of the *Marine Sulphur Queen*, a 554-foot tanker carrying a cargo of molten sulphur from Beaumont, Texas to Norfolk. Her last known position was off the Florida Keys on the night of February 3, 1963. According to all accounts written since then, she vanished without a trace under baffling circumstances. The fact is, however, that several weeks after her loss a board bearing her name drifted ashore on Key Biscayne. The badly splintered piece of wood proved the ship had been ripped apart by a violent explosion. Some experts think the ship may have been struck by lightning; others feel the blast was touched off when

sea water came in contact with the 370-degree molten sulphur in her tanks.

The news media has often been guilty of gross sensationalism when vessels or aircraft have disappeared anywhere in the Triangle. Several such instances have occurred recently. The disappearance of four teenagers on a flight in a light plane from Orlando, Florida to the Bahamas was covered in the international press. However, when the plane was accidentally found by a fisherman in a shallow lake near Orlando and examination determined it had crashed shortly after takeoff, the story was published in local papers but ignored by all others.

About the same time papers all over the country referred to the "Devil's Triangle" and the "Bermuda Triangle" in stories relating the disappearance of an American fishing boat and the discovery of two Cuban fishing boats found burning near one another on the Great Bahama Bank. When the full story was unravelled by the Coast Guard it was only printed in Florida papers, leaving readers in other areas with an unexplained mystery. It turned out that the Cuban boats had been attacked by a Cuban exile group and set afire after their crews were cast adrift in life rafts. These were later rescued by passing vessels. In retaliation for this attack, Castro ordered his patrol boats to seize American vessels and the fishing boat was one of those captured.

Many small boats have disappeared; the majority of them ran afoul of severe weather and human ignorance and error. The unpredictable Caribbean-Atlantic weather pattern, which includes sudden heavy squalls and deadly waterspouts, probably accounts for most of them. Each year hundreds of small pleasure craft make crossings between Florida and the Bahamas, often without radios or life-saving equipment. Foolhardy, unprepared sailors account for many of the search and rescue missions of the Miami Coast Guard unit. In a five-month period last year while I was in the area salvaging a shipwreck, more than two dozen small boats appeared on our site and announced they were lost, and in most cases either low on gas or out of it. In one case the boat captain had never been on the open sea before and didn't even have a compass or a navigation chart aboard. He thought he was still on the Florida coast, when in fact he was in the Bahamas and more than 40 miles from any land. If we hadn't been there to assist him and others that turned up, they might well have drifted into the open Atlantic, never been heard from again and become part of the mysterious "Devil's Triangle" legacy.

Among all the disappearances of small vessels, I have found only two that can be classified as truly baffling. The first was in 1957 when the well-known publisher Harvey Conover and his wife, making a trip between Key West and Miami, disappeared within

sight of Miami aboard their yacht *Renovac*. The only explanation is that they either struck a submerged object, such as a reef, or were run down by a large ship. Even so, searchers who arrived on the scene within hours after they were last reported seen should have found some floating debris.

The other puzzling case occurred in 1967. Two local residents went out in a 23-foot cabin cruiser to see the Miami skyline by night. At nine p.m. the local Coast Guard unit received a call from the skipper who said he had damaged both propellers on a submerged object and needed a tow back to port, but was in no danger. Eighteen minutes later the Coast Guard cutter arrived at the given position, which was only a mile offshore and near a channel buoy, but the boat was gone. In addition to having built-in flotation chambers, floating cushions and life preservers had been on the boat. No trace of the *Witchcraft*, as she was ironically called, or of her two passengers, was ever discovered.

In the past 25 years at least 10 small vessels have been found adrift in the Triangle without a soul aboard, and endless explanations have been offered ranging from the passengers being kidnapped by UFOs to being grabbed by giant sea monsters. On six of these boats there was but one person aboard and the most logical explanation is that he either fell overboard or committed suicide. However, this happens all over the world and, in July of 1969 alone, five unmanned boats were found in the vicinity of the Azores, an area far out of the infamous Triangle.

Most of the frequent articles about the Bermuda Triangle give great attention to the loss of five TBM Avengers and a PBM Mariner search plane in 1945, which were lost with 27 men under alleged mysterious circumstances. All popular versions of this incident, which has gained the stature of a myth, bear a striking resemblance to each other, and it appears that authors have borrowed from and embellished upon a single source rather than researched the actual incident.

These accounts state that on December 5, 1945, five Avengers with experienced pilots at the controls took off from the Fort Lauderdale Naval Air Station in beautiful weather on a routine patrol flight. Two hours later when they were supposed to return to base the flight leader in a panic-stricken voice radioed: "We cannot be sure where we are. We are lost. We can't find west. Everything looks strange." Within minutes a Mariner Flying Boat was sent out to find the lost planes. Nothing was ever heard from any of them again. A massive search failed to find any traces of the planes or their crews and this famous episode became one of the most baffling in the annals of aviation history. In a recent television special on the Bermuda Triangle, this event played the main

role.

From study of official records and interviews with men who were involved in the case, I have been able to learn the real story. The flight was not a routine patrol but rather a training flight, and only the flight leader had considerable flying experience. Before the flight took off he asked to be replaced and it is thought he might have been sick or possibly intoxicated. A replacement couldn't be found, so he had to fly. The weather was far from good; winds between 20 and 30 knots were blowing, the skies were cloudy and visibility was poor. The first leg of the flight took them over Cay Sal Bank, between the Florida Keys and Cuba. They were then supposed to fly to the Bahamas before returning home. Throughout the flight they were in communication with the tower in Fort Lauderdale and the conversations were heard by a number of persons in the control tower.

About the time they should have been approaching the base, the flight leader was heard to say that he thought they were lost and probably in the Gulf of Mexico, but several of the other pilots argued that they thought they were over the Bahamas. However, the instructor ordered them to fly east to reach Florida. After an hour, one of the pilots was heard saying: "Damn, if we would just fly west we could home." The leader reluctantly agreed, but when they failed to find land again, he once more changed their course to the east. By the time radio directional finders were used to find the approximate location of the planes, radio communications had worsened: the tower could monitor conversations between the pilots but their transmissions were not reaching the planes. Thus, the planes flew back and forth to the east and west, but apparently not long enough on their west headings to find land. When the first plane reported only 10 gallons of fuel left, the leader ordered them to all ditch together. This was the last heard from the planes which were then about 130 miles southeast of New Smyrna, Florida. At the time the planes ditched, the British tanker *Viscount Empire* passing through the area reported that she had encountered tremendous seas and winds of high velocity. This would account for the disintegration of the planes upon impact and lack of traces of wreckage or bodies.

The Mariner search plane took off from the Naval Air Station at Banana River near Cape Canaveral at 7:27 p.m., when it was already dark and the Avengers were known to have ditched. Twenty minutes later she suddenly disappeared off the radar screens at the airbase. A tanker, *S.S. Gaines Mills*, steaming in the same area where the plane was known to have been, reported that the captain and others saw the plane explode in the air and crash into the sea. The Mariners were nicknamed "the flying gas tanks" and apparently this one had an inflight fire

which caused the explosion.

The facts surrounding the mysterious disappearance of another flight of planes has recently come to light. According to many accounts, five Air Force bombers took off from Bermuda on their way to Europe in 1944 and were never heard from again. Dick Stern of Atlanta, Georgia, wrote *Argosy* after reading an article which appeared in the magazine about this, giving his account of the event which gibes with information I got from the Air Force. Actually, a flight of seven bombers was involved and Stern was on one of them. They were about 300 miles east of Bermuda (not even in the Triangle) on a beautiful clear night, when "we were suddenly whipped over on our backs, found ourselves on the ceiling one moment and pinned down the next, as the plane was thrown about at a tremendous rate of speed. By the time the pilot pulled the plane out of its dive, the prop wash was creating white caps on the water below." Only Stern's plane and one other made it back to Bermuda and the others were assumed to have crashed into the sea.

A similar incident happened on November 4, 1970 when a giant Pan American 747, climbing through clear skies after a takeoff from Kennedy International Airport, suddenly encountered severe turbulence in clear air. The plane was buffeted about like a feather, losing 5,000 feet of altitude and causing injuries to a number of passengers. Although it isn't possible to obtain statistics from commercial airlines as to the frequency of these occurrences — known as CAT or clear air turbulence — it is believed to be a major factor in the disappearance of planes without a trace in the Bermuda Triangle.

Unfortunately the sea is vast and there are seldom witnesses to attest to the manner in which vessels and airplanes are lost. Quite a few small private planes

have disappeared in the Triangle. The most puzzling loss occurred in April 1962. The Nassau control tower picked up a call from a twin-engine Apache approaching the field from the direction of Great Abaco island. Although there was a cloudless sky, the pilot acted as if he were in a dense fog, repeatedly requesting direction while unable to determine his own position. After several urgent exchanges radio contact was lost and one wing of his plane was found the same day about twenty miles from Nassau. Apparently his compass and possibly other instruments had gone haywire, but the bewildering thing is that he was certainly in sight of Nassau when he reported being lost and should have been able to make a safe approach.

A commercial airline pilot with 30 years experience believes that many planes, especially those with only one person aboard, are lost when the pilot becomes a victim of aerial hypnosis, also known as "white out." This might happen when the sea is flat calm and the limpid blue water blends in so well with the clear blue sky that no horizon or line of definition is discernible. Psychologically the sea becomes just another area of space, and the pilot may become relaxed or experience mental narcosis so that he drifts off course and flies until his fuel is expended or he augurs into the sea thinking he is high in the sky.

Finally, weather conditions account for a number of small plane losses, especially during the summer months when severe squalls are frequent off the east coast of Florida and in the western Bahamas. In this area waterspouts are common and have destroyed unknown numbers of planes. In addition, winds as high as 130 knots have been recorded in the vicinity of waterspouts and could easily disintegrate a plane or boat.

Press the joystick button to **STOP** the timer.

Don't look back to the selection to answer the questions. Record your rate and comprehension score in the Success Log Box.

1. The Carthaginian Mariners noted that the Sargasso Sea
 - a. was blood-colored
 - b. was covered with floating seaweed
 - c. contained many violent whirlpools
 - d. was swept by huge waves in certain areas only
2. How is the Bermuda Triangle regarded today?
 - a. There are still many who think it is shrouded in mystery.
 - b. Mariners laugh at the ancient legends and enjoy spinning yarns about such strange beliefs.
 - c. Scientists believe the area is influenced by vibrations from outer space.
 - d. Scientists have discovered there is a scientific reason for the behavior of the waters.

3. Of the many large ships disappearing in the Triangle, which one received the most public attention?
 - a. Norfolk
 - b. Cyclops
 - c. Nereus
 - d. Proteus
4. What have many pilots and mariners observed in the Bahamas and elsewhere in the Atlantic?
 - a. a number of unmanned crafts
 - b. extremely sudden, violent storms
 - c. strange underwater volcanic activity
 - d. areas where radio communications are virtually impossible
5. Which of the following was not mentioned as occurring when a disappearance took place?
 - a. a war was going on
 - b. a violent storm was ravaging the area
 - c. the vessel was in a "dead spot"
 - d. trade winds were blowing away debris
6. The author attributes the majority of small craft disappearances in the Triangle to
 - a. unexplainable phenomena
 - b. human error in judgment
 - c. actuarial odds regarding seagoing crafts
 - d. extraterrestrial influences
7. Of all the small craft disappearances, which of the following does the author feel is one of the most baffling?
 - a. the explosion of the Cuban fishing craft
 - b. the total disappearance of the *New Bedford* whaling yacht
 - c. the ironic case of the *Witchcraft*
 - d. the apparent torpedoing of a Miami-based pleasure craft in peacetime
8. What really happened to the Avengers?
 - a. The pilots got lost and ditched.
 - b. The planes' compasses were strangely affected.
 - c. They got caught in a bad storm.
 - d. Enemy planes intercepted them.
9. What happened to the Mariner search plane?
 - a. It crashed on takeoff.
 - b. It ran into bad weather.
 - c. It blew up over the sea.
 - d. It hit some "clear air turbulence."
10. What theory does one pilot offer regarding some strange plane disappearances in or near the Triangle?
 - a. Water spouts cause planes to go off course.
 - b. The air contains innumerable pockets of clear air turbulence.
 - c. Unusual barometric pressure in certain pockets causes pilots to black out.
 - d. Pilots experience a "white out" and become confused as to where the sky ends and the sea begins.

SUCCESS LOG PACED READING	
READING SPEED	_____ WPM
COMPREHENSION SCORE	_____ %
(10 points per correct answer)	

PRESS **START** TO CONTINUE.

Right On Time

TIMED READING

Directions. Now you get another chance to read fast with the Audio Metronome Pacer. This intriguing article, "New Office," is very different from the one you just read, but it's easy reading. Again, you'll have 10 factual questions to answer when you're done, so remember the important facts. Set your tpm rate as you did for the Paced reading. Press the joystick button to begin and again when you finish. Be sure to record your rate and comprehension scores in the Success Log Box.

Hope, Frank L., Jr. "New Office." Reprint courtesy *Sky Magazine*, November, 1973, pp. 5, 7-8, 11, as carried aboard Delta Air Lines. © 1973 East/West Network, Inc.

A major American corporation recently decided to build its new, multi-million dollar international headquarters out in the country, away from the hustle and bustle of the city. But before the company ever moved in, the bottom dropped out of its particular industry, and it found itself stuck with a white elephant it could neither sell nor lease.

Another firm built its new headquarters without due consideration for proper sound insulation. High-priced executives discovered to their horror that all their confidential meetings could be clearly heard in the hallway — and that every ping of the secretaries' typewriters came through just as loudly.

Another company rented offices in a new building without bothering to think about the arrangement of individual office suites. One man who needed to be in constant touch with the production office found himself on the wrong floor; an accountant who needed solitude found himself next to the typing pool; a senior vice president was located next to the washroom.

There are a great many disgruntled companies and executives around today who might be happier if they had bothered to think clearly about the offices they were in the process of building or renting.

Why build or rent new space at all? Corporate image is the main reason. It is almost impossible to find a dynamic, expanding company that is mired in old, unattractive offices. A company's own self-image is almost as important as the success of the company's work. It influences customers and clients, and it determines the morale of employees. Regardless of the size of a company, when it gets to be successful it should begin thinking about purchasing or renting office space that reflects its recently achieved position of success.

Site location is an initial and crucial consideration. Is there enough access, both via private automobile and public transportation for employees and customers? Is the area one in which future growth is planned, or are you simply making a multi-million dollar bet that at some undetermined point in the distant future your company will be in the center of a vital community?

Lack of careful attention to site planning happens

more often than you'd expect. A suburban location, for example, forces a company to rely on private transportation to bring its employees and customers to it. This is perfectly acceptable as long as there are cars — and gasoline to power them. But with the gas shortage, and with the proposed Environmental Protection Agency regulations, exclusive reliance on private transportation may put a company in a bind a few years from now.

At the same time, a suburban location may cut employees off from the shops and services which they might otherwise patronize during the lunch hour. Employee dissatisfaction can lead to employee turnover — and that can cost a company a great deal of money.

One company located so far away from such commonplace things as restaurants that it found itself forced to operate a first-class, but very expensive, employee cafeteria. And when its executives went to lunch with executives from other companies, they found themselves spending as much as two or three hours away from the office. That kind of inefficiency is unnecessary and inexcusable.

A central city location has the benefits of low-cost public transportation, but it also has the drawback of traffic congestion. With the growing inner-city trend towards one-way streets, many executives (and employees and customers) find that they must travel two blocks down and two blocks across just to be able to enter on the other side of their building. Planning can avoid that.

A suburban location offers opportunities for a "college park" type of setup, allowing for future horizontal growth. But the future may also bring higher municipal taxes not anticipated in the original budget.

Each of these factors, and many more, ought to be considered by the team responsible for your new offices. Members of the team must include the architect, a realtor if more than one company is going to occupy your building, and top executives of your company.

In far too many instances the architect meets only with lower- and middle-level employees of the company, employees who do not, and often cannot, pro-

perly translate the top executives' thoughts for the architect. The end result is a building that does not meet the wishes of the company, nor its needs.

Let's take an example. Do you want your building to be a glamorous, image-making structure, the kind that gets written up in the architectural magazines? Or do you want a straight-forward, utilitarian building? With an "image" building, a rule of thumb might be that each square foot of floor space will cost, say, \$60. With the utilitarian building, the costs might run around \$30 per square foot. Top company executives ought to work closely with the architect to find the "comfort zone" that balances their needs and their budget.

A realtor is a necessary part of the team because he knows (or should know) all factors affecting the future of the site. Many companies today are stuck with a lot of land because they did not anticipate community goals. Most new buildings today are planned for metropolitan areas that don't currently meet the various clean air standards. The buildings are designed with a reliance on the automobile; yet EPA guidelines may well make it impossible to build garage space for the structure. No garage space, no cars; no cars, no people. It's amazing how many people don't know about the EPA and its rulings. In California, for example, new clean air standards may reduce public parking by as much as 20 percent in the future. That automatically forces a reliance on public transportation. But if there is no public transportation, a building that has been structured around the auto is sure to suffer.

One downtown area that nicely balances a reliance on the private car with an availability of public transportation is Atlanta's. Peachtree Street has a healthy concentration of hotels and offices, parking and different modes of public transit.

A careful analysis of a building itself is crucial if the company is to be satisfied. The cost of land and the cost of construction must be matched against the efficiency of the building. A good rule of thumb is an 80 percent efficiency ratio — 80 percent of the building's floor space devoted to work space, 20 percent devoted to elevators, hallways, etc. A smaller company should be aware that the traditional square-shaped building might be right for it; a larger firm which needs large open spaces might find itself satisfied with a rectangular building and an off-center core. This would allow it enough space for a "bullpen" area in which to house such operations as the typing pool and shipping room. These factors should be carefully investigated before construction begins. The alternative is corporate unhappiness and added costs.

If you're going into a high-rise building, you should look at what's known as "vertical circulation" — the

ease with which people can move up and down via the elevators. Many U.S. buildings are under-elevated. The reason is that elevators cost money, and use up rentable space; and the result is often long-term unhappiness.

If you're building, you and your architect might consider staggered elevators, some local, some express to the upper floors. More than one company executive on the top floors has found it infuriating to have his progress halted for 20 or more floors while clerks and typists get on and off at each stop.

One solution to this problem which is virtually never suggested, is the use of some elevators for exclusive intra-floor travel within one company. That is, if a firm uses the 10th to 15th floors, with employees constantly going from one company floor to another, why not give that firm its own elevator that would only travel between the 10th and 15th floors? Think of the convenience to the firm itself, and to the other tenants in the building!

The subject of building systems is one that is often overlooked in planning. "Flexibility" is often thought to be the solution to any problem, but it can be a problem in itself. Total flexibility is enormously expensive; thorough planning can save you money. What portions of your building will need air conditioning after hours? How many large offices and how many small ones will you need? Small offices are expensive to air condition but do give privacy; large, undivided offices are cheaper to handle but lack privacy. Planning can save you financial agony before it's too late.

Exterior wall systems are often overlooked by company executives involved in planning. With their success in handling heat, the exterior systems can save thousands of dollars each year in heating costs. In the future, with energy becoming more scarce and therefore more highly priced, heat will be an increasingly important budget item.

All-glass buildings create problems when the sun is beating down on one side while dreary winter is closing in on the other. A possible solution is the use of exterior sunshades, as long as they don't conflict with the architectural harmony of the building. Another possibility is the use of reflective glass, although there are some technical problems still to be resolved with this material. Aluminum is often used, but it sometimes causes problems because of its expansion and contraction during the course of the day. Stainless steel is good but very expensive.

Internal safety features are important, particularly in high-rises. I think we are moving towards the universal installation of overhead, heat-activated fire sprinklers. They might be regarded as an extra cost, but only until they are needed. Then they will literally be thought of as life-savers.

The choice of a good acoustical ceiling will help keep out "cross talk," the situation that exists when you can hear every sneeze in the next office. Dense mass is the key to stopping sound, and it's something you can control to your liking before you move in.

Carpeting is the universal floor covering today, but you've got to be careful when buying. Otherwise, you may have an inconvenient, and expensive, recarpeting job on your hands in a few years. Independent interior decorators, or those consulting with the architects, have become much more sophisticated in carpet buying recently.

When trying to determine office arrangement, I use a matrix system. On the matrix I plot every person's need to be close to a certain point, on a scale of one to 10. That way everyone ends up in the right place, in fact and theory.

During a trip to the Soviet Union last year I was appalled at how few items their builders had to choose from. In many areas there was only one window design and one doorknob design available. Needless to say, all windows and doorknobs look alike.

In America, we have literally hundreds of styles

for each category; because of that, every builder or designer can surely find the right size or shape for the purpose at hand.

One trend that I think will continue is that towards condominium office buildings — buildings which are partially owned by each of the tenants. This is really a financially sound way to go, because it gives the "renting" company an opportunity to build up equity.

When thoughtful planning is incorporated into the construction or rental of offices, there is really no reason for mistakes. Thoughtful planning requires a "meeting of the minds" among architect, company owner and realtor. When mistakes arise, the reason often reduces to the fact that the planners didn't get together often enough and just plain talk. Memos, telegrams and junior executives are no substitute for the top men exchanging knowledge, experience and judgements. The architect has an obligation to work with his client, and the client has an obligation to tell his architect exactly what he needs.

With planning and foresight, there's no reason why any office, newly built or newly rented, can't be the corporate equivalent of a dream palace.

Press the joystick button to **STOP** the timer.

Answer the questions and record your scores. Don't look back!

1. The main reason companies build or rent new space is
 - a. that the planning in older buildings is so bad
 - b. that they cannot meet increasing maintenance needs of older buildings
 - c. to get out of the crowded city
 - d. to improve their corporate image
2. The article indicates that the most important factor to consider in selecting a site for an office building is
 - a. rent
 - b. convenience
 - c. prestige of the area
 - d. distance from the company's competitors
3. When top executives do not work with the architect, this results in
 - a. an expensive, image-making structure instead of a utilitarian building
 - b. a building that does not meet the needs of the company
 - c. allowing the architect absolute freedom to run the cost up
 - d. the executives being dissatisfied with their office space
4. A realtor is a necessary part of the planning team because he
 - a. can make sure the building will be salable if the company moves
 - b. can curtail the architect's freedom
 - c. knows all the factors affecting the future of the site
 - d. has access to the most desirable sites
5. In the future the Environmental Protection Agency (EPA) may well force
 - a. rejuvenation of the urban areas
 - b. severe restrictions on suburban and rural building
 - c. an increase in garage space provided in new buildings
 - d. greater reliance on mass transportation

6. The cost of land and construction must be matched, primarily against the
 - a. efficiency of the building
 - b. employees' access to shops and restaurants
 - c. corporate image being developed
 - d. shape and size of the building
7. Which of the following is not suggested as a solution to glare in all-glass buildings?
 - a. sunshades
 - b. venetian blinds
 - c. reflective glass
 - d. aluminum
 - e. stainless steel
8. "Cross talk" between offices
 - a. facilitates inter-office communication
 - b. is considered of little consequence in planning a building
 - c. can be avoided by dense mass
 - d. can be accomplished through efficient phone installations
9. Condominium office buildings allow
 - a. the tenants to build up equity
 - b. responsibility for maintenance to be shared
 - c. a wider choice of architectural styles
 - d. companies to make do with less space
10. The biggest benefit of having the architect, company owner, and realtor work together is that
 - a. no memos have to be sent
 - b. the ultimate cost is cheaper
 - c. commuting problems can be solved ahead of time
 - d. there's good planning and foresight

SUCCESS LOG TIMED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

Don't Say a Word

TECHNIQUES

Tape Counter Setting _____

Discussion. Reading in thought units can help improve your concentration and comprehension of words and ideas. Identifying thought units mainly comes through practice looking for them. They are groups of words, such as short, dependent clauses or prepositional phrases, that go together in a meaningful way. For example, in a sentence from the Unit 1 Techniques, "When the fox chased the hen, many feathers flew," three idea units can be identified:

X X X
"When the fox," "chased the hen," and "many feathers flew."

In reading this sentence the reader might fixate in the middle of each idea unit, as indicated by the X's. Practice looking for—and reading in—thought units in the following activities! Be sure to complete all the activities before beginning the Flexible reading.

1. Each of the following sentences is divided into several thought units. Fixate on the middle of each thought unit and read the sentences as fast as you can.
 - a. Since Desmond / was terribly desperate, / he roared / up the hill / at full speed.
 - b. As the tiny plane / touched its wheels / to the runway, / the ceiling closed in.
 - c. Tommy / crept up the stairs / and opened the can / of thick blue paint / without anyone / knowing about it.
 - d. Now is the time / for all good men / to come to the aid / of the party.
2. Read the paragraph below. As you read, imagine how it might be divided into thought units. Focus on the middle of these imagined units.

"Down and Squawking." *FAA Aviation News*.
March, 1973.

An ELT is basically a compact, light-weight, self-contained transmitter which sends out an emergency signal on the two emergency frequencies — 121.5 MHz for civilians, and 243.0 MHz for military. Various models have been in use for about 10 years, particularly in Alaska where there was a desperate need for a locating device to find missing aircraft in the vast northland. They have conclusively proved their worth.

Now the same paragraph is reprinted with the sentences divided into thought units. Read it again with only one fixation per unit. And determine if you need the same number of fixations as you did the first time. *Push yourself*. The longer you linger, the more temptation there is to say the words.

An ELT is / basically a compact, / light-weight, / self-
contained transmitter / which sends out / an emer-
gency signal / on the two emergency frequencies —/
121.5 MHz / for civilians, / and 243.0 MHz / for mili-
tary./ Various models have been / in use for about /10
years, / particularly in Alaska / where there was / a
desperate need / for a locating device / to find missing
aircraft / in the vast northland. /They have conclu-
sively / proved their worth.

3. The two stories below have been divided into thought units. Try to use one or two fixations to read each unit. Read as fast as you can. Write the answers to the questions following the selections in the space provided. If you do not know the answer to a question, read the selection a second or third time, very fast, to locate the answer. No key is provided.

Stokes, William. "The Wheel Spinner," *Ship the Kids on Ahead*.
Madison: Forrest Publishing Co., © 1968.

One of the
more pitiful sights of winter
is watching the driver
of a car
that is stuck in the snow.
They all act
pretty much alike.
The minute
the wheels start to spin,
the driver hunches forward
over the steering wheel
and his eyes
become fixed firmly
on the immediate destination —

usually the crest of a small slope.
When the rear wheels
continue to spin
and the car does not move,
the driver
sometimes initiates a rocking motion
with his body.

He rocks backward
in an easy sneaking motion,
and then tenses his body
and strains forward
against the steering wheel.

This, of course,
doesn't do a thing
to help
the progress
of the vehicle,
but every driver does it
and knows beyond argument
that he is pushing the car
effectively from the inside.

This is comparable
to trying to tip over
a large building
by flinging yourself
against one of the inside walls.
The grip on the steering wheel
also is important.

The tighter the grip,
the more help is given
to the spinning rear wheels.
Perhaps almost as important
as body motion
is the facial expression
of the driver.

Almost all of them
stick their jaws out
and clamp their teeth together tightly.

At the same time,
their brows are pulled closer together,
and the skin of the forehead
is squeezed
toward the middle
of the face,
giving the impression
of a prune seen from one end.

Needless to say,
they are not pretty.
Sometimes the driver
will shift his eyes fleetingly
to one side to see
if he can perceive
any movement of his vehicle.
If he sees the slightest hint
that progress is being made,
he most generally

shoves harder on the accelerator,
pushing it almost through the floorboards
and immediately destroying any chance
of making the grade.

Some drivers
push so hard
that they get a charlie horse
in their right leg
and thus present
a menace to society in general
should their wheels
suddenly find footing.

The longer a driver is stuck,
the more of himself
he puts into the struggle
of getting unstuck.

After a time,
most drivers begin to talk.
There needn't be anyone
in the car with them;
they talk anyway.

They tighten their lips
over their teeth
and talk with clenched jaws,
and they say things
that are intended
to urge the vehicles along.

Sometimes a driver speaks
unkindly and loudly.

If the energy that drivers waste
in the operation of stuck vehicles
could be harnessed,
it probably
would be enough
to light all the homes
in Wisconsin, Minnesota, and Illinois
for 30 or 40 days.

a. What are three characteristics of winter drivers the author writes about?

1. _____

2. _____

3. _____



LEAVING THE SURFACE by Sydney J. Harris. Copyright © 1964, 1965, 1966, 1967 by
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permission of Houghton Mifflin Company.

While in the country this summer, / we watched, /
like most other American families, / the week-long
space orbiting / of our astronauts. / We marveled, /
we applauded, / we sighed in relief / as they came

down safely. /

“I wonder what it would be like / to be on a space-
ship,” / mused my ten-year-old boy. / “You’re on
one,” / I told him. / “And you have / been all your
life.” /

The earth itself / is a very small spaceship, / by
astronomical standards. / It is only 8,000 miles in
diameter, / which makes it just a tiny speck / in our
galaxy. / And our galaxy is only one of millions. / Yet
this tiny speck / has sustained billions of human
passengers / for more than two million years / as it
has orbited / around the solar system. / It shows no
signs / of running down for millions of years more, /
and all it needs / is radiation from the sun / to keep
it going / and to regenerate life “on board.” /

If we could implant / in our children, / at an early
age, / this concept / of a global spaceship, / they
might possibly be more prepared, / in attitude and
action, / to treat one another / as crew members
should, / when they grow up. /

It may be too late / — psychologically speaking — /
for most adults / to adopt this approach. / We see the
world / in narrow, sublunary terms: / in terms of
racial divisions / and national territories, / of ancient
rivalries and provincial fears, / of airtight compart-
ments / separating one portion / of the crew / from
another. /

But to see the world / as the astronauts saw it / —
this fragile yet sturdy sphere / revolving in the immen-
sity of space, / carrying its millions of passengers /
locked together for a lifetime — / is the only way to
make it / viable in the future. / When two men can
circle the globe / in less time than it takes us / to
mow a good-sized lawn, / then anything less / than
a global viewpoint / is dangerously inadequate. /

Nature has provided us / with a magnificently self-
renewing space ship, / containing everything it needs
for perpetual flight, / for nourishment, for comfort / —
and even for beauty. / If the Gemini astronauts / had
quarrelled and fought, / or sulked and sneered, /
even a week’s flight / would have been imperiled. /

Everybody / is an involuntary crew member / on
Earth I. / The compartments we create / are artificial
and destructive. / Until now, however, / we only had /
the power / to injure other members of the crew. /
Today we can / easily blow up the whole ship / and
everybody on it. /

The only hope / is to think / of ourselves / as
astronauts.

- b. In what terms does the author describe how humans view their world?
-
-

Using a pencil, divide the sentences into thought units by inserting slashes between meaningful chunks.

“Down and Squawking.” *FAA Aviation News*. March, 1973.

There is a pilot who is alive today because he misinterpreted a Federal Aviation Regulation.

The FAR in question (91.52) is based on an Act of Congress making it mandatory for virtually all general aviation planes to be equipped with an emergency locator transmitter (ELT) by December 30, 1973.

The pilot is William Chambers of Santa Fe, N.M., who misread that FAR and concluded that an ELT had to be installed by December 30 of 1972. In early December of last year he had an FAA approved locator transmitter installed in his *Luscombe*. Two weeks later, on December 16, Chambers crashed in the 10,000 foot levels of the Sangre De Cristo Mountains, northeast of Santa Fe. He survived the accident with only cuts and abrasions and two fractured ribs, but it was then five o'clock in the morning, with two feet of

snow on the ground and the temperature near zero. Chambers huddled near his crashed plane and desperately hoped someone would find him before he froze.

At the moment of impact the ELT he had installed two weeks previously was activated and continued sending out its distinct signals on the emergency frequencies. Early in the day the signal was picked up by search aircraft, and just before nightfall they located Chambers on the mountainside. The area was inaccessible by foot, but a rescue helicopter picked him up and returned him to Santa Fe. Rescuers doubted whether the downed pilot could have survived through the night on the frigid mountain. Chambers will always be grateful he misread that FAR.

Now go back, read the paragraph as fast as you can, and then write the answers to the questions in the space. If you don't know the answer to a question, quickly reread the selection in order to find it.

c. What was the law the pilot misread?

d. Where did the pilot crash?

e. How does the ELT work?

Proceed to the Flexible reading and read the directions.

Be Flexible

FLEXIBLE READING

Directions. Next you're going to read a short story in a different writing style from what you've been seeing so far. We've divided part of the story into thought units to help you practice reading "in chunks." Read as fast as you can; try to take in each cluster of words with a single fixation. Try to continue reading in thought units in the part of the story that is not already divided.

You may not always agree with our choice of words for thought units, and you may have some difficulty getting each cluster with a single fixation. But do your best. And remember that applying a new skill often seems a little awkward at first.

Your main purpose is to begin establishing the useful habit of taking in more words per fixation. There are only five questions to answer this time. (From now on, you will either answer 10 questions or sometimes only 5. We'll always tell you ahead of time.) *Never* look back to the selection when you answer the questions. Remember to record your scores and Reading Efficiency Index. Push the joystick button when you start and stop reading. One last thought: Enjoy the story. Give attention to the thought units, but let your thoughts flow with the story. You'll find that thought units come naturally.

Selection: "SECRET SHARK:"

Written by: Deborah Navas and reprinted with permission from *Yankee* magazine, published by Yankee, Inc., Dublin N.H., July, 1980.

Low tide / 9:48 a.m. / lodged in her mind / as she browsed / through *The Block Island Times*. / It was not Ellie Ruisi's dream / of a summer vacation / to have served breakfast, / washed dishes / and clothes, / and to be reading a newspaper / by 8:30 in the morning. / But her youngest son, Jocky, / age four, / climbed into her bed / by 6:30 every morning, / told her about his dreams / and discussed / how hungry he was, / until there was no way / for her / to escape consciousness. / And once / she was up clinking breakfast dishes. / Stephanie, eight, / and Brian, seven, / hurried awake / to join her. / Stephanie / would pour Jocky's milk / and cereal, / Brian make toast / . . . each helping / in little ways / without being asked / . . . solicitously, / Ellie thought, / as if her / children were afraid / that she could / not manage / getting breakfast / on her own. /

Now with the work done, / and Ellie / safely within sight / on the summer / house's porch, / it was all right / for them / to play. / They sat like / three men in a tub, / playing ferry boat / in a cracked blue plastic dinghy / that had been rescued from the dump, / pretending that / the grass was ocean. / Ellie half listened / to the game / as she sipped her coffee / and read through the *Times*. / Stephanie was allowing Brian / to be captain / because he was the only one of them / with a white captain's hat / stamped "Block Island." /

"I'll be the purser, / and Jocky / can be first mate. / The purser's more important / because he gets to collect / all the money / any way," / Stephanie announced. /

"Look, / there's a shark. / Jaws!" / Brian, who had appropriated / the plastic binoculars, / shouted. /

"Where?" /

"Over there / . . . Jaws . . ." /

"Let me / have the binoculars, / Brian, / it's my turn!" / howled Stephanie. /

Ellie put the paper down / and escaped / into the house / to pour another cup / of coffee / and straighten up a few things / until the fight / should spend itself. / She returned to the porch; / the morning sun / made the marsh grass glisten / down in the bog / behind the house. /

It was a lovely day / . . . to do what? / To go clamming / of course. / 9:48 a.m., / low tide / . . . perfect timing / for clamming. / She had only / two weeks off / from work / to spend / with the children / on the Island, / and she was determined / to dissolve the lump / of divorce / in their lives / with motion, / stirring things up / with lots of activities. /

"Mommy, / sharks can't come / into the harbor, / can they?" Jocky asked. /

"No, honey." / Ellie rowed the children, / each snug / in his orange life jacket, / across the shallow inlet / of New Harbor / to the clamming flats. / It would have been simpler / to walk / the few hundred yards / of beach, / but they all preferred the boat, / a wooden pram / that Ellie's father had made her / when she was / a little girl. /

"But there are sharks / around Block Island, / aren't there, Mommy?" / Stephanie asked. /

"There's one," / from Brian / who was peering / through the plastic binoculars. /

"Let me see, / give them to me / Brian, / they're mine / Mommy" . . . /

"Shut up, baby, / it wasn't really a shark, / just that buoy . . ." /

"No, it's too cold / around Block Island / for sharks," / she answered Stephanie's question finally, / and continued to row / against the light wind / and current / that persisted in pulling them / into shore. / "The shark in the movie / was just make-believe / anyway, it wasn't even / a real shark." /

"Can we see / the movie, / please?" / Stephanie pleaded. /

"No," Ellie sighed. / It was an old argument. / "It's too scary." / She shipped the oars, / hopped out / into the knee-deep water, / and hauled the boat / by its rope / the rest of the way into shore. /

Kneeling in the water / that came up to her middle, / she sifted / through the sand / with a large bleached sea clam shell / she had found / on the beach. / When she struck / an area rich / with clams, / she would work it methodically / in wider and wider circles, / dragging her

plastic net clam bag / along with her. / Others may or may not do better / with clam rakes, / but she preferred / to kneel down in the water. / She didn't feel / as exposed / in water / as she did in air, / but comfortable, at home. / Despite the fact / of finding an occasional / horseshoe crab, / sharp-shelled conch, / and once a grotesque / pink ribbon of a worm / that made her want to gag, / she loved clamming, / almost better / than anything else. / Turning up the gray-white shells, / trying each / through the ring / was a ritual / in solitude, / allowing room for contemplation. /

The children were busy playing / on the shore, / their orange vests bright butterflies / across the width / of the shallow water. / They were / in and out / of the boat awhile, / and then had gone out of sight / to explore the marshes / beyond the beach grass. / One or another of them / would reappear and disappear again / through the marsh grass, / so she didn't have to worry / over not seeing them. /

Damn! / Why were her children / always yelling / indecipherable things / across fields, water, / or from eight rooms away? / She looked at her clam bag / . . . only half full. / She ignored / Brian's wild gesturing / in a resolute search / for more clams. / She hadn't had / her full clamming time / away from them yet; / it was unfair of them / always to be demanding / her attention. / But it didn't work; / she couldn't sustain / ignoring them. / After all, / it was unfair to them now / with Tony gone, / and with her working / at a full-time job, / they had so few hours / of parent left. /

Stephanie had appeared / through the marsh grass / also, waving her in, / but no Jocky in sight. / Sudden fear for Jocky / and guilt / that she / had not responded / immediately impelled her up. / She clutched her bag / and clam ring / and made haste / through the thigh-deep water, / running in slow motion. /

"Where's Jocky?" she shouted, but they couldn't hear her. They kept shouting something back that she couldn't hear. She pushed herself through the encumbering water, finally gaining speed in the shallows, shouting to them, "Where's Jocky?"

Unconcerned, Jocky appeared through the marsh grass.

"He's right there," Brian answered with a shrug.

"Mommy, guess what?" Stephanie clamored and they all started shouting at once.

"Will you all just shut up a minute." She bit back the things she felt like yelling for fear of scorching their tender ears. She had cut her foot on a broken shell or piece of glass or something while running, and it hurt.

"But sharks, Mommy!" Stephanie, Brian and Jockey yelled more or less in unison.

"Is that all you called me all the way in for?" She sighed, slung the clam bag into the boat and pulled it up further on the beach as it had begun to slip out with the incoming tide.

"Mommy, honest, real sharks, we found them in the pool back there . . ." Stephanie began to explain.

"Three of them," Brian interrupted.

"I found them first, Brian, let me tell her."

"See, Mommy, we told you." They were all three laughing and dancing around in the water, gleeful for having proved her wrong, and she delighted with them.

Yes, see, Mommy, indeed. Three sand sharks . . . about two-and-a-half to three feet long; they were describing tracks in the pool with their little lethal fins. The children chased them around, but Ellie, more cautious and also suddenly aware of her bleeding foot, studied them from a distance.

They looked like every picture of a shark she had ever seen or imagined . . . smooth gray gill slits and mouth sharp as cuts, a simple shape like a child's drawing of a fish . . . no unnecessary detail, nothing wasted. What was last year's promotional hype? "Evolved through centuries as efficient killing machines," or something to that effect. But these sharks didn't appear to be immediately interested in killing. These were babies, miniature killing machines, and now they only wanted to get out. They kept cruising the mouth of the pool where the tide was coming in that would rescue them.

Their names were Clyde, Claude, and Seymour, Stephanie explained. The children had named them while Ellie was busy clamming.

They watched as one of the sharks approached the mouth of the pool, wriggled its way along until the water became too shallow, then scraped bottom and turned to make its way back to the deep part of the pool. "See, that's what they keep doing. But how does it know the way out?" Stephanie asked.

It was a good question. Ellie wondered also how they knew the way out, for the tide pool extended many fingers of water into the marshes on every side. She imagined how it would be if she were one of the sharks, following along the wrong little stream, having to scrape her way back to the middle of the pool to begin all over in who knew which direction. "I don't know how they know — instinct, I guess," she answered.

"What's instinct?"

"Something children and animals have that lets them know things . . . but nobody tells them . . . children outgrow it, animals don't." She smiled at Stephanie's bewilderment and added, "Look how the tide is coming in, see those little ripply waves on the water? That's it coming in to make the pool deeper. The sharks know it."

One of the sharks was preparing to try again. "Seymour," Stephanie supplied his name. It was the littlest shark and had a gash on its side, either from an earlier futile attempt to escape, or perhaps inflicted by one of its carnivorous peers. Seymour swam into the shallows, fin, tail, and back breaking the surface of the pool. He seemed to be hung up a moment on a tussock of

grass, and Ellie and the children shouted encouragement. The tide rippled encouragement also, bearing imperceptible depth. Seymour wriggled some more, casting for direction, space. Seymour skittered over shells and small sand banks. They watched his progress . . . yes, he was surmounting the last hurdle . . . yes, he made it!

They watched his fin grow distant along the shallow flats until it disappeared. The children turned to see if the remaining two sharks would follow Seymour's example, but Ellie continued to watch the spot where Seymour had last been visible . . . jealous that he had escaped, as if there were a still dark pool inside her from which Seymour had escaped.

They stood around a while to see if the other two would escape also, but the children grew bored with waiting, and Jocky announced that he was hungry for lunch. As she rowed them back across the shallows, the children talked excitedly about the sharks — guessing how they got into the pool, when they would get out, and whether or not they would grow into great white man-eating sharks.

"But they aren't white," Stephanie said.

"But sometimes animals change colors when they grow up, don't they, Mommy?" Brian asked.

"Sometimes." Ellie rowed against the tide and thought about it. In the silence of her thinking, the children went

on with their shark conversation. Stephanie announced that she was going to be the first to tell Daddy about the sharks. Ellie had made it a point that they might call Daddy whenever they felt like it, and since Stephanie was the only one of them who could figure out the complications of area code from Block Island, her claim went undisputed.

Ellie's foot throbbed, but she ignored it. She was still thinking over Stephanie's question about the color of sharks. It was a temptation to use it to begin a discussion about growing, the possibility of changing colors, or changing, or at the very least to caution about the preposterous odds against man-eating white sharks appearing on Block Island. But to use the sharks as an excuse for a harangue seemed untrue to them . . . besides she really didn't want to deliver a harangue anyway; she felt too peaceful.

Yes, so there were real sharks on Block Island, cruising in a hidden tide pool. They had been trapped for a while, but soon they would all be gone, back to sea. Perhaps they were gone already. She listened to the children chatter and felt an inexplicable joy welling up within her . . . that she had been privileged to have met the dream creatures, that they had waited there for her especially to show her how they swam away.

Press the joystick button to **STOP** the timer.

Answer the questions and record your scores!

1. Brian was allowed to be captain when the children played like three men in a tub because he
 - a. had done all the morning breakfast dishes
 - b. had the proper attire
 - c. was a crybaby
 - d. was the tub's owner
2. The thing Ellie enjoyed almost better than anything else was
 - a. clamming
 - b. pouring over the *Times*
 - c. having the time to sort out her thoughts and feelings
 - d. being with her children
3. Ellie didn't believe there were sharks near Block Island because
 - a. the thought of sharks frightened her
 - b. none had been spotted in recent years
 - c. she didn't want to indulge her children's fantasies
 - d. it was too cold
4. When Brian first told his mother about the sharks, she
 - a. feared her bleeding foot would attract them
 - b. preferred to continue clamming
 - c. panicked because Jocky had been missing
 - d. swam swiftly into shore

5. Ellie explained that instincts were
- the base side of all creatures
 - the real reason she and Tony had three children
 - a faculty human adults didn't possess
 - something that children outgrow and animals don't

SUCCESS LOG FLEXIBLE READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(20 points per correct answer)	

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 2

Directions

READING EFFICIENCY INDEX _____

- Refer to the three Unit 2 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
- Record your Unit 2 REI above *and* on the REI Record page in the back of your Workbook.
- Press **START** to load the Reading Progress Graph. While the graph loads, read "On Your Way" below.

ON YOUR WAY

How were your scores for this unit? Many people find the last selection more difficult because of the author's style. Are you encouraged by your progress on some of the activities? You should be. Each step forward, no matter how small, means you're on your way to acquiring more skill. Skill that can make your reading easier. And more fun. Do the units regularly, enthusiastically, and you'll probably even surprise *yourself* with your gains.

The place to review your gains, of course, is the Reading Progress Graph that you complete at the end of each unit. You can see the general trend of your progress by noting the Reading Efficiency Index for each unit. This index is a simple measure of your words-per-minute rate achieved on each reading selection, modified by your comprehension score. Keep in mind it is a very general guideline to your progress, and may not reflect every change in your pattern, such as a large increase in speed combined with a decrease in comprehension! Overall, however, it should help you see a trend in your results.

- Enter your Pretest, Unit 1 and Unit 2 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
- Press **START** to view your graph.

UNIT 3

GAINING MOMENTUM

- To begin Unit 3 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 2 with Side 1 up.
- After listening to the audio segment, turn to the Warm-up and read the directions.

WARM-UP EXERCISE

Directions. The format in all the ATARI Speed Reading units is the same, so now you know what to expect. Get yourself really going with this Warm-up drill. It's your chance to go all out and not forsake much. Set your beginning Reading Window Rate at 120. Then try to increase your rate as you do the exercise. You may use 30 as a general guideline for increasing your rate in each unit, but always adjust your increment to the difficulty of the exercise.

The words are similar to those in Unit 2. Enter your RWR and press the joystick button when you are ready to start. Record your results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting in the space provided at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Discussion. As you begin this exercise, take a minute to think of the several skills we've discussed that are important to becoming an efficient reader. We introduced subvocalization and explained how you should try to see words without pronouncing them. At the same time, try to respond to more words in each fixation by reading in thought units. The point is to concentrate on reading for *ideas*, *not* on pronouncing each word.

Keep these ideas in mind as you practice!

Directions. To set your reading rate look over your results in your previous Paced and Timed readings. How are you doing? If you're having trouble scoring 7 of 10 questions correctly, *don't* be discouraged. Try to improve your concentration and still *push* for speed. Don't slow back down. That's not the answer! Just take it easy. Increase your speed, maybe by only 25 words per minute. The important thing in these first lessons is to strike a balance—one that permits you to read faster and faster while understanding important ideas you've read. With a little practice, you can do it.

If you are understanding what you read, for example, consistently scoring 9 or 10 correctly, pace yourself faster than ever. Use a 50 words-per-minute increase as a guideline, but don't be afraid to try a larger increase. Try to adjust to the movements of the Reading Window as well as you can. As your speed increases, keeping up with the three stops per line requires more concentration. This Phrase-reading technique is a useful tool—make it work to *your* advantage.

Check your previous results, enter your words-per-minute rate, and push the joystick button to begin. Record your rate below.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting in the space provided at the beginning of the Paced reading.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

Right Time, Right Pace

PACED AND TIMED DIRECTIONS

Tape Counter Setting _____

Discussion. Keep up your pace! Let the increasing frequency of the audio tones stimulate you to pace yourself faster. Try taking in a thought unit with each sound of a tone. Some people will occasionally use the same tones-per-minute setting for two or three exercises. When you feel you're ready, go for a small or a large increase in speed. Don't be afraid to experiment.

In Unit 2 we suggested you begin at 120 tones per minute. You may want to increase your beginning tpm rate by another 40 tones this time. If you did *not* increase your tpm in Unit 2, try an increase of about 40 tpm this time. Keep pushing yourself to keep up with the pace of the tones.

Directions. Find out what's happening in, "When What to My Wondering Eyes Should Appear," by reading the first half with the Audio Metronome Pacer set at a constant rate. Then record your rate and answer 10 questions on the first half. But don't take time to correct them yet. Read the second half of this article with the tpm rate set a little faster than it was on the first half. Then record your words per minute for the second half (Timed reading) and do the questions. Check all your answers and record your comprehension scores in your Success Log Boxes. Press the joystick button when you begin and finish each half of the article.

Farish, Lucius and Titler, Dale M. "When What to My Wondering Eyes Should Appear,"
Yankee, December, 1973, pp. 100-101, 186-192.

All New England had an excitingly different Christmas in 1909. The anxious eyes of children and grown-ups were turned skyward — not for Saint Nicholas and his reindeer — but for a mysteriously lighted phantom airship of the night. The intrigue was heightened by the bold claims of one Wallace E. Tillinghast, inventor and proclaimed aviator of Worcester, Massachusetts.

For two weeks, at the peak of the Christmas season, thousands watched for the nightly return of a dimly-outlined airship with large colored searchlights. It maneuvered easily through the chill skies over Massachusetts, Connecticut, Rhode Island and New York. Oddly, the fact that a similar lighted body was also seen in the night skies over Arkansas, Oregon and Tennessee — and that 13 years earlier the West and Midwest had experienced similar sightings — escaped the attention of most New Englanders.

Tillinghast, the demiurgic and high-strung president of the Sure Seal Manufacturing Company, builders of heating equipment, lived with his wife and children at 35 Catherine Street. Though widely reputed to be an inventor, no one could recall anything the man had invented. His name was not on the patent rolls, although there had grown around him a sizeable legendary account of his younger inventive years. As a "wonderfully precocious child," his early years in Bridgeport were spent in "bending over something to study it out." Acquaintances described him as "a curious, queer fellow whose . . . inventive ideas were . . . unique — but not practical."

On December 12, 1909, Tillinghast blandly in-

formed reporters that on the night of September 8 he and two of his mechanics flew a monoplane of his design from Worcester to Boston, then on to New York, and returned. He said it had been the 18th flight of his new machine and all tests had been made at night. Secretive, he refused to reveal the storage place of his aircraft but admitted it would be entered in next year's Boston international air contest. He did reveal that it was guarded by four men at a place 60 miles from Worcester and 14 miles from a railroad station.

The machine, Tillinghast claimed, had a 72-foot wingspan, weighed 1550 pounds, and could fly 300 miles without refueling, at a speed of 120 miles per hour. It was powered with a 120-horsepower gasoline engine of his own manufacture, he added. At one time during the flight, they soared to 4000 feet and, when the engine suddenly failed them over Fire Island, they glided about for 46 minutes while his mechanics made repairs. All modesty aside, Tillinghast described his airplane's performance: "The speed of the machine so much exceeds the speed reported at the recent meeting at Rheims . . . the altitude records which I have made are greater than any made by American or Foreign aeroplanes." Dr. Arthur G. Webster, professor of physics at Clark University, soundly denounced the claims.

Strangely, it was about the time of Tillinghast's alleged flight, said E. B. Hanna of South Windham, Connecticut, when he saw a bright light in the eastern part of the night sky. It was high in the air and moved rapidly toward him, he said, swaying back and forth

like a traveling searchlight. It disappeared behind the hills between South Windham and Lebanon. To lend further credence to Tillinghast's claim, the very night after the inventor's announcement to the press, surfer William Leach of the Fire Island life-saving station reported hearing a high-flying airplane pass overhead at 7:15 P.M. He saw nothing, but reported a sound in the air like the hum of a high-speed engine running wide open. Was it Tillinghast on another test flight?

Worcester patrolman William F. Spencer was walking his west side beat on Pleasant Street at 4:00 A.M. on Sunday, December 19. He was startled as the buildings and streets were suddenly illuminated bright as day. "At first I thought it was fire," Spencer said, "then, when I saw it came from above, I thought of an airship. I saw the last of the fall of the brightest meteor, or comet . . . I ever laid eyes on. It had a long tail of solid fire, . . . behind for one and a half minutes after the main body of the meteor had disappeared."

Then, at 1:15 A.M. on December 20, Immigration Inspector Hoe, on duty at Long Wharf in Boston Harbor, watched another "airship" move swiftly overhead. The inspector saw part of the craft's framework where an underslung light reflected upon it. Two nights later at the same dark hour, people of Pawtucket and Providence, Rhode Island, sighted something in the sky. Two red lights appeared overhead and swept steadily southward toward Newport. The outline of a flying machine could be seen against the background of stars. Residents of Marlboro, Massachusetts, sighted something airborne early on the night of the 22nd. It traveled northwest at 30 m.p.h., toward Clinton. The stage was almost set for New England's greatest aerial mystery.

By now, reporters and curious persons were besieging Wallace Tillinghast with questions. His telephone rang continuously. Telegrams arrived from all over the country. He was visited at home and at work. Everyone asked him the same question: "Were you flying your airship last night?" Tillinghast grew angry and brushed the questions away. He refused to discuss his aircraft and would not say whether it was his machine seen over Boston Harbor. He wouldn't deny it, either.

"If I were the one, it's my own business and no one else's!"

He took unkindly to joking, stated it was a serious matter and insisted his machine had done all he claimed. "I'm all through talking of it."

Speculation spread quickly. Someone reported that Tillinghast and his hybrid single-cylinder Cadillac-with-a-Peerless-body had been seen leaving his garage on Orne Street after 11 o'clock at night, and sometimes returning as late as six o'clock in the morning. It always showed signs of a long run, it was claimed.

The car's unique black and maroon appearance attracted the attention of a Connecticut motorist who stopped in Worcester for gasoline. "I've seen that car before," he commented. "It passed me in the suburbs of Litchfield." Those who overheard his remark wondered how near to that Connecticut town was Tillinghast's secret airplane hangar.

The curtain went up on the night of December 22, when the sky machine boldly displayed itself. About 5:20 that afternoon an aerial object, reputed to be an airship, appeared out of the southeast sky over Grafton and moved over Worcester. It sent out brilliant rays of light from a powerful searchlight mounted under — and ahead — of it. The machine flew at a height of 2000 feet, but its shape could not be determined. The news spread like wildfire and soon thousands had come into the streets to see the mysterious visitor. A restaurant porter sweeping the sidewalk sighted the light and shouted out the news. All 60 diners rushed into the street.

The object made a wide circle over the city at 40 m.p.h., then moved off towards Marlboro. It covered the 16 miles in 30 minutes. There, residents saw it travel northwest at 60 m.p.h. It was seen east of Norwich at 7:30. People in South Framingham, Natick, Ashland, Grafton, Upton, Hopedale and Northboro also followed the mysterious light.

Two hours after its first appearance, an eager shout went up from waiting crowds at Worcester. The airship had returned. This time it drifted overhead for 15 minutes as it made four circles of the city. Two thousand excited spectators craned their necks while the sharp rays of its great searchlight danced across the sky and made circles. The glaring rays cut the murk and were sharply defined against a thin snowfall that covered the city. The light appeared to be two-thirds the size of an automobile headlamp. When it first appeared, it traveled back and forth from the State Mutual Building to the post office in Franklin Square. As the shafts of light swept the streets, they illuminated the waving flags atop a tall department store on Main Street and made the polished window frames come alive with a weird, uncanny flame.

At one time the craft slowed to a standstill for several minutes. Christmas shoppers on Main Street forgot their errands, and in parts of Worcester business came to a halt. More than 20 policemen forgot to walk their beats and send in duty calls.

Above the light, the dark, obscure mass of some sort of airship could be dimly seen. Some observers claimed they could identify broad, projecting wings; others saw figures seated in the center of the machine. Oddly, no one heard the noise of an engine — or even took notice that the machine was silent. Guy Lane, a motorman on the Boston and Worcester street

railway, and Conductor Edward Stone, said it kept ahead of their car, which was traveling at 30 miles per hour.

Five minutes after the air machine faded into the night, south and east of Worcester, its searchlight glared forth in the distance again "like a monster star." Was it the ghost of Darius Green and his flying machine or . . .? Come to think of it, where was

Wallace Tillinghast?

A quick check showed he was not at home, nor could he be found anywhere in Worcester. It was learned he left his office late that afternoon and boarded an eastbound train. People nodded. Yes, it was Tillinghast all right — on another of his nightly test flights.

Press the joystick button to **STOP** the timer.

1. The phantom ship the New Englanders viewed for two weeks in 1909
 - a. had also been spotted in other parts of the country
 - b. was thought by some to be a religious phenomenon because it was the Christmas season
 - c. was almost certainly an alien aircraft
 - d. was a prank concocted by Wallace E. Tillinghast
2. Wallace E. Tillinghast was widely reputed as
 - a. a daredevil aviator
 - b. a precocious genius and holder of many patents
 - c. an inventor of impractical, unique items
 - d. the legitimate inventor of the airplane
3. Tillinghast claimed his flying machine
 - a. had a range of more than 800 miles
 - b. broke all speed and altitude records
 - c. was rather slow but glided exceptionally well
 - d. was powered by a steam turbine engine of advanced design
4. Patrolman William F. Spencer described the aerial mystery over Worcester in December as
 - a. a fiery animal in the sky
 - b. a great star that appeared to dance through the night
 - c. the brightest comet or meteor he had ever seen
 - d. two flashing red lights
5. After the December sightings, Tillinghast brushed reporters away because he believed that
 - a. he would be arrested for his pranks
 - b. someone would challenge him to a race
 - c. his wonderful airplane had to be kept secret
 - d. what he did was his own business
6. What made the aircraft so highly visible on December 22?
 - a. a peculiar glow emanating from the rear
 - b. the exhaust flames from its powerful engine
 - c. light from the setting sun reflected on its shiny surface
 - d. a searchlight mounted under and ahead of it
7. A particularly unusual feature of the craft was that
 - a. it could never be clearly seen or described
 - b. it could hover silently for several minutes
 - c. it usually flew in large, concentric circles
 - d. its headlights were bright enough to penetrate the clouds
8. The fastest speed at which the craft was observed to travel was
 - a. 8 miles per hour
 - b. 30 miles per hour
 - c. 60 miles per hour
 - d. 120 miles per hour

9. The aircraft's searchlight was estimated to be
- a. about two thirds the size of an auto headlamp
 - b. about three times the size of a large auto headlamp
 - c. brighter than the morning sun
 - d. intense enough to be seen in the distance at night
10. People assumed the craft was manned by Tillinghast out on a test run because
- a. they knew he would do anything for publicity
 - b. they preferred to think it was he and not a Martian
 - c. he was not at home when the craft was out
 - d. he was known to be eccentric but honest

SUCCESS LOG PACED READING	
READING SPEED	_____ WPM
COMPREHENSION SCORE	_____ %
(10 points per correct answer)	

PRESS **START** TO CONTINUE.

The following morning, Tillinghast refused to discuss the sighting and ordered all newspaper men from his office. One journalist humbly said he'd come all the way from New York to interview him. Retorted Tillinghast: "I don't give a damn whether you've come from the Alaska goldfields; you won't get anything out of me!" Tongues wagged and news sleuths hit the trail, hot for the place where his machine was hidden.

On the evening of December 23, with a clear, crisp sky and a light wind blowing, the machine visited Boston as thousands traced its flight across Massachusetts. It was first sighted over Fitchburg about 6:00 P.M. It meandered its way to the big city by way of Marlboro, Framingham and Natick. Here residents said it came to within 100 feet of the ground. Some claimed there were two men in the craft; one standing forward near the headlight, the second man in the stern. It continued on over Needham and Newton and arrived over the city shortly after 7:00 P.M., where it hovered 25 minutes over the Boston Common. Then it crossed the Charles Street Mall.

It moved northeast, circled Chelsea and arrived over Revere at 7:40. Two observant residents, Samuel Gibby and A. Sylvester Van Vost, took note of some details. Gibby said there seemed to be huge wings on each side of the bright light. Shortly before 8:00 it crossed Lynn and moved toward the Salem line, then it returned to Boston. It moved slowly over the Common again, then headed toward Copley Square and Back Bay. People all across New England were wondering: Is there really a light in the sky, or are we merely seeing things amid the rejoicing of the Christmas season?

Skaters in the Public Gardens left the ice to follow the throng. Members of the Somerset and Puritan Clubs joined residents along Beacon Street to crane their necks. On Huntington Avenue, opera fans entering the Boston Opera House paused to watch the drifting light for ten minutes. The object moved back and forth, east and west. The crowds watched it move over Harvard Square in Cambridge, Riverbank Court, Charlegette Hospital, Cottage Farm and Somerville. At 8:30 it was going southwest toward Newton, Ashland and Worcester. It was last seen moving west near Paxton.

At one time during its trip, the light was reported as far south as Willimantic, Connecticut, where the excited townspeople marveled at its powerful searchlight that played from side to side. And next came a report from Marlboro that the same mysterious airship that had flown overhead was first noticed there on the evening of December 14 — and had returned at least eight times!

Meanwhile, Wallace Tillinghast was beginning to

wish he had never released his flying stories. The impression was now widespread that it was he who had sailed through the night sky with a searchlight. When anyone knocked on his front door while he was at breakfast, he leaped out the back door and ran. At times he denied his identity.

While all of eastern Massachusetts was agog over the heavenly display, in Worcester, Frank Moynahan, the night fire alarm operator, was on duty in the tower of fire headquarters. He answered a telephone call from another fireman who drew his attention to the sky light. Moynahan turned to the window to look, and as he did, he happened to glance down across the street into Tillinghast's office, where he clearly saw the man hard at work over his drafting board. There was no question about it; Wallace Tillinghast was not the pilot of the airship. This was confirmed by reporters who had shadowed the inventor from 5:30 until 8:00 P.M.

Newspapers had a heyday as scores of reports poured into their offices. Young journalists, eager to play with words, waxed poetic. One in Leominster had the airship's light "cutting athwart the azure sky," and in Fitchburg a rhetorical youth reported its monster lamp throwing "clear, blinding yellow rays across the dome of inky blackness." In Maynard, a reporter wrote: "Like a pellucid stream the waves of the light broke through, over, beyond, under and up against the filmy splotches of white, a dazzling play in cloudland."

Christmas Eve in Boston was memorable. Thousands blocked sidewalks, street corners and squares from dusk until midnight. From Lower Washington Street, Dock Square, Tremont Row, Scollay Square, Court, Bromfield, Tremont Streets and the Common, shoppers laden with gifts scanned the sky. The airship did not disappoint them — nor the residents of Worcester, Salem and Fitchburg. Newburyport reported a mysterious light in its northern sky at 7:00 P.M. It returned at 8:20 in the southeast as its brilliant rays changed color. Children were sure Saint Nicholas was abroad that night; they saw him. In Boston some older pranksters with childlike devilishness, sent aloft a hot-air balloon to keep the airship mystery at peak interest. It dropped onto a two-story building in Franklin Square, and only the quick work of the fire department prevented the blaze from doing damage.

At the corner of Bromfield and Tremont Streets there was great suspense and excitement as the airship appeared to approach a few feet lower than the top of the Park Street Church steeple. The tense crowd watched, certain the airship would crash into the structure. But at the last moment it slowed to a standstill, then turned away.

Disputes broke out everywhere. The machine was

moving; it only appeared to be moving. The lights were really stars; they weren't stars. The aircraft had wings; it didn't have wings. While they argued, it moved again over Revere and Lynn. At 7:00 passengers in an electric car at Newton said they heard the "whirr" of the phantom craft's engines as it moved southwest toward Wellesley.

Back in Worcester, Mr. Tillinghast had reason to sweat. Worcester businessmen were upset by the adverse notoriety brought to their city by the widespread reports of the inventor's claims and his still unseen "airship." The fair city of Worcester, they said, had been placed in a ridiculous light because Tillinghast had stubbornly refused to allow anyone to see his invention. It was decided that a Board of Trade Committee would call on Mr. Tillinghast and get to the bottom of the matter. A few days later it was announced to the press by Tillinghast's "manager," William Hunt, that the inventor's aircraft would be exhibited at the Boston Aero Show on February 16 through the 23rd.

On Christmas Day the airship made its only daytime appearance over New England. At 11:40 A.M. Fire Captain George F. Barrows of Engine Company 12 in New Haven, Connecticut, watched with his men as a "queer object" passed overhead at 1000 feet, traveling northeast. It moved slowly, for they kept it in view for almost ten minutes. Barrows clearly saw the machine's planes and rudder and what appeared to be its engine exhaust. There were no reported sightings that night.

Shortly after midnight on December 31, more strange and fast-moving lights were seen over Worcester. They moved in a zigzag fashion as a red, white and blue cluster. The lights appeared over Westboro and Shrewsbury and were last seen, dimly, heading southeast.

At this point the visitations of the airship diminished in New England, but now other parts of the country began to report sky visitors. All during January of 1910 lights said to be part of a flying machine were reported over West Virginia, Tennessee, Arkansas and Alabama.

By mid-February the airship episode had all but

faded from the public's mind and Tillinghast was apparently sequestered in his "secret workshop" to meet the deadline for exhibiting his aircraft, but it did not appear at the Boston Aero Show.

In mid-July of 1910, however, Herbert N. Davison of the Worcester Board of Trade announced that Tillinghast had indeed constructed an airplane, and that he, Davison, had actually inspected it, sat in it, and operated its controls. He said it resembled a huge boat with wings, powered with an engine of 125 h.p. It was kept in a suburban barn.

Now Tillinghast resumed his claims of record flights, all of which he said took place between 10:00 P.M. and daylight of the following morning. He explained that because of a radical design change — which was allegedly being sought by airplane manufacturers — all test flights had to be made during darkness, at least until the patents were tied up. On the following day the eccentric inventor would announce the nature of his flight of the previous evening; it might have been a speed dash to Boston, an endurance run to Providence, or a new altitude attempt over Worcester.

In time it became evident that the claims of Wallace E. Tillinghast were without merit. Although he had a flying machine of sorts, it was untested. As far as could be determined, it never flew — nor did Tillinghast. The over-zealous engineer, caught up in the excitement of his dreams, had allowed himself to be regarded as the pilot of the mysterious night-flying airship. Nevertheless, the whole Tillinghast episode was an interesting and imaginative tale that made Worcester and other New England communities air-minded — with some help from the mysterious sky visitor that was quite real, was seen by thousands, and which unquestionably "flew."

Although experimental aircraft flights were being made in 1909, the unusual actions of the strange airship — which was never clearly seen — cannot be explained as terrestrial experiments. The 1909 flap was only one of many that were recorded from 1896 to the present. So, if it wasn't Tillinghast and his flying machine, what was it?

Press the joystick button to **STOP** the timer.

11. When reporters accosted Tillinghast after the big pre-Christmas sighting, he
 - a. acted confused, but cooperative
 - b. hinted at being responsible for the air shows
 - c. gave them haughty, evasive answers
 - d. refused to talk and ordered them off his property
12. Tillinghast was cleared of immediate involvement with the aircraft when he
 - a. was surrounded by newspaper reporters for 48 hours
 - b. was unable to pilot the craft on Christmas Eve
 - c. admitted he had made up the whole story
 - d. was seen in his office while the craft was being observed on December 23

13. When the craft appeared on Christmas Eve,
 - a. three Wise Men got on their camels and headed east
 - b. children thought they were seeing Santa Claus
 - c. theologians proclaimed a Second Coming
 - d. pranksters set off a barrage of sky rockets
14. When the craft appeared on a collision course with the Park Street Church steeple,
 - a. it stopped suddenly and turned away
 - b. people argued that it was an optical illusion
 - c. it stopped suddenly and hovered there for several minutes
 - d. it skimmed over the top at the last minute
15. According to one group of observers, the craft's engine
 - a. made a "buzzing" sound
 - b. made a "whirring" sound
 - c. sounded like an airplane
 - d. sounded a lot like Tillinghast's Cadillac engine
16. Tillinghast was pressured to display his craft
 - a. by Worcester businessmen who were upset by the adverse notoriety brought to their city
 - b. by newspaper reporters who wanted to get accurate stories
 - c. because the public was extremely curious
 - d. because a grand jury decided he was disturbing the peace
17. On Christmas Day, the airship
 - a. zigzagged over Westboro, Massachusetts
 - b. hovered one hour over New Haven
 - c. flew higher than usual
 - d. made its only daytime appearance
18. When the airship's visitations to New England ceased,
 - a. a U.F.O. center was established
 - b. people never stopped waiting for its return
 - c. other parts of the country reported sightings
 - d. every comet or strange light became controversial
19. Tillinghast said he flew only at night because
 - a. radiation from the sun was harmful to the craft
 - b. the nocturnal winds were more favorable to efficient performance
 - c. he was tired of all the publicity his craft had caused
 - d. he didn't want his design copied until patents were issued
20. The mysterious airship cannot be explained as a terrestrial experiment because
 - a. the actions of the craft were unusual
 - b. there were no experimental aircraft flights being made in 1909
 - c. many other sightings have been reported from 1913 to the present
 - d. Tillinghast confessed that he had made it all up

SUCCESS LOG TIMED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

TECHNIQUES

Tape Counter Setting _____

Discussion. In the audio portion of the Techniques section we discussed the importance of needing to learn not only new reading skills, but also *when* to use them. We discussed different reading purposes, such as reading for facts or general ideas, and how the goal you set for reading determines the particular skill you use.

Scanning is the focus of this Techniques section. Learning to survey material quickly to find the answer to a specific question will save you time! Anticipate what fact(s) you're looking for, run your eyes quickly over and down a printed page until you spot your answer(s), and then read the information in context to check your accuracy.

1. *Always* scan when you want to locate a specific fact or key word. When you have such a definite purpose, slower reading will only clutter up your thoughts with facts you don't want or need now. Why waste valuable time? Practice scanning the following list of phone numbers. Use a pencil to respond to these four statements as fast as you can.
 - a. Underline the telephone number for G. H. Johnson on Farwell Drive.
 - b. Underline the address for the two D. O. Johnsons.
 - c. In the first two columns, underline the four telephone numbers beginning with "221."
 - d. In the last column underline the telephone number ending with "0588."

Johnson B A
 2146 Allen Blvd Midltn ---238-6133
 Johnson B A 2009 Pike dr ---271-8757
 Johnson B Pfeifer Mrs
 705 Woodward dr ---244-0894
 Johnson Barbara 855 Woodrow ---251-6686
 Johnson Barbara J
 4849 Sheboygan av ---231-3267
 Johnson Barbara Jean 133 Langdon ---255-6480
 Johnson Barry 5400 Mc Kenna rd ---221-1773
 Johnson Belinda 14 N Mills ---252-0044
 Johnson Bernadine
 5000 Sheboygan av ---238-3701
 Johnson Bernice E 2313 Rowley av ---233-4754
 Johnson Bert 436 W Dayton ---251-1025
 Johnson Bert 5434 Gettle av ---238-2954
 Johnson Bertha Irene 429 Lily dr ---255-0924
 Johnson Betsy 1315 Spring ---257-0883
 Johnson Beverly 19 N Bearily ---255-3610
 Johnson Bieber & Kirkhuff attys
 411 W Main ---257-4715
 Johnson Bill 1009 Vilas av ---257-5773
 Johnson Bob 1102 Troy dr ---241-1796
 Johnson Brad C 14 Glacier ct
 Madison Wis ---Midltn Tel No 836-8223
 Johnson Bradford R 201 Silver rd ---244-1936
 Johnson Brian M 116 E Gilman ---256-2950
 Johnson Bruce 140 E Johnson ---257-1782
 Johnson Bruce B 3301 Leopold Way ---274-2126
 Johnson Bruce M 9 Adeline cir ---256-6605
 Johnson Bruce P 146 E Gorham ---251-1536
 Johnson Bruce R
 5310 Mathews rd Middleton ---238-4610
 Johnson C 316 N Butler ---255-6663
 Johnson C A 317 Bay View ---251-3515
 Johnson C Alden Helen Mrs
 1555 Adams ---256-7113
 Johnson C L 909 High ---257-1884
 Johnson C V 533 W Wash av ---255-8287
 Johnson Caden 4541 Onyx la ---249-3024
 Johnson Calvin 442 Jean ---256-1380
 Johnson Camille 150 Langdon ---251-6394
 Johnson Candace 2101 Traceway dr ---271-7063
 Johnson Carin 345 N Sherman av ---241-2673
 Johnson Carl 116 S Blair ---251-4651
 Johnson Carl E
 408F Eagle Heights Apts ---238-4994
 Johnson Carl G 700 Owen rd ---222-6876
 Johnson Carl V 2132 Kendall av ---238-2445
 Johnson Carol A 208 Farley av ---238-6941
 Johnson Cephas C realtor
 117 Monona av ---256-9011
 Res 1029 Spaight ---256-0110
 Johnson Chas A 701 Hintze rd ---244-7701
 Johnson Charles Albert
 625 Cately ter ---233-3286
 Johnson Chas E 30 Belmont rd ---244-6473
 Johnson Chas H 1650 Sherman av ---244-3104
 Johnson Chas H Mrs 111 W Wilson ---255-1564
 Johnson Chas O 1814 W Broadway ---221-0779
 Johnson Chas P
 640 Jordon dr McFrldn ---835-5685
 Johnson Chas R 1525 Trailsway ---244-3727
 Johnson Charlna 1341 South ---251-4575
 Johnson Cheryl D 2101 Post rd ---274-0440
 Johnson Christian D 201 Valorie la ---222-8058
 Johnson Chuck 811 Garfield ---256-3401
 Johnson Clarence E 3334 Tallyho la ---238-7591
JOHNSON CLIFF R bldr
 942 Pontiac tr ---274-3688
 Johnson Clifford 5007 Monona dr ---222-6911
 Johnson Clifford C 328 Kedzie ---244-0443
 Johnson Clifford H 2558 E Johnson ---244-1959
 Johnson Clifford H 2406 Myrtle ---249-7057
 Johnson Clifford L
 1434 Fremont av ---244-6471
 Johnson Clinton W
 4705 Buckeve rd ---222-2002
 Johnson Collin B 619 S Orchard ---255-0601
 Johnson Connie 345 N Sherman av ---241-2673
 Johnson Conrad H atty
 20 N Carroll ---256-1977
 Res R2 Lodi ---592-4897
 Johnson Craig 512 W Wash av ---256-3001
 Johnson Curtis 4517 Camden rd ---222-4514
 Johnson Curtis 201 Tompkins dr ---222-3548
 Johnson Curtis L 703 Spruce ---256-8274
 Johnson Cyrus K 2417 Center av ---244-6073
 Johnson D 1117 Bay Ridge rd ---222-9607
 Johnson D M 121 N Blair ---256-6756
 Johnson D O 1609 Madison ---255-7791
 Johnson Dale 502 N Frances ---251-4202
 Johnson Dale A 5514 Brody dr ---233-0145
 Johnson Dale E 4715 Sheboygan av ---238-1715
 Johnson Dale M 1901 Kenneth ---271-3740
 Johnson Dan L
 936A Eagle Heights Apts ---238-8809
 Johnson Danl 130 N Butler ---257-6471
 Johnson Danl J 209 S Bassett ---257-7208
 Johnson David 1558 Simpson ---221-2519
 Johnson David A 4305 Mohawk dr ---271-6897
 Johnson David Arthur 1508 Drake ---251-2791
 Johnson David B
 1911 Greenway Cross ---271-5954

Johnson David B Prof
 5806 Anchorage av ---233-7335
 Johnson David H 1901 Carver ---257-7886
 Johnson David L 307 Bay View ---255-2352
 Johnson David L 1822 Helene pkwy ---271-7564
 Johnson David M R2 Waunakee ---849-4930
 Johnson David M cert pub acctnt
 30 W Miffin ---257-2532
 Johnson David N 1826 Camelot dr ---238-3005
 Childrn 1826 Camelot dr ---238-3006
 Johnson David W 519 Northport dr ---241-3646
 Johnson Daward 1225 Rutledge ---255-8030
 Johnson Dayton 515 N Lake ---257-1537
 Johnson Debbie 316 N Butler ---251-7986
 Johnson Deborah L 502 N Frances ---257-6799
 Johnson Dennis H
 4609 Academy dr ---222-9095
 Johnson Dennis R
 2127 Bashford av ---249-9356
 Johnson Dennis Roger 214 Harding ---241-3168
 Johnson Diane 1012 Emerald ---255-6289
 Johnson Diane R 604 Buick ---255-8746
 Johnson Don N 1426 Rae la ---271-3558
 Johnson Don V 637 S Orchard ---251-1174
 Johnson Donald B R1
 Stoughton -- Mc Frldn Tel No 838-3222
 Johnson Donald D atty 1 W Main ---256-9046
 Res 4235 Wanda pl ---271-3796
 Johnson Donald E
 10 Dorfmeister ct ---221-1197
 Johnson Donald Elton
 5813 Crabapple la ---271-7984
 Johnson Donald J 319 Oriole la ---241-1884
 Johnson Donald James
 5310 Milward dr ---271-9356
 Johnson Donald Jos 1402 Regent ---257-1851
 Johnson Donald K
 4305 Portland pkwy ---249-8077
 Johnson Donald W 653 S Segoe rd ---271-7948
 Johnson Donna 2811 Monroe ---233-6381
 Johnson Doris 4801 Sheboygan av ---238-0734
 Johnson Doug 912 E Gorham ---257-5720
 Johnson Doug 265 Langdon ---257-6995
 Johnson Douglas 227 Langdon ---251-1031
 Johnson Douglas A
 5701 Anchorage av ---238-1785
 Johnson Douglas D 514 W Main ---257-1970
 Johnson Douglas M
 2620 Fairfield pl ---244-8450
 Johnson Douglas O
 6101 Eagle Heights Apts ---238-7828
 Johnson Duane 336 W Doty ---256-3433
 Johnson Duane 3802 Lien rd ---244-7497
 Johnson Duane A 3633 Dawes ---249-9307
 Johnson Duane H 1912 Sheridan ---244-4307
 Johnson Dudley L 221 Merry ---249-9152
 Johnson Dwayne I 318 Island dr ---231-2194
 Johnson Dwight A Jr postdrstr
 2084 Atwood av ---244-1772
 Res 406 Gunderson ---244-9108
 Johnson E L 126 Division ---244-8671
 Johnson E M 4922 Raymond rd ---271-7045
 Johnson Earl 201 Merry ---244-2884
 Johnson Ed 1021 Columbia rd ---233-9292
 Johnson Eddie L 2209 Cypress Way ---255-8206
 Johnson Edith J 624 West Shore dr ---256-1226
 Johnson Edmund B
 4614 Mineral Point rd ---233-9301
 Johnson Edw P 904 Dane ---257-3249
 Johnson Edwin 409 Miller av ---244-2551
 Johnson Edwin A 4319 Monona dr ---222-6111
 Johnson Edwin D
 2011 Eagle Heights Apts ---238-2506
 Johnson Elaine 2848 Coollidge ---249-8636
 Johnson Eleanor E 324 1/2 W Wilson ---256-1159
 Johnson Elerly
 1330 North Stoughton rd ---249-4507
 Johnson Elizabeth 407 W Doty ---255-1109
 Johnson Elliott A Mrs
 104 Davidson ---222-2247
 Johnson Elmer E Dr
 4513 Vernon Blvd ---233-1901
 Johnson Elmer M 950 Lake ct ---257-1355
 Johnson Eric H 1106 S Park ---251-7566
 Johnson Eric W 2506 Mc Divitt rd ---271-7139
 Johnson Erling M hearing aids
 109 King ---256-8503
 Res 5502 Raymond rd ---271-8425
 Johnson Ernest 3837 Dennett dr ---244-9013
 Johnson Ernest G 1929 Heath av ---249-5560
 Johnson Ernest L 113 Quaker cir ---222-5150
 Johnson Ernest R
 2640 Chamberlain av ---238-0602
 Johnson Ervin B R 1 Packers av ---244-7406
 Johnson Esther Mrs Syene rd ---271-4704
 Johnson Esther M Mrs
 540 W Olin av ---255-5904
 Johnson Everett F Dr dentist
 222 N Midvale Blvd ---233-9000
 Res 1205 Farwell dr ---244-6383
 Johnson Everett 4317 Daisy dr ---271-4262
 Johnson Florence 1339 E Wilson ---255-3005
 Johnson Florida M 110 E Dayton ---251-3897
 Johnson Fran L 1513 Cameron dr ---271-7334
 Johnson Frank Mrs 2551 Hoard ---244-3869

Johnson Frank N 2305 S Park ---257-0367
JOHNSON FRANK N ofc
 448 W Wash av ---256-2656
 Res 2701 Sommers av ---244-9582
 Johnson Fred 2201 Cypress Way ---257-6474
 Johnson Freddie 1031 Williamson ---255-6333
 Johnson Frederick J 1331 Morrison ---255-1315
 Johnson G D 2901 Curry pkwy ---274-2361
 Johnson G M 240 Bunting la ---249-0736
 Johnson G M 414 N Segoe rd ---233-3764
 Johnson Gary F 1302 Ruskin ---244-2943
 Johnson Gary L 6415 Bridge rd ---221-2196
 Johnson Gary V
 2110 Westchester rd ---271-2092
 Johnson Geo E 437 Presidential la ---238-7523
 Johnson Geo F 4610 Ferris av ---222-4593
 Johnson Geo H 639 Farwell dr ---244-1375
 Johnson Geo M 2545 E Johnson ---244-4500
 Johnson Geo O 509 Elmside Blvd ---244-0272
 Johnson Geo W Mrs
 745 W Wash av ---256-2025
 Johnson Gerald 1009 Vilas av ---257-9739
 Johnson Gerald A 202 Silver rd ---249-1400
 Johnson Gerald J 1130 View rd ---222-3573
 Johnson Gerald S
 2413 Cypress Way ---256-4775
 Johnson Geraldine Mrs
 519 Jonquil la ---256-7575
 Johnson Glen S 2318 E Wash av ---244-0137
 Johnson Glenn A Jr
 1630 Wyoming Way ---244-5873
 Johnson Glenn H 5406 Harold ---222-0798
 Johnson Gordon C
 4617 Tonyawatha tr ---222-2232
 Johnson Gordon Duane
 745 W Wash av ---256-2025
 Johnson Gordon H 1 Parklawn pl ---233-4191
 Johnson Gordon K
 656 Knickerbocker ---233-1598
 Johnson Gordon L Mrs 225 Division ---244-9174
 Johnson Graham U travl agt
 Res 615 Farwell dr ---257-5555
 520 Univ av ---244-0244
 Johnson Grant C
 404D Eagle Heights Apts ---238-4516
 Johnson Greg 2517 Granada Way ---271-4986
 Johnson Gregg W 1713 Camus la ---238-3984
 Johnson Gregg W 1531 Simpson ---221-2150
 Johnson Gregory L 203 Owen rd ---222-0537
 Johnson Gregory M 350 Raven la ---249-0862
 Johnson Griff Evans
 707Q Eagle Heights Apts ---231-3158
 Johnson Gunda 4622 Dutch Mill rd ---222-4375
 Johnson Gunnar 603 Falcon cir ---222-4642
 Johnson H C 2333 Superior ---249-6763
 Johnson H Dewey 4609 Wallace av ---222-1517
 Johnson H E 1303 Vilas av ---255-9502
 Johnson Harley E 826 W Badger rd ---251-1694
 Johnson Harold 113 S Mills ---251-0888
 Johnson Harold A 417 Bryce Canyon cir
 Mdsn--Midltn Tel No 836-8701
 Johnson Harold A
 4122 Manitou Way ---233-3611
 Johnson Harold D 5009 Gordon av ---222-7343
 Johnson Harold G 5112 Maher av ---221-1627
 Johnson Harold J 3545 Concord av ---249-1385
 Johnson Harold J 2416 E Wash av ---249-5236
 Johnson Harold L 5318 Arapahoe la ---244-3680
 Johnson Harry J 310 N Butler ---255-5451
 Johnson Harry S 2 Sherman ter ---249-5725
 Johnson Harvey 4205 Milw ---244-3228
JOHNSON HEARING AID CENTER
 109 King ---256-8503
 Johnson Helen E
 2225 West Lawn av ---256-0016
 Johnson Henry H
 2530 Commonwealth av ---233-8031
 Johnson Herbert E 1025 Emerald ---255-2896
 Johnson Howard A 4337 Herrick la ---233-5604
 Johnson Howard C 2353 Allied dr ---274-2212
 Johnson Howard E
 4333 Britta pkwy ---271-9164
JOHNSON HOWARD RESTAURANTS
 902 Ann ---255-4685
 4838 E Wash av ---249-7314
 Johnson I J 540 W Olin av ---256-5820
 Johnson I Z 2617 E Johnson ---241-1879
JOHNSON INSULATING CO
 2046 Pennsylvania av ---244-5646
 Johnson Irving B
 5013 Hammersley rd ---271-7310
 Johnson Isabell D 421 Hilltop dr ---231-2630
 Johnson J 680 W Badger rd ---257-5441
 Johnson J A 726 E Johnson ---251-4150
 Johnson J Brent 4530 Aztec Trail ---271-4610
 Johnson J E 225 S Whitney Way ---233-5166
 Johnson J L 317 Island dr ---233-3283
 Johnson J M
 2950 Tomahawk ct Midltn ---238-8327
 Johnson J R 202 Candie Lite ct ---271-5895
 Johnson J Robt 560 Glen rd ---238-0308
 Johnson J S 817 W Lakeside ---256-2816
 Johnson J Scott 1346 Rutledge ---251-7789
 Johnson J W 6429 Bridge rd ---221-1981
 Johnson J W 4303 Monona dr ---222-8834

Johnson Jack 112 S Orchard ---256-5157
 Johnson Jack L 206 W Lakeview av ---222-2524
 Johnson James 2341 Carling dr ---271-8847
 Johnson James A 321 Belmont rd ---244-2870
 Johnson James A
 71 Lakewood Gardens la ---249-6328
 Johnson James C 2109 Fox av ---257-2111
 Johnson James D 135 N Hancock ---251-7025
 Johnson James J 3912 Dempsey rd ---221-2632
 Johnson James L
 5422 E Buckeye rd ---222-0563
 Johnson James L
 1330 N Stoughton rd ---244-4287
 Johnson James L 1133 View rd ---222-2979
 Johnson James Leon
 1290 Waubesa Beach rd ---222-4565
 Johnson James N 2001 Leland dr ---274-3762
 Johnson James R
 1317 N Wingra dr ---256-8941
 Johnson James R 1710 Winnebago ---244-6816
 Johnson James S 3426 Marcy rd ---249-1358
 Teenagers 3426 Marcy rd ---249-2737
 Johnson James Soren 16 Langdon ---251-0573
 Johnson James W
 2309 Cypress Way ---257-4946
 Johnson Jan 5726 Balsam rd ---274-3716
 Johnson Jan E 104 S Brooks ---251-8163
 Johnson Jason A 5705 Cove cir ---222-2248
JOHNSON JASON JEWELER
 2086 Atwood av ---244-3178
 Johnson Jay Scott
 503J Eagle Heights Apts ---238-5664
 Johnson Jean E 417 Ogden ---249-3070
 Johnson Jeanette 2238 Eton Ridge ---233-4434
 Johnson Jeanette Pugh
 5601 Groveland ---222-1276
 Johnson Jeanne 152 E Gorham ---257-7441
 Johnson Jeanne V 2301 S Park ---257-3565
 Johnson Jeffrey J 205 Gannon av ---249-1234
 Johnson Jeffrey L 1402 Regent ---257-6846
 Johnson Jennie B 2039 E Johnson ---249-2383
 Johnson Jerry F 5313 Chinook la ---249-3985
 Johnson Jerry F 5505 Goucher la ---222-1573
 Johnson Joan M
 701 Pirate Island rd ---221-2429
 Johnson JoAnn Mrs 201 Valorie la ---222-8058
 Johnson Jody 204 St Teresa ter ---222-6874
 Johnson John B 4122 Dwight dr ---244-0152
 Johnson John Clifford
 3309 Grandview Blvd ---271-1287
 Johnson John E Prof
 1214 Wellesley rd ---238-0526
 Johnson John E H 101 Glen ---238-6653
 Johnson John I 606 Gary ---222-8963
 Johnson John M 2410 Calypso rd ---241-1897
 Johnson John M 3422 Lexington av ---244-5898
 Johnson John N 2453 Hoard ---244-7514
 Johnson John W 400 Powers av ---249-6348
 Johnson Jominda J 2313 Rowley av ---233-4754
 Johnson Jon W 820 Jenifer ---255-1127
 Johnson Judy 137 E Gorham ---255-9272
 Johnson Julie 50 Whitcomb cir ---274-3546
 Johnson Julian 601 N Henry ---257-4578
 Johnson Julie A 104 S Brooks ---251-8163
 Johnson June E 210 S Bassett ---255-6530
 Johnson K A 4913 Ascot la ---238-7470
 Johnson K I 2019 Pike dr ---271-1945
 Johnson Kathy 4817 Sheboygan av ---238-0355
 Johnson Kay 2231 Woodview ct ---255-8302
 Johnson Kaye Ellen
 1312 St James ct ---257-0650
 Johnson Keith 1402 Regent ---256-0588
 Johnson Keith A 5710 Forsythia pl ---238-6129
 Johnson Ken 1530 Adams ---251-1190
 Johnson Ken R 415 W Wilson ---255-7685
 Johnson Kenneth 2861 Coho ---274-1192
 Johnson Kenneth 2642 Park pl ---238-6172
 Johnson Kenneth D
 1310 Delaware Blvd ---244-0562
 Johnson Kenneth G
 1026 Sherman av ---255-5213
 Johnson Kenneth L
 4920 Woodburn dr ---271-2020
 Johnson Kenneth R
 4925 Fond du Lac tr ---238-1773
 Johnson Kent 5530 Telsa ter ---233-1518
 Johnson Kent C 4838 Marathon dr ---231-2015
 Johnson Kim 421 Walton pl ---249-4964
 Johnson L A 2104 Packers av ---244-3476
 Johnson L L 2705 Granada Way ---274-3023
 Johnson Lance 2121 Univ av ---238-7742
 Johnson Larry 444 Hawthorne ct ---251-5520
 Johnson Larry E 2009 Northport dr ---241-1779
 Johnson Larry E 424 N Pinckney ---255-5894
 Johnson Larry
 202B Eagle Heights Apts ---238-4149
 Johnson Laura 626 Langdon ---251-9291
 Johnson Laverne H
 502 Hummingbird la ---222-4374
 Johnson Lawrence 729 Mayer av ---244-9165
 Johnson Lawrence A 1301 Spring ---256-1496

2. Read question *e* that precedes the Kettle Moraine article. Then scan the material to find the answer. Record your answer. No key is provided for these types of questions since the answers may be easily found in the selection.

Maxwell, Jess E., "Wisconsin's Kettle Moraine," Reprinted with permission of *Skiing Magazine*, January, 1974, 115M. © 1974.

- e. What is the annual snowfall in the Kettle Moraine area? _____

Some 20,000 years ago, a giant glacier cut through southeastern Wisconsin, leaving behind a hilly, wooded, lake-studded region.

Today, this area is called the Kettle Moraine State Forest. It is considered by many to be the best cross-country ski region in the Midwest.

That's saying a lot when you consider that middle America is loaded with terrain similar to Scandinavia, where ski touring originated — like Michigan's rolling, remote Upper Peninsula or Minnesota's rugged, rocky Arrowhead country.

But Wisconsin's Kettle Moraine, located near Milwaukee, is a totally unique region with many interesting possibilities for Nordic skiing. Only one other area in the world can equal its glacial features and deposits — and that's in North Dakota, which doesn't have the snow, terrain, or population to rate as a top-notch X-C region. . . .

So, in the Kettle Moraine's state forest areas, you have 34,000 acres of hills, rocks, boulders, lakes, springs, ridges, forests, streams, and other things like historical markers, campgrounds, shelters, and scenic overlooks. Add to that about 50 inches of annual snowfall, and you have one super X-C region — with nine major trails that range from easy to "What the hell am I doing here!"

Actually, the Kettle Moraine State Forest is divided into two units: the northern unit, near Campbellsport, about an hour and a half north of Milwaukee; and the southern unit, near Eagle, about an hour southwest of Milwaukee.

- f. What are the outstanding features of the Kettle Moraine area?
- _____
- _____

Now read question *f*. If you already know the answer, you probably scanned too slowly in looking for the answer to question *e*. Follow this same procedure for the rest of the articles, being sure to record your answers. Find an answer to the first question and then use the second question as a check to see how efficiently you scanned. In each case you should *not* have found the answer to the second question if you're scanning effectively.

g. Which mountain cities have an occasional drought?

At any Alpine resort, you could always run into Americans from the Far West and even an occasional wanderer from the mountain states. For that matter, at Snowbird two years ago, I ran into a couple of Frenchmen from Grenoble. Skiers don't travel just for bargains. They're constantly looking for new experiences, and with the high cost of skiing worldwide, price is often not an overriding consideration.

I've been on ski vacations in Europe and the Rockies, in New England, and even (once) in the Midwest. I can't say that each was a pleasurable experience. Where things didn't pan out, invariably weather was the biggest factor. If you're just playing percentages, the Rockies would have to get the nod. But snow droughts are not unknown at Aspen, Taos, Sun Valley, or even Alta. And beautiful snow is possible at any ski area anywhere.

Europe's successive bad snow years, in fact, may influence more skiers to opt for the Rockies than the devaluation. On the other hand, if the snow is poor out West and Europe is blessed with abundant powder, the pendulum would swing the other way.

h. What is the main idea of these paragraphs?

"Down and Squawking." *FAA Aviation News*. March, 1973.

i. How many of the rescued persons are found shortly after going down?

However, it is not only Alaskan pilots who can benefit from the ELT. Figures from the Aerospace Rescue and Recovery Service indicate that the problem of missing airplanes occurs all across the land. With the general use of the ELT in the continental United States there is an excellent chance that all missing aircraft will be located, and located quickly. An FAA study has shown that 50% of all persons retrieved alive from downed aircraft situations are recovered within the first 12 hours of going down, and another 25% are recovered within the next 12 hours. The probability of safe recovery dwindles sharply after that.

Unfortunately there can be delays in the search

process. In many cases an emergency is not identified until the aircraft is reported as overdue at its destination, and thus many hours may elapse before a report is made. There might be further delays while a check is made of other airports to determine whether the pilot may have landed safely. Only after this check is made is the Civil Air Patrol alerted to begin its search. If the downed plane does not have an ELT on board, the search area can cover hundreds of square miles. If a pilot on a flight plan has an ELT on board, search planes can immediately head in his direction.

j. Which pilots benefit most from the use of the ELT? _____

k. Describe the mail pouch that the first Pony Express rider carried.

Down on Second Street in St. Joseph, Missouri, just across the street from Patee Park, at 5:00 p.m., April 3, 1860, the doors of the famous old Pike's Peak livery barn were suddenly thrown open and out through its portals came John W. "Billy" Richardson on a coal black steed which was to help mark the beginning of one of the world's most thrilling means of communication.

As the doors of the old livery barn swung open that day, a cannon boomed, flags were flying everywhere, and a vast concourse of people broke into a mighty roar of shouts and tumult to speed the first Pony Express rider on his way out into the great American wilderness.

Dashing through the crowd for a few blocks, the first leather pouch with its famous four pockets thrown across the pommel of the rider's saddle, in but a few moments the horse was springing from the bank to the steam ferry which at once began chugging away for the Kansas side. As the boat reached the western shore, the bell clanged, the gate was down and the intrepid rider sped away into the vast reaches beyond.

Out over the great stretches of Kansas prairie, across the Big Blue, on up the Little Blue, over the sandhills to the far reaches of the Platte dashed forward the "Fast Mail" to the western coast.

With the Pony Express "a nation was riding that night." About every ten miles a "way" station (where the rider changed horses), was located at a spring or stream, and about every 50 miles a "home" station where the riders could sleep, had been established — clear across the western continent along the Old Oregon and California trails.

l. Which trails did the Pony Express route follow? _____

m. What are the three reasons that a large percentage of a snail's offspring are destroyed?

The small shortage has been created by pollution and growing world consumption of the great French delicacy that has been described by the skittish as tasting like bits of rubber baked in garlic.

The French still export 72 tons a year, much of it to the United States. But not one of those snails ever has crawled on French soil.

French export companies spend \$38 million a year bringing in raw snails from 19 countries — including Turkey, Albania, Yugoslavia and Romania. They cook and package these foreign snails for sale at home and abroad.

In a display of trickery little short of scandalous, some restaurateurs have solved the shortage by filling the reusable shells in which snails are served with bits of beef lung in garlic butter — an outrage illegal in France.

The French government has enlisted the aid of Pierre Tochon of the French Research Institute for Agriculture and Breeding of Small Animals.

Tochon says native French snails have been practically wiped out by the use of insecticides and lack of conservation laws. The few hundred now collected by private French citizens are strictly for home consumption.

Hibernation is part of the problem. In nature, snails hibernate from November to April. The females lay eggs only once or twice a year. And a large percentage of one snail's 80 to 120 offspring are destroyed by cold weather, insecticides or rodents.

Researcher Raoul Peyre says the reproduction rate can be accelerated by maintaining the snails at about 72 degrees temperature and 80 percent humidity. Under such conditions, their hibernation cycles could be shortened and reproductive cycles lengthened.

He says snails could be made to lay eggs, sleep a month, then wake again for two months to lay more eggs. They could reproduce four times a year instead of once or twice.

n. Where do the French export companies get their raw snails?

o. Where does the alfalfa go after it leaves the feeders? _____

Are you familiar with the dehydration of alfalfa process? Here's the way it works: Forage harvesters cut and chop the green alfalfa in the field while the moisture is 75-80%. The wet alfalfa is then trucked to the dehydration plant and dumped into feeders. The feeders convey the alfalfa into the dehydration drums which remove the excess moisture by the use of high temperatures fired by natural gas. This allows the alfalfa chops to be conveyed to hammermills which process the chops into meal.

The meal is then conveyed to pellet mills which produce the final product. The moisture at this time is 8%. The dehydrated alfalfa pellets are ready for bulk shipment via rail or truck or to be stored for future delivery.

Dehydrated alfalfa pellets are one of the many feed ingredients that are used in complete rations for cattle, hogs, poultry, sheep and horses. In addition, dehydrated alfalfa pellets may be fed direct under certain conditions.

p. What is the moisture content of an alfalfa pellet? _____

3. Using a pencil, answer the following three questions (*q*, *r*, and *s*) as fast as you can. Use a watch with a second hand to time yourself for each part. Check your answers later by reviewing the material more slowly.

q. On the list below underline each state that is located in the far North of the United States.

Albuquerque, New Mexico	Madison, Wisconsin
Ann Arbor, Michigan	North Platte, Nebraska
Atlantic City, New Jersey	Northwood, Iowa
Bismark, North Dakota	Norton, Kansas
Boise, Idaho	Ocean City, Maryland
Charleston, Arkansas	Portland, Maine
Charleston, West Virginia	Portsmouth, New Hampshire
Durham, North Carolina	Pueblo, Colorado
Fredericksburg, Virginia	Reno, Nevada
Freeport, Illinois	St. Louis, Missouri
Glasgow, Montana	Seattle, Washington
Globe, Arizona	Vicksburg, Mississippi
Jackson, Mississippi	Virginia, Minnesota
Las Vegas, Nevada	Waddington, New York
Los Angeles, California	York, South Carolina

r. Review the above list again and check each city that is located on the East Coast.

- s. Listed below at the left are all the cities one traveler has visited. In the box to the right, certain countries are given. Compare the lists and underline each country in the box that the traveler has been to. Go as fast as you can.

Cities the traveler visited

Amsterdam, Netherlands
 Athens, Greece
 Barcelona, Spain
 Bonn, West Germany
 Brindisi, Italy
 Brussels, Belgium
 Caracas, Venezuela
 Candia, Crete
 Copenhagen, Denmark
 Helsinki, Finland
 Lima, Peru
 Lisbon, Portugal
 London, England
 Nice, France
 Prague, Czechoslovakia
 Santiago, Chile
 Split, Yugoslavia
 Vienna, Austria
 Warsaw, Poland
 Zurich, Switzerland

Countries

Argentina	Mexico
Australia	Mongolia
Austria	Netherlands
Belgium	New Guinea
Chile	Norway
China	Nova Scotia
Crete	Pakistan
Cuba	Peru
Czechoslovakia	Phillippines
Denmark	Poland
England	Portugal
Finland	Puerto Rico
France	Russia
Germany	South Africa
Greece	Spain
India	Sudan
Iran	Switzerland
Israel	Turkey
Italy	Venezuela
Korea	Yugoslavia

4. See how quickly you can scan the lines of the article below for all words that are unfamiliar to you. Underline them with a pencil as fast as you can. Most people, not in the medical field, will find approximately 15 unfamiliar words.

Gray, Henry, *Anatomy of the Human Body*, (29th ed.), Charles M. Goss (Ed.). Philadelphia: Lea & Febiger, 1973.

The medial intermuscular septum (*septum intermusculare [humeri] mediale*) is attached to the medial supracondylar ridge and extends from the medial epicondyle distally, to the Teres major and Latissimus dorsi insertions, proximally. Some of the fibers of the Triceps originate on its dorsal surface and some of the Brachialis on its ventral surface. It is pierced, near the epicondyle, by the ulnar nerve and superior ulnar collateral artery. The medial septum appears very much thicker than the lateral because the axillary sheath, containing the main vessels and nerves of the arm, blends with its ventral surface, and the nerves and vessels continue this close association down to the elbow. The two intermuscular septa and the investing fascia of the posterior aspect of the arm form the posterior or extensor compartment which contains the Triceps, radial nerve, and profunda

artery. The anterior or flexor compartment contains the Biceps, Brachialis, part of the Coracobrachialis, the brachial vessels, and the median and ulnar nerves. The relationship of the investing fascia to the muscles is different on the dorsal and ventral aspects of the arm. That over the Triceps is adherent to the muscle and is used in part for its origin. That over the Biceps is separated from the muscle by a distinct fascial cleft which is continued around the deep surface of the muscle, also separating it from the Brachialis. The ventral investing fascia, medially, just distal to the middle of the arm, is pierced by the basilic vein.

The *Coracobrachialis* (Fig. 6-36), the smallest of the three muscles in this region, is situated at the upper and medial part of the arm. It *arises* from the apex of the coracoid process, in common with the

short head of the Biceps brachii, and from the intermuscular septum between the two muscles; it is *inserted* by means of a flat tendon into an impression at the middle of the medial surface and border of the body of the humerus between the origins of the Triceps brachii and Brachialis. It is perforated by the musculocutaneous nerve.

Proceed to the Flexible reading and read the directions.

Flex Your Mental Muscles

FLEXIBLE READING

Discussion. "Computer Art" — the article that you're going to read next — probably contains some facts and figures that are entirely new to you. We hope so. Push through it as rapidly as possible, with this in mind.

Be ready to answer 5 questions instead of 10. The questions for the selections are always similar. Some are designed to test your general understanding and some test your recall of facts. Almost always, they test your *literal* comprehension. But occasionally we'll ask for *interpretations* too. Literal comprehension is essential to getting anything from what you read. Interpretation is a much more personal matter. Largely it depends on what you know before you read and how you put it all together.

Directions. Press the joystick button when you begin and again when you finish. Hopefully you'll get four out of five questions right.

Cross, Wilbur. "Computer Art." Reprinted with permission of *TWA Ambassador Magazine*, March, 1974, pp. 14-15. © 1974 by Trans World Airlines, Inc.

At a recent industrial design exhibit, two fabric patterns were displayed, quite similar in appeal and quality. Visitors were not surprised to learn it had taken an artist some 300 hours to design one of the patterns.

But the other had been produced, along with over 100 variations, in less than one minute — by a computer.

But was it really art?

You have to take creative computers seriously if you have any faith in such well-established authorities as the Smithsonian Institution or the Museum of Modern Art in New York City, where computer art has been exhibited, and well received by critics.

From the sublime to the ridiculous, computers can speak pig-Latin, give a five-minute imitation of a 10-piece orchestra, redesign all the pictures in your room, tell you how many times the word "Lord" is used in the *Bible*, and create salable art work.

Completely serious on the subject, the author of a recently published book, *Art and the Future*, claims, "The computer represents the ultimate creative tool for the artist-engineer-scientist, the ultimate fusion."

Although not much exposed to the general public, the computer's experiments with making-like-artists go back more than a decade. In the early 1960s, filmmakers began enlisting the aid of machines to see what they could do with animation. If you happened to visit Expo '67 in Montreal, you may recall seeing a film, *Man and His World*. It was animated by a computer. One of the obvious advantages of using a machine is that literally thousands of frames can be sketched in the time that it would take human hands to prepare half a dozen.

Skeptics of the computer's talents can check a local library for a copy of an unusual book, *Cybernetic Serendipity*, a handsome volume originally published by Motif Editions, London. It reproduces some dramatic examples of art by computer. One intriguing study, "Running Cola Is Africa," shows the artistic transition of a running man merging into a bottle of cola that, in turn, is transformed into a map of Africa. One of the more provocative designs, selected for the book's jacket, is described as — are you ready for this? — "X-ray Crystallography of the Molecular Structure of Chicken Fat."

Art is one thing, something you already associate with mechanical devices to some extent, such as metal rules and compasses and light boxes. But what about the more intangible creative fields, like poetry?

Margaret, are you saddening

Above the windy jumbles of the tide?

Wave to me in the peace of the night.

Jealousy is not all;

It is not refreshment or water.

These may not be the most inspired lines ever written, yet there is a certain plaintiveness and mood. Surprisingly so, considering this is one example from a thin, published volume, *Erato*. The author? An IBM 360/50 computer, whose normal function was to cope with budget figures and chemical formulations, until an English professor at Cleveland State University, Louis T. Milac, transformed it into a mechanical Milton.

Can a computer really create poetry? In the future it may well be possible. At present, the machine serves as a link in a creative process.

In the case of *Erato*, says Milac, "the procedure for generating these poems is quite simple." He selected lines of poetry from Whitman, Yeats, Auden and others and fed them into the computer, along with 500 numbers splashed at random and a list of key words the machine could substitute for words in the quoted lines. The computer then chose one number to determine how many lines the poem would have, a set of numbers to select lines of poetry from its "inventory," and a second set to pick out key words to substitute for existing words.

The process is so fast the computer can turn out more than 1,000 poems in the time it takes the operator to push the starter button and remove his finger.

Milac is the first to admit that inspiring computers to compose poetry is "an awkward and unnecessary way of doing things, like eating spaghetti with implements a yard long." You're not alone if you laugh the whole thing off, as did one author who quipped that programming a computer for poetry was like feeding neckties into a Waring blender.

Don't laugh too uproariously, though. Computers have already made so many inroads in the field of creative arts that entire catalogues have been published to record works that are the joint products of machines and man. Among the entries are not only art and poetry, but music, foreign-language dictionaries, sound-and-light dramatic scripts, still photography, motion-picture sequences, variations on dance steps, animation of comic strips and — admittedly imaginative — weather forecasts.

Computers are especially creative in music. Dr. John R. Pierce, director of research for Bell Laboratories, says, "A digital computer as a source of se-

quence of numbers, together with not very complicated equipment for turning this sequence of numbers into an electric wave that can drive a loudspeaker, is truly the universal instrument — the instrument which can, in principle, create any sound that can be created . . ."

It's no great surprise that a machine composed "Music from Mathematics," a score later published by Decca. But would you believe a computer could actually perform *live*? This feat was demonstrated by a Bendix G-15, as "middle musician," performing in a composition entitled "Three-Part Music With a Computer as One Part," assisted by humans on oboe and bass viol.

"The computer," reported one review, "sounds like an organ playing a flute duet. The pitch is relative and the timing more precise than a metronome."

Computers are great mimics. Musicians love to tell about the one trained to be a reincarnation of Stephen Foster. How? Simply by force-feeding it hundreds of elements from the musical scores of the late composer. The results almost incited a riot. Confirmed Foster buffs, who claimed to know every last note their idol had ever written, recognized the music as "pure Foster," but were frustrated to tears when they failed to identify the composition by name, date or subject.

This episode opened up a knotty legal question: can you educate your favorite computer to digest random hit tunes and piece them together again and market the resulting compositions without being sued for copyright infringement? Well, you might, but then you would have no legal rights to the "new" tunes.

"Unless a *human being* is the author of a work," reports the U.S. Copyright Office, "we cannot consider registration of a claim to copyright."

Yet there are plenty of other creative fields to conquer. Just last summer, the fairly conservative *Wall Street Journal* went so far as to report in front-page headlines: "Latest Machines See, Hear, Speak and Sing — And May Outthink Man." Reference was to the ever-improving capability of computers to mimic man's vocal cords.

Already, a computer at the University of Utah has managed to remove the interference from a 50-year-old recording of Enrico Caruso so that "the magnificent tenor voice emerges from the loudspeakers with all the sparkle of high-fidelity sound."

If you have a yen to hear what a mechanical brain may be thinking, you can now sit down, at any one of numerous labs across the country, and converse with a computer. "Air the heavens, we have seen the light," one might well say to you with evangelical fervor, quoting from a philosophical work of its own creation. "God is in gear. All come!"

Like people, computers can be many personalities, ranging from highly intellectual to simple, earthy, fun-loving types. The brainier ones have analyzed pre-Columbian pottery, researched a social history of Boston, and proved that Shakespeare had a collaborator. Then, there was the Datatron that whipped up a Tin Pan Alley tune lovingly referred to as "Push-

button Bertha." Other light-hearted models will compose a limerick for your birthday, spew forth a collection of puns and jokes, or concoct recipes for bar drinks no one has ever heard of before.

As one computer boasted, aloud, "You cannot drain me. I am tapped into the creative warehouses of mankind. And the libraries of the universe."

Press the joystick button to **STOP** the timer.

1. The author of *Art and the Future* recently proclaimed that
 - a. computer art could never be unique
 - b. computer art would never be worth anything
 - c. the computer had no place in creative art
 - d. the computer was the ultimate creative tool
2. When it comes to computer poetry, the author of the selection feels that
 - a. truly creative work may be possible in the future
 - b. truly creative work is beyond the scope of the computer
 - c. the computer amounts only to a mimic
 - d. computers have already created master works
3. The author says that in the time it takes to turn it on, the computer can turn out
 - a. a dozen poems
 - b. 1,000 poems
 - c. hundreds of rhymes
 - d. endless lines of uninspired doggerel
4. Computers are especially creative in
 - a. art
 - b. music
 - c. comedy
 - d. creative dramatics
5. What interesting legal questions did one episode with a mimicking computer raise?
 - a. Who owns computer-made materials?
 - b. Can you feed original material into a computer?
 - c. Can you request any personal information from computers?
 - d. Can you market computer arrangements without violating copyrights?

SUCCESS LOG FLEXIBLE READING

READING SPEED _____ WPM
COMPREHENSION SCORE _____ %
(10 points per correct answer)

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 3

READING EFFICIENCY INDEX _____

Directions

1. Refer to the three Unit 3 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
2. Record your Unit 3 REI above *and* on the REI Record page in the back of your Workbook.
3. Press **START** to load the Reading Progress Graph. While the graph loads, read “To Your Advantage” below.

TO YOUR ADVANTAGE

How did you do with the scanning technique? You may need to practice it some more before you are comfortable with it. While you won't need to use scanning every time you read, when you do, it will save you invaluable time. The activities in this unit make clear how much you can benefit from turning your personal reading into extra practice. Magazines, newspapers, junk mail, cereal boxes — anything at all can be helpful. Read it fast and stretch out your speed.

Your reasons for taking this course and what you want to get from it are as personal as what you like to read. Another personal matter: Some exercises will be easy for you, some harder. As we've suggested, extra practice can help.

The important thing to remember: You don't have to be equally good at every part of this course to profit from it personally. Make your best effort on each unit. And make it work to your advantage.

4. Enter your Pretest and Units 1-3 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
5. Press **START** to view your graph.

UNIT 4

DISCOVERING YOUR POTENTIAL

- To begin Unit 4 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 2 with Side 2 up.
- After listening to the audio segment, turn to the Warm-up and read the directions.

WARM-UP EXERCISE

Directions. Get warmed-up and concentrating in this exercise. Look for a synonym of the initial word instead of just matching it. For example, if the initial word is *fast*, the correct answer would be *quick* from among the choices: slow, fast, run, quick, and quack.

Identifying synonyms is more difficult than matching, so you may want to set your Reading Window Rate at 60 to begin the exercise. As you become familiar with the activity, increase your speed as usual. Try repeating the exercise to gain more confidence at higher speeds. Always push the joystick button to start and to indicate each answer. Record your results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting in the space provided at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Directions. We've just talked about learning to see and process more information with each eye stop. To practice this skill, try to fixate only once on each phrase as it occurs in the Reading Window. Set your words-per-minute rate fast enough so you can only pause very briefly at each stop. Also, concentrate on the ideas as they are presented, and try to predict what some words are based on the context in which they occur.

Enter your wpm rate—make a modest increase over Unit 3—and push the joystick button when you are ready to begin. Record your rate below.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting in the space provided at the beginning of the Paced reading.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

Pacing Yourself

PACED READING

Tape Counter Setting _____

Directions. Read this selection and look for the *ideas*. Discover the author's predictions for the use of the unusual scientific apparatus. Use your new skills to help you.

To set your tpm rate, again, consider your results. A good rule of thumb is to increase your tpm rate by 40, if you are generally scoring well, say, 70% or better. If you are scoring below 70%, make a modest increase or keep the same tpm rate for two or three selections.

Set your rate when the screen appears and press the joystick button to start and stop the timer. Don't forget to record your rate and comprehension score, as usual.

Cloud, Wallace. "Now They'll Know You by Your 'Smell Print'." Reprinted by permission, *Popular Mechanics*, February 1968, pp. 101-103, 196, 199. © The Hearst Corp.

The weird apparatus looked like a classic prop for a science-fiction movie: A horizontal, heavy-walled cylinder of Pyrex glass, big enough to hold a human body. Tanks of compressed gas. Bubbling, fuming flasks of supercold liquid nitrogen.

"Strip to your shorts," said Dr. Boguslaw Krotoszynski. "Vapors from your clothing would add extraneous data to the recording."

I was going "into the tube" at the Illinois Institute of Technology Research Institute in Chicago. Suspended animation? Not quite. I was about to have my olfactronic signature recorded. That means the apparatus was going to collect a sample of the unique combination of odors given off by my body, then analyze my "smell print." A little like being sniffed for recognition by a dog, but far more precise and informative.

I lay down on the loader assembly — a narrow stretcher of Teflon-coated steel tubing and Teflon straps — and Dr. Krotoszynski pushed the loader along on its rails. The "human test tube" swallowed me up. I had to pull my shoulders together to fit in, since the cylinder was only 18 inches in diameter.

The hiss of air flowing into the tube began, then I heard the clank of quick-release bolts sealing me in. Unintelligible voices from outside echoed in the tube. Through the curved glass, Dr. Krotoszynski's distorted image waved at me and then went away.

I was in the tube for 45 minutes. It became a bit stuffy. I squirmed to find a semi-comfortable position. There was an itch I couldn't scratch.

Olfactronics, the new science of smells, is already making a name for itself. Its best-known achievement to date is the "people-sniffer," developed by General Electric, that's being used successfully to detect enemy troops hidden in the jungles of Vietnam. An olfactronic bomb detector has been developed to smell out explosives hidden with murderous intent

aboard airliners. In the future, precise smell analysis will help doctors to diagnose diseases. Sniffers will be used in industrial process control and even by electronics servicemen to identify malfunctioning components.

Until only a few years ago, smells were beyond scientific analysis. Odors consist of such small quantities of vapor in the air that instruments were not sensitive enough to check them out. But this has all changed. Apparatus such as that used at the IITRI olfactronics laboratory is now capable of detecting many substances 1/100th to 1/10,000th as concentrated as those noticeable to the nose.

"Is the apparatus more sensitive than a dog's nose?" I asked Dr. Andrew Dravnieks, who is in charge of the lab, after they let me out of the tube.

"We're not really sure just how sensitive dogs are," he said. "Undoubtedly dogs can detect some odors we can't smell, but they have an added advantage in the geometry of their noses. A dog can get his nose into the boundary layer of air one to two millimeters from the surface of the ground or an object. In that relatively stagnant layer of air, odors are much less dispersed than in moving air farther away."

In the tube, very pure air had been passed over me. The vapors given off by my skin and breath had been collected in a small glass tube filled with Teflon particles coated with a highly refined petroleum grease. The grease didn't retain water vapor or carbon dioxide, but did trap all the organic substances from the air.

The findings from this and other samples are being used in a project sponsored by the Army Ballistics Laboratory to analyze the characteristic odor signatures of various kinds of people. People give off about 100 different organic substances in vapor form. From 30 to 50 of these compounds emanate from any one person at a given time. A pattern of specific subs-

tances, in characteristic amounts, makes up his particular signature.

My signature would be written by the wiggling pen of a chart recorder after the sample had been concentrated. The sample tube, with helium gas flowing through it, was being heated in an oven to drive off the vapors. The helium passed into a smaller collecting tube cooled by liquid nitrogen, where the vapors were frozen out and trapped again.

"It's necessary to be very fussy in handling these samples," Dr. Dravnieks explained. "The total quantity of material is very small — about one microgram. For comparison, the weight of a fingerprint is from five to 50 micrograms."

The system is so sensitive it can detect some substances in concentrations as low as 1/10th of a part per billion in the air. That's sensitivity on the order of detecting a puff of cigaret smoke in four or five times the volume of the Empire State Building.

Dr. Krotoszynski, Dr. Dravnieks's associate, was now preparing to inject the sample into the instrument that performed the actual analysis, using the technique called gas chromatography. In this device, the vapors are once more trapped by a filtering material, then revaporized by heat. The substances in the mixture do not emerge simultaneously, but one at a time, and are detected by the way they affect the electrical conductivity of a hot gas. The signals are automatically recorded, each substance registering as a peak on the chart.

The recorder pen began to move, drawing peaks and valleys on a chart that would be three feet long.

"That's you," said Dr. Dravnieks.

"I don't recognize myself," I said. "What can you tell about me from this?"

"Well, we can't tell very much about these signatures just by looking at them. But when we put the data into a computer, it sorts out the similarities and differences between your signature and others. On a signature, we don't even know what substances most of the peaks represent. And right now we don't care. We're looking for patterns — for the characteristics of different types of people.

Dr. Dravnieks showed me a map plotted from the signatures of about 30 volunteers. There were three distinct groups. One group, he said, represented white male subjects, showing a definite similarity, and another group stood for white female subjects. The third group surprised me. Dr. Dravnieks said it represented the signatures of a group of male students from India studying at IIT.

Friend or enemy — which?

The "people sniffer" used in Vietnam recognizes human beings by traces of ammonia produced in sweat. But it cannot distinguish between American

troops and the Vietcong. If the olfactive signatures of Americans and at least one group of Asiatics are recognizably different, perhaps eventually it will be possible to develop a sniffer that can distinguish between friend and foe.

After enough olfactive signatures have been studied, significant peaks and the substances they represent will be identified. Then a simplified detector for spotting those substances can be developed, just as GE developed a simple ammonia detector.

The same sort of thing had been done in the development of a bomb detector by IITRI for the Federal Aviation Agency. Capable of monitoring the air from the passenger and luggage compartments of an airliner for a single substance given off by dynamite, it is due to be field-tested by the FAA soon. IITRI tests have already shown that the device can identify the telltale odor on a person who has handled dynamite even after he has washed his hands.

A compact box, the bomb detector can be installed in service trucks that supply airconditioning to planes during loading and unloading at the airport. Any trace of the key substance from explosives brought aboard a plane would set off an alarm.

Thus olfactronics is not limited to odors produced by people. Dr. Dravnieks showed me two olfactive signatures taken from a transistor radio — one with the radio off, the other with it switched on. There was a noticeable difference between the charts.

A smelly resistor shows up

"You see that peak?" he said. "That's an overheating resistor. We deliberately introduced a malfunction into the circuit to see if we could detect it. Complex electronic devices, such as computers, could be continuously monitored to detect malfunctions before they cause a breakdown. Mechanical systems, such as engines, can also be monitored — for example, to spot overheated bearings."

But the brightest future for olfactronics may be in medicine. Since human odors have their origins in biological processes, changes in odor signatures can be used to detect biological malfunctions. Physicians already use their sense of smell in diagnosing diseases, and about 40 different medical conditions are known to have associated odors. But the usefulness of this tool depends on the personal experience of the doctor.

An example: Some years ago, doctors in a New York hospital had difficulty diagnosing a patient's illness. A physician who had had experience in China was called in. He walked into the room and immediately identified the condition as a form of smallpox common in the Far East but rare here. He recognized it by an odor.

Eventually, it is expected that olfactronic instruments, more dependable and expert than a doctor's nose, will be among the most sensitive of medicine's diagnostic tools. They may be able to spot some diseases even before people know they are sick. And they will be used for disease prevention — in schools, say, where the unsuspected carriers of airborne diseases like tuberculosis will be detected by monitoring the air.

At present, says Dr. Dravnieks, much more needs to be learned about basic human odor signatures before such medical uses become possible. "We know that an individual's signature can change, but we don't yet know much about what causes the change."

One factor that has an effect on a person's olfactronic signature is diet. If a person changes his eating habits radically, this can change his signature over a period of several days. It's also possible that long-term differences in diet may be responsible for some

distinctions between the olfactronic signatures of different groups of people. Women, for example, often have different eating habits from men. And the Indian students tested by Dr. Dravnieks tend to be vegetarians. Deodorants, incidentally, don't really change a person's olfactronic signature, although they reduce the size of the peaks on the recording.

Olfactronics will become useful in criminology, Dr. Dravnieks thinks. "Since a person leaves a little bit of his odor wherever he goes, sampling the air at the scene of a crime could tell you who has been there. It can also work the other way around. A place leaves odors on a person's skin and clothes — so taking his olfactronic signature can tell you where he has been."

Farfetched? Not at all, now that science has found a way to study another of our sensory worlds — the world of smells.

Press the joystick button to **STOP** the timer.

1. The smell detector is shaped like a
 - a. rectangle with glass and steel lining
 - b. vertical, six-sided steel shaft
 - c. horizontal, heavy-walled glass cylinder
 - d. horizontal cylinder with a circumference of almost six inches
2. How long was the author in the smell detector?
 - a. 18 minutes
 - b. 45 minutes
 - c. 60 minutes
 - d. 120 minutes
3. The new science of smell is called
 - a. olfactronics
 - b. scientronics
 - c. olfrasnuffs
 - d. nostranosis
4. Smells were beyond scientific analysis until recently because
 - a. no one had seriously considered smell analysis valuable
 - b. detecting instruments were not sensitive enough
 - c. odors consist of invisible vapor
 - d. the developmental costs are astronomical
5. About how many different organic substances do people give off in vapor form?
 - a. 10
 - b. 40
 - c. 65
 - d. 100
6. The smell analysis system is so sensitive it can detect
 - a. thirty times as many odors as one average dog
 - b. forest fires at a range of twenty miles upwind
 - c. an enemy platoon up to eight miles distant
 - d. a single puff of cigaret smoke in volume equal to five Empire State Buildings

7. The first priority task of the researchers was to discover
 - a. scent difference between different races
 - b. all the different scent vapors a human emits
 - c. characteristic patterns of different types of people
 - d. precise patterns for individuals
8. The "people sniffer" used in Vietnam recognized human beings by traces of
 - a. ammonia
 - b. metal
 - c. cigaret smoke
 - d. types of cloth
9. The author feels that the most promising use of olfactronics in the future may be to detect
 - a. drugs
 - b. explosives on airplanes
 - c. enemy forces during wartime
 - d. biological malfunctions
10. Olfactronics may become useful in criminology because
 - a. counterfeit money has a characteristic scent pattern
 - b. violent acts evoke distinctive odors
 - c. scent patterns can readily be filed along with fingerprints
 - d. both people and places have distinctive odors

SUCCESS LOG PACED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

PRESS **START** TO CONTINUE.

Time Trial

TIMED READING

Directions. The challenge: To maintain a fast pace on the following article, and still be ready to answer at least 7 out of the 10 questions accurately. Record your scores.

Melton, Louise. "And Now, a Bit of Lib Service to that Oft-Msjudged Mortal, the Unemployed Superperson." Reprinted from *Northliner*, inflight magazine of North Central Airlines, Fall, 1973, pp. 16-19.

Both the agony and the ecstasy of being a highly educated and/or talented woman seeking a job is that so many other highly educated and/or talented superpersons seem also to be out of work these days. Our unemployment rolls are a triumph of American education.

Having been there, I feel qualified to offer the novice — be she panting for a career the very day her last moppet enters nursery school, or be she a laid-off executive — some advice and insights she might not otherwise have unless she likes to hang out with aerospace engineers a lot.

The agony of being an unemployed superperson: For every job opening for — say — a plasma physicist with three years' experience in data processing and the ability to type 40 words per minute, there must be 16 guys, two fugitive housewives with doctorates, and a preternaturally clever retired Admiral queuing up outside the advertiser's personnel office clutching resumes still warm from the Xerox machine.

The sense of camaraderie that develops between the same old superpeople applying for the same few jobs is about the only ecstasy I can think of, and I mention it only in the interest of preserving the tenuous illusion of objectivity.

It's nice as you sink wearily into a succession of identical yellow vinyl chairs hugging your ego to your bosom, to recognize the red grenadier moustache you were sure got the last job you applied for. It's reassuring to hear the grating nasal accomplishments of a rival issuing out of the personnel director's cubicle, and to know that your own coolly modulated "good afternoon" will get you at least a lunch date with the systems group leader in charge of non-defense wea-

pons research.

If you're clever, and modestly unscrupulous, you can use these fleeting encounters with the competition to strike up friendly little information-gathering conversations. It's perfectly acceptable to say, "Hi, I'm Ms. X. Are you here for an interview, too?" Never start with anything so bald and squinty-eyed as, "Don't try to deny it — I *know* you're here for the senior refractor analyst's job!"

If you should happen to make such a remark to a rival, or — God forbid — to the systems group leader himself, you might as well fling yourself off the nearest parapet and have done with it.

But if you're insensitive enough to put up with slithery interviewers in tight fraternity rings questioning your summa cum credentials and calling you by your first name, stick in there.

Don't even let it worry you when your own specific employment history doesn't match up with what the apple-cheeked sisters in personnel listed in the classifieds. The gorgeous thing about being a superperson is your fine mind, your thirst for knowledge, your willingness to learn new skills and to explore, to expand your professional horizons — to lie on your resume.

Of course it isn't a good idea to apply for an Avon lady job if you never wear makeup, or to shoot for vice-president in charge of public relations if your last job was as an IRS investigator. But do make the most of your resume.

Say, for example, you're applying for assistant advertising director. Search your past — even that dim traumatic memory known as adolescence. If you waited on tables summers at the beach and got

suckered into typing up the stencils for the daily mimeographed menus, you were a junior copywriter for Le Restaurant du Plage. If you're lusting after a marketing manager's slot with Sic Transit Electronics, Inc., and you promised to bust Mary Jane Pickett in the mouth if she didn't get out and hustle those Girl Scout cookies, you weren't just the kid who got stuck with the whole consignment — you were local distribution director for a nationally organized fund-raising campaign.

Of course it doesn't make any sense. It doesn't have to, as long as all the proper buzz words are there to catch the personnel man's eye. It's important words like *copywriter* and *distribution director* that work for you.

Good words to throw in depend on the particular profession you are aiming for. Your best bet is to pick up a dull — the duller the better — industry journal and find which words annoy you most by reason of their over-frequent appearance. Computer freaks, for example, love initials like M.I.S. [Management Information Systems], and M.F.T. [Multi-programming Fixed Tasking]. School superintendents, when hiring teachers, like to talk about *tracks*, *pupil readiness*, *motivational studies*, and *relevance*. They don't like to talk about *money*.

The words *extensive experience* for some unknown reason will almost automatically get you to the second interview in any profession even if you write "extensive experience experiencing extensives." It's those first two words the personnel man scratches under with a red felt-tipped pen.

Now, a very important point for the job hunting superperson to remember: don't waste your big guns on the first interview. Sure, you need to leave a good enough impression to get them to call you back and talk with someone Real, but it's better to fire a few short bursts of Competent and Interesting and save the big blam of Wonderful for someone who can understand enough about what it is you do, to appreciate how well you do it.

There's a story, probably apocryphal, about an architect/city planner who murdered a personnel interviewer with an exactly detailed scale model of the cities of Brussels, Amsterdam and Copenhagen as they would look if they had completely new solar-powered rapid transit systems, 23% more public recreational area, and partridges in all their pear trees. The story goes that the personnel man, upon being shown this architectural wonder, glanced at it, then droned, "And after M.I.T., you went to Cal Tech, is that right?"

One thing to remember about personnel people is they are very literal-minded. They want *all* the little blanks in their forms filled out completely even though they have a sadistic tendency to give you a

block ¼-inch deep by 1-inch long for your entire educational record starting with Miss Randolph's first grade right down to post-doctoral research.

And don't forget the dates.

I can't generalize for all superpersons, but it seems to me there is something about being multi-talented and wonderful that makes it impossible to get academic years straight as opposed to fiscal years and/or calendar years, Alexandrian, Gregorian or whatnot. For example, did you attend Wellesley between 9/58 and 6/62 or, more mysteriously, between 9/58 and 1/59 and 9/59 to 6/62? How *do* you count the semester you were out with mono you caught from your roommate, the one everyone called Camille because of her endearing little cough?

Dates can screw up your credibility on work experience, too. You say, based on your old tax records, that you were a quality control engineer for Automation Associates from 4/63 to 10/67, but the video display terminal in their personnel office reads out 4/63 to 10/60 and your former boss can recall only that you came to work right before sales started falling off, so it must have been sometime in the spring of whatever year you say it was. And God knows what you put on your resume. Whatever it was, it doesn't match the dates you scrawled on your application blank with the personnel receptionist's cracked and chewed Bic.

Another part of the employment application to be wary of is an innocuous space where you're supposed to list your "interests and hobbies." It's always the largest space. They do it deliberately to make you feel guilty when you leave it mostly blank. You're on firm ground when you list your academic and professional honors, but even Eleanor Roosevelt would have been cowed by "interests and hobbies."

Somehow the word *reading* looks time-wasting. It could mean anything from Newtonian physics to *Nancy Drew and the Hidden Staircase*. Painting is risky because it smacks of suburban evening classes for the *dilettante* haus frau. Sports activities are all right, but you are in some danger of being snagged into departmental volleyball intermurals. Golf is nice. It sounds solid and middle class. Honest answers like *sloth*, *puttering*, and *thinking of excuses not to attend PTA meetings* are going to get you tossed into the flush letter pile.

Try for something esoteric and impressive — and obscure — so they can't ask specific questions. I mean, who's really going to shake your hand, offer you a cup of brackish office coffee, and say, "Nice to see you. I understand you are interested in the genetic trans-mutational processes of an extinct species of *Cavia cobaya*."? If you're trying to get a job with a guinea pig breeder, of course, that would be a bad hobby to fake. But it just might work if

you're aching to be a tech writer for the Black Strap Molasses and Birdseed Company.

You'll just have to make your own choice. If you really do dig gardening, you might as well own up to it. Who knows? Maybe the chairman of the board spends more time with his dahlias than with his directors.

Most of this advice, is, admittedly, available in greater and more exquisite detail from professionals in the field of matching Terrific People with Terrific Jobs. At least, that's what the headhunters and executive career counselors would have us believe.

Everyone who has ever been an unemployed professional has his own opinion of headhunters — men who call you on the phone during dinner and offer, for a fee *sometimes* paid by the prospective employer, to do the tedious work of polishing your resume and sending it out where it will do the most good. The headhunters claim to have private information about positions opening up that do not appear in want ads, and in a booming economy this is certainly often true. Companies get hungry for good people and they're willing to pay headhunters hefty bounties for them. But in a sluggish, recession-in-all-but-name economy, a headhunter can be a definite detriment. Why should J. Paul Bull and Sons pay some clown who turned to headhunting because he is himself an out-of-work chemist to find men and women who are already howling at the personnel office door?

Headhunters also have a less-than-admirable affection for setting up as many far distant interviews as possible for jobs only vaguely related to your background and desires. If you are a corporation lawyer specializing in real estate and land litigation, your headhunter will schedule you to audition as legal advisor to a muffin manufacturer in Richmond, Virginia at 9 a.m. on Monday and have you pretending you know something about stock transactions for an unimpressed broker in New York early that afternoon.

Executive career counselors have more class than to send you chasing every wild goose in the job market, however. As a matter of fact, they don't guarantee to get you a job at all. [Grubbing after mere employment is, after all, crass merchantile behavior and as keepers of the keys to the new technologic aristocracy, these slick silk-tied devils are above such demeaning activity.]

What they are not above, however, is ripping you off for a couple thousand while they "counsel" you to type all correspondence and ask for less money than you are really willing to settle for. Well — perhaps they *do* offer more than that, but as a woman you'll be spared the "family" treatment men get. If a male job-hunter walks into their offices, they'll offer to counsel his wife, too, in the art of being a good little executive helpmeet. One outfit even prepares a little-pink-bordered pamphlet for wives called "How _____ Helped Her Man MAKE It!" with the appropriate name written into the blank by a secretary who almost learned how to use an italic nib.

They'll also give you a battery of tests from aptitudinal to psychological, most of which were originally designed to weed out dangerous paranoids from the freshman class of Mary Baldwin College. The results will show that you're a better woman for having undergone their six-week charm school for moguls and you'll get a hearty masculine handshake as you stumble off to resume calling old friends and reading classifieds.

The main thing for an unemployed superperson to do is to stay loose emotionally. It's a pretty rough jolt for anyone to be out of work — male or female. But when you've spent the better part of your life in schools that promised you'd be happily employed ever after so long as you had that expensive degree, it is even more difficult. So keep yourself busy. Read books like *How To Eat Well On Practically Nothing* and *Welfare for the \$40,000-a-Year-Girl*. Learn a reliable trade like carpentry, piano tuning, or harness making. And don't start looking around for a man — they're unemployed, too, a lot of them.

Above all, avoid making depressing statements like "Harry Freebish has a job and Harry Freebish is an idiot!" That attitude can only be counterproductive especially since Harry Freebish is probably the personnel director of the only company in your area that's hiring.

And if you hear of anything for an unemployed superperson with a Master's who can write, type 30 wpm, do advanced calculus and tapdance, please write me in care of this magazine.

A freelancer living in Framingham, Mass., Superperson Louise Melton teaches creative resume writing when she's not out looking for work.

Press the joystick button to **STOP** the timer.

1. The tone of the article is
 - a. bitter
 - b. radical
 - c. cynically humorous
 - d. pedantic

2. The author feels the American educational system contributes to unemployment because
 - a. going to school does not prepare one for a job
 - b. the system creates superpersons who are too egotistical to work
 - c. colleges want students to remain students forever
 - d. years of education sometimes leave superpersons helpless in the job market
3. The author feels that all one needs to do to match up the demands advertised in the classifieds is to
 - a. lie on his/her resume
 - b. emphasize all the superperson attributes
 - c. make other applicants appear unworthy by comparison
 - d. express a willingness to learn
4. If you were ever suckered into typing the daily menu while you were employed as a waitress, you should tell your interviewer that you
 - a. have extensive typing experience
 - b. were a junior copywriter for a swanky restaurant
 - c. will only do what you are hired to do
 - d. have demonstrated extreme versatility under stress
5. The buzz words that catch the personnel manager's eye are
 - a. technical, intellectual words scattered throughout the resume
 - b. words like "golf" or "volleyball" under the hobby section
 - c. words like "copywriter" or "distribution director"
 - d. fantastic figure measurements, like 39-23-36
6. What are the first two words the personnel manager scratches under with his red felt-tipped pen?
 - a. extensive experience
 - b. name of the college you attended, e.g. Weybelow Normal
 - c. your last employer's name, e.g. I. Magnin
 - d. convicted felon
7. The author observes that the superperson's record from first grade through post-doctoral research must be summarized
 - a. in the space it takes to name Grover Cleveland Memorial Kindergarten in petite print
 - b. in mind-boggling detail on multiple sheets of unlined paper
 - c. in order to make the applicant feel undereducated no matter what
 - d. to expose any tendency to transfer schools or to move across state lines
8. The author feels the "interests and hobbies" blank on the resume is the largest because
 - a. the employer takes great interest in employees' leisure activities
 - b. hobbies reveal a great deal about a person's character
 - c. it is a deliberate attempt to make the applicant feel guilty
 - d. the company athletic director is always on the lookout for prospects
9. The author advises the unemployed superwoman to
 - a. look around for a man
 - b. remind herself that Harry Freebish is an idiot but he has a job
 - c. stay loose emotionally
 - d. never lose hope
10. Louise Melton, the author,
 - a. leaps over buildings in single bounds
 - b. taught remedial calculus before the program was phased out at Harry Truman Technical College
 - c. is such a superperson that she has never been employed
 - d. teaches creative resume writing when not looking for work

SUCCESS LOG TIMED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

A Great Time Saver

TECHNIQUES

Tape Counter Setting _____

Discussion. Practice your skimming techniques! Remember, skimming is different from scanning, because you are not looking for a specific fact. You're trying to find more general information that will give you the "gist" of the selection you're reading. To skim, identify the key words and phrases. The following exercises will help you learn this skill.

1. When you skim, first note the title of a selection (or, if none, briefly glance over the paragraphs) to get a notion of the topic. Then, begin to pick out the key, or prominent, words. Those words are the ones that say the most to you about the topic.

As you identify the key words, you learn more about the content of the selection. For example, paragraph a is about cardiac compression. Skim this paragraph by identifying the words that say the most to you about this topic. For practice, underline the key words.

a.

The primary purpose of cardiac compression is to rapidly restore the flow of oxygenated blood through the arteries to the brain. The heart lies between the sternum (breast bone) and the spinal column. When the lower part of the sternum is pressed down toward the spinal column, the heart is compressed and blood is forced from both the right and left ventricles. The valves in the heart prevent the blood from being forced backward; so it is pushed out into the arteries.

Now compare your key words with our list below. Keep in mind that choosing key words is personal, because individuals' backgrounds and experiences differ. Generally, however, you should have underlined more than a few words, but certainly not every other word!

purpose	cardiac compression	restore	blood	brain	heart
sternum	spinal column	sternum	pressed down	spinal	
column heart	blood is forced	ventricles	valves	prevent	
forced backward		arteries			

2. In paragraph *b* we underlined some key words for you. Skim it by noting the words and their relation to the topic, which is "Skimming." The words should give you more information about skimming. Reskim paragraph *b* later to check your information.

Pauk, Walter. "The Art of Skimming," *Reading Improvement*, II (Winter 1965), pp. 29-31. Cited by Cassel, Russell N. (Ed. & Pub.) *Educational Digest*, 1965, pp. 30, 46.

b.

The most productive and versatile of reading skills is skimming. It is highly productive as a tool for searching the pages of a book for an individual or for a general item.

Some people object that "skimming is reading at a superficial level," and maintain that "anything worth reading is worth reading well." But skimming is not a substitute for reading; skimming is usually a prelude to reading. Through skimming, the student can eliminate books or portions of books not worth reading, thus saving time so that he can read thoroughly those books or portions of books adjudged worthwhile.



Now skim paragraph *c* the same way you did paragraph *b*. It is about a stomach ulcer.

c.

A stomach ulcer is usually caused by too much tension. Undergoing continual stress causes the body to secrete an excessive amount of digestive fluids. These include hydrochloric acid and pepsin which are both very corrosive. They may wear away at one spot of the protective lining. Once they seep through, the damage may be irreparable (at least without surgery). To prevent such ulcers, hypertensive people should learn how to relax regularly. But, if they do experience the tell-tale lower stomach pains, a medical check-up is warranted. A neglected ulcer can lead to serious complications, and malignancy is always a possibility.



3. Practice makes perfect! Skim paragraphs *d - g* by first noting the title, and then underlining the key words and/or short phrases. Remember, you choose key words according to their relation to the topic and not according to their position, length, or number within a sentence or paragraph. Check your key words with ours in the Answer Key. While not every word (or phrase) has to match, you may determine whether you are choosing too many words, for example, reading instead of skimming and picking up too many details. Or choosing too few words, that is, not enough to determine what the paragraph is about.

Dalrymple, Byron W. "Bass Fishing." Reprinted from *Sports Afield Magazine*, July 1969 Issue. © 1969 by The Hearst Corp.

d.

We were drifting off a small rocky island in Elephant Butte Lake, New Mexico, casting deep-running plugs toward the steeply slanted shoreline. I was using a "countdown" lure. You cast it and count off seconds, each second equaling a foot of depth to which the lure has sunk. It was difficult to know just where to stop, since I was not familiar with the lake's bottom. Fortunately, a bass gave me a clue.

As the lure settled, presumably wobbling a bit as it sank, the line suddenly tightened. Reflexively, I hit back. I was fast to a bass that freewheeled away in grand style, then sawed line against the surface and came up to burst forth in a most satisfying display. I would like to tell how an eight-pounder really took me 'round and 'round. But, it was not that large. I guessed it at three and was happy. In my estimation bass about this size are the most active fighters, and the best for filleting.



"Down and Squawking." *FAA Aviation News*.
March, 1973.

e.

The plane which is never found produces its own special kind of tragedy. Between 1964 and 1971 there was a total of 940 missing planes in the United States, and of that number 117 have never been found. The shock of a missing plane is enormous for the pilot's family: the hours of waiting, then the days, the uncertainty, and as the weeks pass the waning hope of recovery. And finally there is the anguish of never really knowing what happened.

In addition to these emotional factors, there are also important financial considerations at stake. Often, estates cannot be settled for missing people until seven years have elapsed and a presumption of death established. Many of the estates of the people involved in those 117 missing planes have not yet been settled, causing problems with insurance and family finances. Hence the need to find missing aircraft, whether or not there are survivors.



4. To be sure you are on the right track in picking out key words, skim paragraphs *h - k* and underline the important words and phrases. After you underline the paragraph, write down, in a word or two, what the paragraph is about. Compare your answers with ours, as you did for paragraphs *d - g*. Remember, don't slip into an old habit, begin reading instead of skimming, and end up underlining every other word!

Wulff, Lee. "The Wonderful Brookies of Minipi." Reprinted from *Sports Afield Magazine*, July 1969 Issue © 1969 by The Hearst Corp.

f.

Back in the summers of the mid-fifties, when I was flying the only light plane in eastern Labrador, I used to look down on unbroken wilderness for mile after mile. The Indians traveled that wild land occasionally as part of their normal life pattern, and a few prospectors and trappers in search of a fabulous strike of minerals or furs lost themselves in its vastness. Now and then a woodsman traveled into a lowland river basin to evaluate the timber potential, and a few military and bush pilots flew over the area. Some of the bush pilots who loved to fish found time to drop from the skies to the uncharted lakes for a brief holiday. But for me exploring these unknown waters was a major project — and a labor of love.



Greenberg, Al (Ed.) "Editorial Musings." Reprinted with permission of *Skiing Magazine*, © 1974.

g.

An innate trait of the American character seems to be the assumption that all it takes to drive a car is to sit behind the wheel, turn the key, press a button, learn where some of the switches are — and presto, you're off.

For every driver who has some idea of the workings of his machine, there must be 100 — maybe 1,000 — who have no idea of what's under that hood and who leave all the worry about maintenance to the garage mechanic. The automobile industry seems to want it that way. The more automatic it is, the better it sells.

True, driver education courses are spreading, which is a hopeful sign. They won't ever put repair mechanics out of business, but by teaching a few of the basics about what makes a car run, such courses should result in longer life for both car and driver.



Reiger, George. "Never Underestimate the Power of a Pigeon," *International Wildlife*, September/October, 1973, p. 29.

h.

During the first and second world wars, pigeons carried messages in all theaters of action, but particularly in Europe. Birds received such decorations as the Distinguished Service Cross and the Croix de Guerre for their gallantry, and one bird, Cher Ami, saved America's "Lost Battalion." Badly wounded, the pigeon flew 25 miles in 25 minutes.

During World War II, Allied forces dropped their better-trained pigeons with agents, to be used as a more secure and nearly as reliable means of communication as the clandestine radio. The first such pigeon returned from its mission in 1940. She (a dark checkered hen named Kenley Lass) descended with an agent at night, traveled nine miles under the agent's sweater, remained eleven days in concealment, and was finally released the twelfth morning. She was back in her loft by 1500 hours that afternoon with vital information regarding the disposition of enemy troops. For this service, she was decorated with the Dickin Medal, the pigeon's equivalent of the Victoria Cross!

Idea: _____

i.

Look at everyone else, talking, laughing, shuffling books around, casually sharpening their pencils. Why are you the only one nervous about taking a test?

The truth is, you aren't the only one. Take a careful look around the room. See that cute little cheerleader, always so poised and self-confident; why she's even giggling! There's one sure sign of nervousness; many people just can't help letting out that impulsive little giggle when they are most frightened. You can hear loud-pitched voices from classmates on the other side of the room. Those boisterous students are nervous too; they're trying to shout above the pounding of their own hearts. And even those people quietly fingering their pencils are nervous. You know how uncomfortable you feel when you have nothing to do with your hands — that is often the reason why many people smoke, particularly when they are nervous or self-conscious. Even your friends who are resharpening their already-sharpened pencils are merely trying to find something to occupy them, postponing the inevitable test.

Idea: _____

"A Little Rub Means a Lot." *International Wildlife*, September/October, 1973, p. 2.

j.

Jaguars, like other wild cats, reinforce their relationships to each other through friendly tactile gestures. Head rubbing and social licking, for example, strengthen the bonds between individuals.

A close relationship between jaguar mothers and cubs, often displayed by head rubbing, continues for one or two years after birth. At that time the cubs, usually one to four to a litter, are able to fend for themselves.

Young jaguars' maternal dependence is well known by the Jivaro Indians of northern Peru who believe that eminent chiefs and shamans (priests who use magic) can be transformed into young jaguars immediately after death. The Jivaros, taking over the role of the jaguar mother, bring food to the body of a dead chief for two years, believing he will be able to live independently thereafter as a mature jaguar.

Idea: _____

Schultz, Harry. *What the Prudent Investor Should Know About Switzerland and Other Foreign Money Havens*. New Rochelle, New York: Arlington House, 1970.

k.

By 1862 there were a little under 2000 banks, each issuing currency which circulated at a discount and which reflected confidence in the individual bank. Up to this point there was no national currency, so the question of devaluation, etc. did not exist. You put your savings with the bank of your choice and unless you chose very well, you either lost everything when the bank closed and went out of business, or you lost a portion when their bills sold at a discount. In those days the best way to keep the value of your assets was gold coins in your own possession . . . provided of course you could keep from being robbed.

Idea: _____

5. Now mentally pick out the key words in paragraphs *l - u*. Skim each paragraph *quickly* and write down the main idea of it. Check your answers in the Answer Key.

Jarman, Cathy. "Atlas of Animal Migration," *International Wildlife*. New York: The John Day Co., Inc. September/October, 1973, p. 6.

l.

Recently, research has thrown some light on how animals navigate. Birds, fishes, many insects and crustaceans can find their direction by taking a bearing on the sun. This is known as a "sun compass sense."

Migrating animals usually continue to travel in the same direction when using the sun to orient themselves. As the earth rotates, the sun moves from east to west and the animals have to compensate for this movement. To do this they use an internal "compass," which, by means of its "sun compass sense," adjusts itself to the changing angle of the sun's rays. Under normal daylight conditions, the "compass" runs on local time. Using artificial sunlight, biologists have carried out experiments on birds in which the bird's internal "compass" is upset. When the bird is released, it flies off at a predictable "wrong" angle.

Many animals migrate at night. They include a large number of birds, bats, fish and moths. It is now known that some night migrants definitely use the moon and stars to navigate by a method known as "light compass sense." Birds must have a very precise internal "compass" as they have to compensate for the daily movements of the celestial bodies and for seasonal changes as well.

Idea: _____

"Twins sniwT," Max J. Friedman in *Parents*, Nov. 1980, pp. 76-81

m.

... twins have ever been something of an oddity — and it seems they will remain so for many years to come. And it is this very unusualness that holds a certain fascination for us all, which, perhaps, explains why twins have always played important roles in mythology and culture. For example, the biblical Jacob and Esau were fraternal twins, and perhaps the first to highlight the competitive nature of twinship (so competitive, in fact, that Jacob stole Esau's birthright). In Greek mythology Apollo, the sun god, and Artemis, the moon goddess, were twins; and the two key stars in the twin constellation, Gemini, are named after Helen of Troy's twin brothers, Castor and Pollux. So in some cultures the twin relationship was catapulted to literally astronomical heights ...

Idea: _____

Madson, John. *The Mallard*. East Alton, Illinois: Winchester Press, 1960.

n.

The mallard's shrewd adaptiveness is most apparent whenever he and the hunter match wits.

Duck clubs near Havana, Illinois, used to end their shooting at noon during the days when baiting was lawful. With all shooting ended at 12 o'clock, the mallards soon began returning to the banquet table a half-hour later. So the club operators extended shooting until 1 p.m. The mallards quickly tumbled to this change and stayed away from the baited areas until 1:30. When shooting was extended to 2 o'clock, the mallards didn't return until nearly 3 o'clock. And so it went — the shooting hours being set later and the mallards adjusting their own schedule accordingly. By the end of the season, shooting extended to dark and the ducks were feeding at night; as fast as man adapted himself to the situation, the mallards followed suit.

Smart as they were before, mallards graduate from college once they've been stung by a few shot pellets. Banded mallards that are known to have been wounded show a much lower band recovery than unwounded birds, indicating a learned wariness. Many other game birds also grow wary when the gun pressure is turned on. But unlike most of these, mallards may be inflexibly wild while being heavily hunted or may live with man in perfect harmony and grow fat and tame on barnyard ponds.

Yet, even then there are exceptions to mallard rules. Pen-reared mallards have fitted in perfectly on shooting preserves where they are utterly domestic in the feeding pens but still able to flash over duck blinds at 60 miles per hour, as fast and tricky as any of their wild brethren, and just as capable of making great migration flights if they revert to the wild.

Idea: _____

o.

Several fishermen were recently astounded when they saw a seal lion, surrounded by killer whales, cry out for help and be saved by dolphins. The sailors witnessed the incident from their fishing vessel off the coast of Kamchatka in the Soviet Union Far East.

The sea lion was encircled by the killer whales, which were closing in, when it roared — sending out a distress call. Within minutes, the dolphins appeared and the whales turned away. But it was only a tactical maneuver and a mile away, the whales suddenly changed direction and bore down on the sea lion again. The dolphins rushed to the sea lion's aid again, leaped over the whales and formed a ring around the sea lion.

"The predators had to leave the battlefield ingloriously," the sailors said. "The sea lion was saved."

Idea: _____

St. George, George. "Out of Bounds..." *International Wildlife*, September/October, 1973, p. 34.

p.

Captain-Commander Vitus Bering visited these islands [the Commanders] 232 years ago. A Dane in Peter the Great's service, he was the man who proved that Asia and America were two separate continents divided by the strait which now bears his name. As the first European on the whole chain of bleak islands stretching from Russia to Alaska, he named them after the members of his crew who perished during the voyage.

On November 5, 1741, a storm tossed Bering's battered and rudderless frigate ashore here, on what his crew thought was the eastern shore of Kamchatka. In their futile search for shelter, the crew dug a hole in the ground for Bering, ill with scurvy, and partially covered him with earth for warmth. In another month this temporary shelter became a grave; the

Commander died of scurvy and fever.

Up to the last day, Bering kept a diary. He recorded that even though he let his crew think they were in Kamchatka and that their nightmarish ordeal was over, he knew better. He knew that few men had ever been to this place before because the many animals and birds had no fear of men. Arctic foxes, called "Vanikas" (or "Little Ivans") by Bering's crew, followed the men like pet dogs.

Today, Vanikas no longer follow men around the islands, but neither do they have much fear of the people they see — a self-sustaining community of nature lovers dedicated to conservation, preservation and study of wildlife on and around the islands. The population of 1,200 is composed largely of biologists, zoologists, game wardens and their families, plus enough doctors, teachers, and other workers needed to sustain a community.

Idea: _____

Roessler, Carl. "The Baroque Innocence of the Coral Sea," *International Wildlife*, September/October, 1973, pp. 40, 42.

q.

Then at the very limit of visibility loomed the great coral towers we had come so far to see. From the surface they had been merely arcs of bright green in a blue sea. Now, rising 100 to 130 feet from the floor of the open ocean, they took our breath away.

As we drew nearer we could see that these "bommies" (from the Australian aborigine word *bombora* — a coral structure that doesn't break the surface) supported a rich community of life. Languid colonies of crinoids (feather starfish) in brilliant colors spread their delicate arms in the food-bearing ocean currents. Baroque spires of coral decorated the mountainous towers so lavishly they seemed to tumble over each other in a frantic reach for the sun.

Meanwhile, all around the towers were clouds of fish of every description: tiny damselfish, angelfish and butterfly fish in blazing hues hovered near the protective crevices of the great sunken metropolis, while in the deep blue water some distance away the foxes and wolves of the sea, amberjack and barracuda, hovered or patrolled patiently.

Idea: _____

Madson, John. *The Ring-Necked Pheasant*. East Alton, Illinois: Winchester Press, © 1962.

r.

Prairie chickens have never been seen to win a fight with pheasants around winter feeding stations. One cock pheasant was seen chasing a cock prairie chicken during late May when the hens of both species were probably nesting. The prairie chicken would fly a short distance, light, and be flushed again by the ringneck. This went on for half a mile.

Pheasants aren't usually very edgy in winter, however, and sharp-tailed grouse have been seen chasing ringnecks away from feeding stations. But this has been reported only in winter, and at feeding stations, and probably occurs little at other times and places.

Some of this touchiness on the pheasant's part could be caused by a swerving sex drive. There is a case of a cock pheasant invading a booming ground and driving away three male prairie chickens at a time when some hen prairie chickens were in the immediate area. Hybridization may result from such incidents; there has been a hybrid reported between a ringneck and a blue grouse.

Very aggressive — or rejected — ringneck cocks may even invade barnyards and successfully battle domestic roosters and acquire their hens. It's a freak situation, but it has occurred. The offspring is called a "pero." This can give a farmer some grief, but it's usually funnier than it is serious. Anyway, it's nothing that a farmer can't solve in the most direct way by just reaching behind the kitchen door for "Ol' Fox-Fogger" and spraying his barnyard with chilled 6's.

Crosses have also been made between pheasants and turkeys. All such hybrid chicks are sterile. The feathering of their heads and necks is typical of the pheasant, and such crosses are usually intermediate in size between the parent birds.

The rugged, brassy old ringneck is often accused of bullying smaller game birds, and many hunters believe that a pheasant will go out of his way to battle cock quail. But rooster pheasants aren't responsible for low quail populations. Habitat is the real reason. Pheasant and quail ranges do overlap, but that common range is usually marginal country for either species. Bobwhites aren't driven out of pheasant range by ornery ringnecks, but by ornery winters.

Idea: _____

"The Sawtooth Range: A solitude worth saving,"
Friends, August, 1969.

s.

Living in the shadow of the Grand Tetons can give a mountain range an inferiority complex. That's what's happened to the unappreciated Sawtooth Range in Idaho. Some 200 miles west and at a lower elevation than the overwhelming Tetons, the Sawtooth area contains some of the most breathtaking views in the west, 42 peaks over 10,000 feet, 180 lakes, dozens of campgrounds, unequalled fishing, comfortable lodges, about 200,000 acres of pristine wilderness.

Motel owners tried to heal the Sawtooth ego by seeking National Park status, hoping the instant fame would bring business and preservation. They failed, and the Sawtooths appeared to face a future of subdivision houses and billboards overlaid with neon lace. But now, a new treatment has been found. It intimates a complete and lasting cure. The Sawtooths' inner conflicts aren't hard to diagnose. They're the same agonies that wrack a small town when an overly fragrant industry offers to build a factory upwind. How each resident feels depends largely on how his personal nose will fare.

In Idaho there are folks who'd like to see the Sawtooths used to attract some of the lucrative tourist trade passing by on its way to Grand Teton and Yellowstone National Parks. Some want to keep the area strictly to themselves. Others want to reject any government interference. And still others want to subdivide the area for summer homesites of an unbelievable beauty.

The treatment proposed to end the conflicts is designation as a National Recreation Area. This is a relatively recent land use concept (it's only six years old) and probably will see House action later this year. Essentially, the plan calls for lumping the existing 200,000-acre Sawtooth primitive area with some 117,000 acres of forest and range between the valley lands and the primitive area, plus about 23,000 acres now in private ownership, 10,000 acres of public domain, and 1,600 acres of state-owned land. The consolidation would be a 351,000-acre recreation area under management of the U.S. Department of Agriculture Forest Service.

Idea: _____

Noorbergen, Rene. "Holland Controls Air Pollution by Computer," *International Wildlife*, September/October, 1973, p. 17.

t.

In the industrial area near Rotterdam, Holland, the Dutch are using a revolutionary approach to fight air pollution. They use a computer to measure, predict and evaluate a potential air pollution problem hours before it may become noticeable.

"Our measuring system," G. Schilder, an official, told *International Wildlife*, "is based on testing the sulfur dioxide content in the air through 31 sampling stations. At any wind direction, eight of them are downwind from the pollution sources. These stations or suction poles draw in an air sample once every minute and break down the chemical composition of the polluted air in an analyzer. These instruments in turn transform their readings into an electrical signal which is then relayed to our central control panel via the regular telephone lines.

"On our panel — a wall-sized map of the entire area — each suction pole is represented by a light which flashes on when the pollution in its area has reached an abnormally high level. At the same time, the signal is fed into our computer where the reading is compared to that of the other poles. That's where the computer really takes over. Searching its memory banks for similar conditions in days past, and by taking wind strength, wind direction and current atmospheric conditions into consideration, it may, based on its total findings, predict a pollution problem within six or eight hours.

"We follow up by checking the weather forecast for the immediate vicinity and dispatch a number of our inspectors to the area with the highest pollution density. We warn the industrial complexes of the pending problem. This phase calls for voluntary action, but our advice is usually followed."

The Netherlands government has since set up a nationwide Pollution Warning System consisting of about 150 widely distributed stations, all hooked into one computer.

Idea: _____

Scott, Jack Denton. "No Wonder the Crocodile is Crying," *International Wildlife*, September/October, 1973, p. 14.

u.

Although the crocodile has changed little from its prehistoric counterpart, it is a highly developed modern reptile. If it loses a tooth, another usually grows in place. It is built like a submarine, and can submerge its body completely, yet the eyes, nostrils and ears are set so high in the head that it can see, breathe and hear with them just barely visible. When it dives, membranes automatically close over the eyes to protect them, and skin valves shut over the nostrils.

Swift in water, surprisingly agile on land

The body is covered with tough plates, not joined to the skeleton or fused together; this lack of fusion enables the crocodile to move with unexpected agility on land. Some species are almost as swift as a shark in water; the reptile has a four-chambered heart, socketed teeth, and its mouth and tail are among the strongest in nature. Its eyes contain a large amount of rhodopsin, or "visual purple," a pigment that absorbs light and gives excellent vision in areas of low illumination — underwater, day or night. Some crocodiles are 20 feet long, yet they can survive on as little as a pound of food a day for short periods.

Idea: _____

Proceed to the Flexible reading and read the directions.

Making Flexibility Pay

FLEXIBLE READING

Discussion. Would you like to beat the high cost of vacationing in style? And still have all the comforts of home? This next article, "Swap Your Home for Your Next Vacation," tells how you can do it.

This article is a good example of one in which the general ideas, not the details, are important. As a reader, all you need to know is whether or not the whole idea of house swapping makes sense. And appeals to you. You can find out with an extremely rapid reading of the article.

So try reading it very quickly to get the general ideas only. And apply the skimming techniques you've been practicing. Here's a chance to put them to work for you.

Directions. Press the joystick button when you begin reading this article and press it again when you finish. There are only five questions to answer about the article. Hopefully, you'll get at least four of them right. Enter your scores in the Success Log Box.

Alter, JoAnne. "Swap Your Home for Your Next Vacation,"
Family Circle, February, 1974, pp. 100, 108.

How would you like to pack up your family and spend your vacation this year in a ski lodge high in the Colorado Rockies? Or in a house with private pool, minutes from Florida's Disney World? Or in a compact apartment in the heart of Manhattan? Or how would you like to wake up each morning to the gentle sound of the surf outside your California beach house?

Sound like a come-on? Or a bank-loan promotion? Well, it's not. There are no gimmicks, no finance charges and, best of all, no rent to pay. You may be able to vacation very comfortably for little more than the cost of getting there. There's only one requirement: You must exchange your home in return. That's all there is to it.

House-swapping isn't a new idea. It's been around, on a small scale, for years. In fact, one organization, the Vacation Exchange Club (also known as the Pan Am Home Exchange Service), has been publishing directories for would-be swappers since 1961. But with inflation and devaluation adding upwards of 25 percent to 1974 vacation costs, house-swapping may emerge this year as the vacation idea whose time has finally come.

According to David Ostroff, who founded and still runs the club, about 6,000 swaps have been arranged through his club over the last 13 years. This year he expects to do even better. The reason is simple: Swapping makes a lot of sense.

By being temporary hosts, as well as guests, you and your family can cut vacation costs right down the line. You can eliminate hotel bills, restaurant expenses, tips and possibly even transportation costs (many families exchange cars, too). And, with the

money you save, you may find you can take more — and longer — vacations than you might otherwise be able to afford.

There are other benefits. Besides enabling you and your family to save a great deal of money, trading homes offers your family extra comfort and convenience. For example, instead of being cramped in one or two cot-crowded rooms, with everyone getting in everyone else's way (and on everyone else's nerves!), a swapping family can select a home that provides ample room and privacy. And there are other little niceties that few hotels or motels offer — like room for the kids to play, and a refrigerator to raid. Of course, one not-to-be-overlooked advantage is that by leaving your home occupied by invited guests, you discourage visits by uninvited ones.

Still another swapping plus is vacation flexibility. You and your children can make new friends in your "adopted" community. You can use your home-away-from-home as a base from which to explore an area to your satisfaction. Or you can simply get away from it all for a relaxing, refreshing change of scenery.

One of the nicest things about exchanging homes, explains Mary de Baldo, manager of the Vacation Exchange Club, is that the whole process is warm and personal. "People who exchange homes seem to go out of their way for each other," she claims. "They usually want to make their guests as comfortable as possible. Most leave the names and phone numbers of doctors, dentists, baby-sitters and neighbors. Some even arrange for their friends to stop in and say hello. Many leave food in the refrigerator to tide their guests over until they can get to a local supermarket, and most have their newspaper deliveries continued.

"The do-onto-others principle really seems to work when it comes to swapping," she continues. "People tend to treat you and your belongings as they hope you'll treat them and theirs. In fact, last year, out of 5,500 subscribers, we had only one complaint — about a house that was left messy."

About two-thirds of the club's listings are within the continental United States. There are subscribers in virtually every state in the union, says Ms. de Baldo, with a large number in California, Florida and New York. (There are also listings for Europe, Canada, Mexico and other parts of the world). Subscribers offer everything from apartments and houses to farms, chalets, ranches and seaside villas. Offers sometimes include the use of cars, sailboats, trailers, country clubs and second homes. And some of the offers are extraordinary.

Here are some examples from this year's listings: "5-bedroom Manhattan brownstone, 4 baths, terrace and garden." "2-story house on lagoon in Gulf Shores, Alabama; sleeps 14; maid, car, golf, boat." "4-bedroom home, Lake Oswego, Oregon, near Mt. Hood; fishing, golf, plus ocean-front beach house 90 minutes away." "2-bedroom condominium in Honolulu, ocean and mountain views." "Rustic house in deep woods, upstate New York; 3 bedrooms, fireplace, pond." "2-bedroom house, Sausalito, California; dramatic view of San Francisco Bay; walking distance to ferry."

These are some of the elegant homes available for exchange this year. And even if your abode seems quite humble by comparison, you could still find yourself trading keys with one of their owners. How? It's easy. Some families aren't looking for luxury; they're looking for convenience. They may want to visit friends or relatives; or they may want a base from which to travel in your part of the country. And your home may be just right for them.

One example of just such a swap is the exchange recently arranged by Mr. and Mrs. Francis Furton, a retired Detroit couple who moved to McAllen, Texas. (The Furtons, incidentally, might well be called super-swappers. They've exchanged homes 18 times and, as a result, have traveled all over the world.) Last summer, the Furtons decided to return to Detroit to visit their five daughters and their daughter's families. But they didn't want to give up their privacy; so they decided not to stay with any of their daughters. Instead, they exchanged homes with a Detroit family whose 2-bedroom house was modest, but comfortable and convenient.

What did the Detroit family get in return? Use of the Furtons' travel trailer — with which to tour California, the Southwest and Mexico for over a month — a vacation they'll never forget!

Like the Furtons, many swappers indicate no pre-

ference for either time of the year or geographical area for their vacations. They're open to virtually any exchange offer.

What if your house is small, modest and located in a run-down section of the community? Can you swap houses for two weeks, say? Maybe yes and maybe no. Some families feel that convenience is paramount, and luxury a secondary consideration, so you may have some takers. But if your dwelling is off the beaten track and not near convenient transportation, you may be out of the running.

If you think swapping sounds like a good idea for you and your family, here's the easiest way to start the ball rolling. Join one of the dozen or so exchange clubs. The Vacation Exchange Club, 119 Fifth Ave., New York, N.Y. 10003, is the oldest as well as most well-established. (Among the other clubs, there are: Holiday Home Exchange Bureau, Inc., Box 555, Grants, N.M. 87020 and Adventures for Living, P.O. Box 278, Winnetka, Ill. 60003).

Once you write away for details, you'll get a brochure, along with a subscription form. In the case of the Vacation Exchange Club, you indicate whether you have a house or apartment; how many bedrooms it contains; the number of people in your family; and, if you have any preferences, when and where you'd like to exchange. Also, you might describe the special features of your home or area in 15 words or less (cultural attractions; proximity to large cities, universities, beaches; whether you wish to exchange cars; and so forth). Then, you send the form, along with a check for \$9.50, and your home is listed in one of the two 1974 directories. (Send an additional \$3.50 if you wish to include a photograph.)

As a member, you receive both 1974 directories; the first is mailed out on February 15th; the supplement is sent on April 1st. (If you do plan to have your home listed, write soon. The first directory has already gone to press, and the cut-off date for inclusion in the supplement is February 15th.) However, even if you miss the publication deadline, you may still send in \$7 and receive both directories. And, of course, you're free to write to anyone listed.

Once you get your directories, get busy. Send out at least a dozen letters (or photocopies) to people whose homes or areas interest you. Naturally, the more flexible you are, the better your chance of finding a suitable swap. Describe your home and community in detail. Once responses start coming in, you can begin to narrow your choices, until you decide who you're going to exchange with. According to Mary de Baldo, it usually takes about six follow-up letters and maybe a phone call or two to get everything arranged.

When exchange-time comes, be sure to provide

your future guests with instructions on how to operate appliances, thermostats and so on. Try to leave maps, guidebooks and anything else you can think of to make their stay easier and more enjoyable. Then off you go — to enjoy what could be the first of many rewarding home exchanges.

No matter where you decide to make your initial

exchange — across the country or in your own hometown (as one Santa Barbara, California, family did last year), remember that there are 52 weeks, and 52 weekends offering you unlimited, low-cost vacation possibilities throughout the year. And there are thousands of people as eager as you are to try this intriguing vacation.

Press the joystick button to **STOP** the timer.

1. House-swapping may emerge dramatically in 1974 due to
 - a. the fuel shortage
 - b. inflation and devaluation
 - c. stepped-up large scale advertising
 - d. many Americans' increased leisure time
2. What are the people like, in general, who exchange homes?
 - a. fairly choosy in where they go
 - b. tend to be from the higher social classes
 - c. rather lackadaisical about caring for personal property
 - d. very thoughtful and respectful of others' property
3. How many complaints were registered by the Vacation Exchange Club's 5,500 subscribers in 1973?
 - a. none
 - b. one
 - c. fifty-five — exactly one percent
 - d. more than seven hundred
4. The article indicates that many subscribers
 - a. advertise their homes on their own
 - b. remodel their homes so that they can trade
 - c. have their homes available all year long
 - d. keep their homes available only at the most popular traveling times
5. What does the author say is the best way to get started in house-swapping?
 - a. join an exchange club
 - b. decide where you want to go and when you want to swap
 - c. send a form letter to other swappers describing your home
 - d. run an ad in the personal column of the local newspaper of the community you wish to visit

SUCCESS LOG FLEXIBLE READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(20 points per correct answer)	

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 4

READING EFFICIENCY INDEX _____

Directions

1. Refer to the three Unit 4 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
2. Record your Unit 4 REI above *and* on the REI Record page in the back of your Workbook.
3. Press **START** to load the Reading Progress Graph. While the graph loads, read “How’s It Going?” below.

HOW’S IT GOING?

Are you feeling more comfortable reading at a faster rate? Are you gaining more confidence in your ability to learn to read faster? Were you able to skim to find the author’s favorable point of view in “Swapping Your Home?” If you slowed down, remember, using this skill may be new for you. Don’t expect to be proficient yet! Keep up your practice! Try skimming interesting newspaper articles.

Be a flexible reader in your personal time, in your work, and in your recreational reading. Use your skimming techniques to check out material you’re going to read. Decide whether you’re interested in the topic, whether it will be easy or rough going, fast or slow going, or a combination of both. Get the gist of the article. Then, *if* you read it, you’re better equipped to *anticipate*; to dig and delve into the facts and ideas and to even read between the lines.

Learning to skim will give you *confidence*, because you’ll be a more efficient reader and you’ll be saving yourself TIME. You’ll hear much more about skimming in Unit 5. Now it’s time for congratulations! You’re halfway through ATARI Speed Reading.

4. Enter your Pretest and Units 1-4 REI’s when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
5. Press **START** to view your graph.

UNIT 5

ON SIGHT

- To begin Unit 5 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 3 with Side 1 up.
- After listening to the audio segment, turn to the Warm-up and read the directions.

WARM-UP EXERCISE

Directions: This exercise is similar to the one in Unit 4 only you look for the *antonym* of the initial word. For example, if the initial word is *heavy*, you would select the word, light, from among the choices, hearty, huge, night, light, and weight.

Again, start this activity at a beginning Reading Window Rate—between 60 and 90—and then quickly increase your rate as you become familiar with the task. You may later want to repeat the exercise to practice making quick perceptions at a still higher RWR. Record you results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting in the space provided at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Directions. Maintain your momentum! Challenge yourself to go as fast as you can. Don't worry if your actual words-per-minute rate is slower on the screen than when you read in the book. Reading with a Reading Window is a different activity from reading on your own. The purpose is to help you develop new reading habits. And as long as the Reading Window is moving at a fast enough rate to challenge you, you are learning these new habits—learning to see and understand more words in each fixation.

Look for the ideas as you read. At the end you should have a good preview of what the Paced reading selection is about! Set your wpm rate when the screen appears and push the joystick button to begin. Record your rate below.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting at the beginning of the Paced reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN .

PACED AND TIMED READINGS

Tape Counter Setting _____

Directions. Use your skimming skills to find out about "Cheerful Chatterbox the Chipmunk." It's light and delightful, informative reading. Yet some facts are included, as well. Be ready to answer some detailed questions.

Read the first half of the story and answer the questions, and record your reading rate. But don't take time to check your answers yet. Read the second half of the story, then answer the questions and check them all. Record your scores in the Success Log Boxes.

Enter your tones-per-minute rate and push the joystick button when you are ready to go. Don't forget to increase your tpm rate while you're reading if you find the going easy!

Scott, Jack Denton. "Cheerful Chatterbox the Chipmunk," *National Wildlife*, April/May, 1973, pp. 22-24.

The worst snowstorm in a decade. Snowbound in the house for three days. Then, finally, the storm ended, a weak sun appeared. A bitter-cold day, the snow surrounding us like a vast, foamy sea. I went outside, cleared a path, shook snow from the bird feeders, and shoveled an area where I could feed the squirrels, and I heard *Chip! Chip! Chip!*

I knew the sound. But this was early February. It couldn't be! But it was.

Breaking out of the snow like fish surfacing were tiny rusty heads. *Chip! Chip! Chip!* The sounds, clear as metal striking glass, were coming from the heads. The small red bodies surged from the snow into the areas I had cleared, took a sunflower seed in either cheek and dove back into the pool of white.

Three chipmunks had left their snug nests of hibernation, braving the snow and the biting cold. It was an incredible sight that keeps coming back to me, a heartening reminder that courage and fortitude have not vanished from our world. Of course, I should not have observed that spectacular sight. In late winter, unless the days are unusually pleasant, chipmunks, so the naturalists tell us, are supposed to be sound asleep underground.

Chipmunks have this way of breaking the rules, of doing the unexpected, a quality that makes them among my favorite wild animals. They are inquisitive, interested in everything around them, gay, but ever busy; a sign to me as I see one sitting on a stone wall washing its face, that all's right with the world. I am, of course, prejudiced. When I was seven years old, I had a pet chipmunk.

Our cat, a gentle female that liked to catch lively objects but never harmed them, brought the chipmunk proudly into the house and dumped it on the floor before my mother. It was a tiny replica of its parents, perfectly formed and colored. Short, flat

hairy tail, its upper body rusty with five black stripes running from shoulder to rear along upper sides and back. The two low stripes on the flanks divided by a white band, cheeks crossed with a buff line below and above the eyes, a dark stripe meeting the eye. Its top reddish fur merged into creamy white on the belly.

After we dried it off (it was very wet from its journey in the cat's mouth) we noticed that it didn't have many teeth, so my parents judged it was about a month old. After much pleading from me it was decided to make it a member of the household. We fed it warm milk with an eye dropper, and once in a while some wheat germ, until all its teeth came in two months later, then nuts of all kinds, with shelled peanuts its favorite.

Watching all this with great interest was Elizabeth, the cat. But she never touched Stripes, my chipmunk pet, again. Stripes made his home in my mother's sewing basket and was extremely neat and clean. He sang often, chirping like a cricket. He would permit me to pick him up when he felt like it. If he wasn't in the mood, he'd give me a nip. I carried him in my pocket and he seemed to enjoy it, settling down, humming happily. He was not destructive, and was a completely charming guest in our home for six months. Then he disappeared. We never saw him again. And I never again had a wild pet.

I have been fortunate in living in the countryside most of my adult life, and always there are chipmunks. Thus, for a long time, I have had an opportunity to observe them and be charmed by them.

Except for *Tamias asiaticus* in Russia, chipmunks occur only in North America. *Tamias striatus*, the eastern chipmunk that I know, comes from a family with 35 western species of the genus *eutamias*, of six groups of ground-dwelling squirrels, varying in size

and coloring. The eastern has the most vivid stripes and the strongest red.

From the evidence of fossil remains, it is believed that the chipmunk traveled across the ancient land-bridge of Bering Strait, but the direction, whether it went from east to west, or west to east, has not been established. Our eastern chipmunk ranges over most of the eastern United States, southeastern Canada, south to Louisiana, Georgia and the Carolinas, with a relative in Florida and Oklahoma.

Tiny three-ounce tigers

Researchers place the chipmunk population at from two to four per acre; where I live in western Connecticut I would double that. They are territorial animals, defending their home ranges of less than 100 yards like fierce three-ounce tigers.

During the twice annual breeding season, males compete vigorously, chasing one another up trees, their tails straight up as they run. There is serious rough-and-tumble fighting, and occasionally some belligerent bluffing. I had one living close to our flagstone terrace that sometimes could send another male scurrying by casting a cold eye, and making a few little forward quick steps.

A house guest named this male Lady Chatterley's lover. It was June and the love play was on. The female, larger than the male, allowed him to pursue her, and, ready for mating, to catch her. All the while she chattered wildly. Then, both chattering and chirping, there was fake fighting, much rolling on the ground, patting of heads, nuzzling, and finally the mating.

About 31 days later, the litter, from two to five, is born. The first week the stripes appear as vague

outlines and hair starts to grow. In another week young chipmunks are about three inches long, fuzzy with fur and able to stand on their feet. In three weeks they can hear; in another week their eyes open. At this age they are miniatures of their mother. At three months, if this had been an April birth, the chippies would have been left to face the world. But the June breeding such as I observed means the litter was born in August, came topside in September, and would not have left enough time to dig their own burrows and stock them with food for the winter. So the summer litter spends the winter in the mother's hibernation room.

Unusual hibernator

One of the most fascinating facets of the chipmunk, in addition to its abundant charm, is its unusual method of hibernation. That entire mysterious situation is currently being studied by medical researchers. Hibernators do not store food for their deep sleep. But chipmunks do. Hibernators gorge themselves, putting on a thick layer of fat on which they exist while underground. Chipmunks do not.

Chipmunks stay lean and graceful throughout their lives, diligently storing food in their underground dens for the long winter. Besides their seemingly inexhaustible energy, chipmunks have two other assets for this food storage: Amazing pouches and deluxe dens. The pouches are the cheeks, flexible as rubber, extending behind the jawbone onto the neck, which can be reached only through the mouth. To permit the easier entry of food, the chipmunk has no teeth on the upper or lower jaw between the front incisors and the back grinders.

Press the joystick button to **STOP** the timer.

1. The author was surprised when he saw chipmunks in February because
 - a. he was sure the "Chip! Chip!" was coming from somewhere else
 - b. they usually stay in the hollow of trees
 - c. they are usually hibernating
 - d. the recent blizzard killed many of the animals in the area
2. As a boy, how did the author get his pet chipmunk?
 - a. It had entered the house and made a nest in the sewing basket.
 - b. He had found a litter of babies and brought one home.
 - c. His mother found it lying half alive in the kitchen.
 - d. His cat brought it home unharmed.
3. The author compares chipmunks to "three-ounce tigers" because they
 - a. are striped like a tiger
 - b. are territorial animals and fiercely defend their area
 - c. hunt like tigers do
 - d. behave, when fighting, like tigers

4. About how long after birth do chipmunks leave the nest?
- 3 days
 - 3 weeks
 - 3 months
 - 6 months
5. The chipmunk is an unusual hibernator because he
- stores food in the trunks of trees
 - stores food in his pouches
 - is really active during the winter
 - puts on so many layers of fat

SUCCESS LOG PACED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(20 points per correct answer)	

PRESS **START** TO CONTINUE.

How much will chipmunks pouch and carry to their dens? Naturalist John Burroughs pondered that, offering one chipmunk five quarts of hickory nuts, two quarts of chestnuts and enough shelled corn to make a total of one bushel. The single chipmunk took it all away in its cheek pouches, but refused further offerings.

Storage of food is actually the second step in preparing for hibernating. The first step is digging the den. Finding soil where it can dig easily, the chipmunk goes straight down for five inches, then continues at an angle for three feet. The penetrating shaft is two inches in diameter and twists to avoid large rocks, roots and other underground obstacles. I've watched them at it, and as they dig with forefeet, almost in reflex motion their hind feet kick the soil back and away. As they shape the den, forefeet pushed out on either side of their faces, they use feet and nose to bulldoze the soil back to the entrance. Unlike woodchucks, chipmunks do not leave a pile of freshly excavated earth beside their den hole to attract enemies. They push it yards away. If one chipmunk maintains a home for its lifetime of four years, the den may reach a length of more than thirty feet, have four or five off-shoot tunnels, six rooms and four or five entrances, all hidden.

Most important is the foot-square sleeping area. It is filled with broken-up dry leaves and grass. Chipmunks are clever at transporting the leaves. After clipping off the stems, they stand upright using their forefeet like hands to roll the leaf into a tight cigarette shape so it fits neatly crossways in the

mouth. Winter provisions are stored under the leaf-bed, pushing it up almost to the ceiling. If there is too much food, the remainder goes into a nearby storage room.

All of the food, however, is not reserved for winter. Chipmunks cannot take intense heat, and during late July and August, they spend much time in their cool dens, using some of the stored food which they replenish until they retire for the winter.

Active in warm periods

After late October they slow down and may hole up for winter from that time until December. But they are persistent and tough; I once saw a pair still topside on December 13. When in the den they plug all entrances with soil, which soon freezes, protecting them from outside enemies. They curl in a ball; breathing and heartbeat slow; their temperature drops to that of the den while their blood pumps slowly. The sleep is torpid. But during warm periods, and obviously at other times, chipmunks awaken and eat the hard-stored provisions. And if they run short, they may even break out and brave the winter as those I saw did. By mid-March, unless it is very cold, they are in the upper world again, and the hunt for food beings.

Generally, people believe that the chipmunk is a straight nuts-and-vegetable creature, but here again the little striped animal surprises us. I watched one catch a field mouse and eat it with gusto. He stalked it much like a cat, belly to the ground. I also saw one try to catch a small grass snake that escaped by wiggling down a hole too small for the chipmunk.

One of the most graceful sights I have yet observed in nature was a chipmunk in a meadow leaping after Monarch butterflies, a ballet I watched until the butterflies got smart and gained altitude. A chippy will take out after most insects, virtually anything that moves, from a beetle to a grasshopper. I was delighted recently to see chipmunks feasting on elm span worms and gypsy moths, and not so happy to see one sitting upright munching an earthworm, the meal dangling from its mouth like spaghetti. But chipmunks do help gardeners by eating June bugs, cutworms and wireworms.

There is no doubt that chipmunks know what they are doing when it comes to dining. One of my neighbors who has two sweet cherry trees knows the cherries are at their best when he sees chipmunks in the treetops harvesting them.

Climbing is an attribute seldom credited to the chipmunk. The fact is that chippy, while not as adept as the gray or red squirrel, is very much at home in trees. I have seen one 50 feet up in an oak tree, stretched out on a branch enjoying itself like a cat sunning on a windowsill. But the chipmunk usually climbs for nuts, buds and seeds — not for frolicking as the other squirrels do. He goes up very fast in a

no-nonsense scurry, comes down headfirst, clutching the bark with sharp claws.

Chipmunks are supposed to flee at the sight of danger or aggression. Yet I have often rescued them from cats, or come upon a cat that has just released a chipmunk and is sitting back watching it. At these times of great danger, the chipmunk acts in a peculiar fashion that I have never seen described in natural history literature, or by natural scientists. The chipmunk, instead of trying to escape, jumps straight up and down, in a series of leaps like a puppet being jerked on a string. Never will the cat attempt to take the chipmunk while it is making these confusing gyrations. Chipmunks are full of surprises.

I discovered another one while fishing in Connecticut. A friend and I and his English setter were walking along the bank, when out of the underbrush popped a chipmunk. The dog, barking, immediately scooted to the other side. Literally surrounded, the chipmunk didn't hesitate. It leaped into the river and, tail high, easily swam to the other side, climbed up the bank, shook itself, gave us a long look, then disappeared into the brush.

Climb, dig, sing, fight, jump, stalk — swim. I wonder what the chipmunk will come up with next?

Press the joystick button to **STOP** the timer.

6. What does the chipmunk do with the dirt he removes from his den?
 - a. uses it to build a barricade around the tunnel entrance
 - b. transports it to nearby streams
 - c. digs other tunnels to store it in
 - d. pushes it away from the entrance
7. How do chipmunks get leaves in their den?
 - a. Chew them up, fill their pouches, and dump the bits and pieces in their nest.
 - b. Roll them up with mud balls and carry them in their claws
 - c. Carry them by the stem.
 - d. Roll them up in a cigarette shape and carry them crossways.
8. Chipmunks spend time in their dens in late July and August because they
 - a. cannot tolerate intense heat
 - b. are busy raising their young
 - c. hibernate twice a year
 - d. need much extra sleep
9. According to the author, which of the following is NOT a part of the chipmunk's diet?
 - a. cherries
 - b. roots
 - c. worms
 - d. insects
10. How does a chipmunk act when in extreme danger?
 - a. climbs up a tree as high as fifty feet
 - b. attacks the aggressor with its sharp teeth and claws
 - c. jumps up and down like a puppet on a string
 - d. burrows into the ground with lightning speed

SUCCESS LOG TIMED READING

READING SPEED _____ WPM
COMPREHENSION SCORE _____ %
(20 points per correct answer)

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

More Skimming Practice

TECHNIQUES

Tape Counter Setting _____

Directions. Skim each selection, mentally picking out the key words and phrases as you go. At the end of the selection, decide on the overall "theme" and write it briefly in the space provided. The selections have more paragraphs than the ones in Unit 4, so you may want to note briefly to yourself, as you go, what each paragraph is about.

Don't look back at the selection to write down your impression of it. When you have completed the eight excerpts, check your ideas with ours in the Answer Key. Your statements should be fairly comparable to ours. If they include a great deal more detail, perhaps you are "reading" instead of skimming. But if they contained insufficient information—more like one-word topics—then you may have been going too fast. Next time, look more closely for the important words and ideas. Good luck.

Pauk, Walter. "The Art of Skimming," *Reading Improvement, II* (Winter 1965), pp. 29-31. Cited by Cassel, Russell N. (Ed. & Pub.) *Educational Digest*, 1965, pp. 30, 47.

a.

Textbooks. Skimming the textbook as a whole at different times during the term, then skimming each chapter as it is assigned are essential preludes to effective reading and learning. Widely accepted by academicians and psychologists is the principle that people read with greater interest, understanding, and speed those subjects about which they already know something.

By skimming the chapter, the student can set the stage for intelligent reading by first noting the organizational pattern, locating the main divisions, and reading transitional and summarizing paragraphs.

Finally, from the psychological aspect, the student who plunges immediately into his assignment by skimming has the best chance of overcoming inertia; adopting a positive mental set toward his subject; maintaining momentum; and probably, best of all, achieving a higher level of concentration.

The Novel. If a student's assignment permits a choice of novels, it might be good to skim some of the chapters up to the middle portion of the book to get an indication of whether it is interesting. Once committed to a novel, the student may use several methods for reading. He may read very rapidly the first time through for the story, plot, setting,

characterizations, and conclusion; then the second and third times, the novel should be skimmed once for criticism and evaluation, and once for meditation and speculation on the various concepts presented by the author.

The Newspaper. The news items of a newspaper are organized ideally for skimming. The title or caption of the item is the conclusion, the first paragraph is the summary, then each succeeding paragraph contains information in a descending order of importance. Each paragraph, too, is a unit in itself.

Classics and Esthetics. Some works should be read carefully and thoroughly, almost word by word. Some should be read aloud. But, if we think about it, perhaps 95 percent of our reading is for information, and about 5 percent is for esthetic reasons. It is, therefore, an inefficient use of time to read everything at the rate used in reading classics. When reading for information, the objective should be to extract as efficiently as possible exactly what we wish to extract.

After all, in most writing the author attempts to communicate ideas, and if we, as readers, can extract these ideas on the run, then communication will have been achieved.

Theme: _____



b.

Two of these biologists, Vernon Ogilvie and Robert Goodrick, have conducted research on *Clarias* for the state; both are deeply concerned about its threat to native aquatic life.

Mr. Ogilvie has drawn the wrath of some fish dealers and aquarists by declaring the walking catfish "a disaster," and "extremely frightening" to him as an ecologist. Not long ago I talked to him at his laboratory in West Palm Beach.

"In some bodies of water close to the original area of infestation," he said, "*Clarias* is now the dominant fish. There is no doubt that it has shouldered out the native fishes."

I got the same story from Dr. Walter R. Courtenay, Jr., ichthyologist at Florida Atlantic University in Boca Raton.

"In almost any place where a concentration of walking catfish is found," he told me, "little else remains except a few small fish called sleepers. The catfish have displaced valuable game fishes like largemouth bass, as well as panfishes such as bluegills, shellcrackers, and warmouths. In one pond no bigger than my living room, I caught 65 of these new catfish in two hauls of a seine, and it seemed there were hundreds more."

The walking catfish is exhibiting a classic response to introduction into a new environment. Without the biological checks and balances that control animal — and even plant — populations in their native lands, exotic species often multiply exuberantly, sometimes completely displacing indigenous forms. Moreover, they often bring new diseases and parasites. With *Clarias*, Florida is again the loser, as it was with the water hyacinth, introduced from South America in 1884 and now throttling the state's waterways.

Worse, I believe, is yet to come. It appears certain that *Clarias* will spread farther, and that it will take over many ponds, canals, and lakes. Its equipment and its behavior virtually guarantee this. The south Florida water area is an enormously intricate complex of shallow lakes and ponds joined by drainage canals

and natural channels, and it is periodically flooded in the rainy season. Populations of native fishes and other aquatic animals are greatly depleted during drought when many ponds and marshes go completely dry and water levels in the canals are greatly reduced.

But *Clarias* has the advantage of being able to breathe air when waters are low, and even to lie buried in the mud in extreme conditions. Or, better still, it can trek off across country to other ponds or canals, leaving its native competitors to perish, though its primary motivation for walking on land seems to be to seek food.

Clarias apparently reproduces very rapidly. It is definitely breeding successfully in Florida, where it spawns through much of the year.

The walking catfish is viciously aggressive. Even the famous "man-eating" piranha avoids an adult *Clarias* when put in the same tank. Photographer Bob Sisson watched an "unbelievably ferocious" attack by a 13-inch walking catfish on a 7¾-inch bullhead, one of the native catfishes, which it eventually killed.

"*Clarias* has already gotten into Lake Okeechobee, and I'm holding my breath for what will happen when it reaches Everglades National Park," Vernon Ogilvie told me. "It may have disastrous consequences."

Both he and Walter Courtenay believe the catfish will spread at least to central Florida. Mr. Ogilvie thinks Georgia, Alabama, and even Tennessee may not be exempt. Colder climate will presumably keep the fish from moving farther north than that.

But walking catfish are in Florida to stay. Last November the Game and Fresh Water Fish Commission reluctantly gave up ideas of trying to eradicate them, concluding that they were already too widespread.

Besides, as Vernon Ogilvie said sadly, "How do you kill a fish that simply walks away when you poison its pond?"

Theme: _____



Stokes, William. "Whose Heir?" *Ship the Kids on Ahead*.
Madison, Wisconsin: Forrest Publishing Co., 1968.

c.

A youth walked through our family room the other day, and I thought there was something vaguely familiar about him. It turned out that he was one of my sons.

He needed a haircut so desperately that I hadn't recognized him for an instant.

I gave him a couple of bucks and told him to spend it at the barbershop. He looked at me with a shocked expression. At least, I think it was shocked. It was hard to tell with so much of his face covered up by hair.

When he finally realized that I was serious about his getting a haircut, he collapsed into a quivering heap, alternately moaning and sobbing.

"Look," I told him, "I didn't say you had to give blood or flesh. I just want you to get a haircut."

"WHY?" he wailed. (Sometimes I get to thinking that I have my kids trained 'not to reason why, ours is just to do and die,' but not often.)

I told my wailing son that while it was not necessary for me to explain my haircut order, I was going to make an exception in this case and try to do so.

First of all, I said — feeling one of my better speeches coming on — you need a haircut from a standpoint of safety. It is obvious that you are going

to walk out in front of a truck or a car, because you can't possibly see. A haircut also will take care of this bumping-into-the-wall problem that you must have.

Secondly — I was now using my fingers and hands for gestures of emphasis — this long hair is not fair to your mother. A mother likes to observe the growth and development of her children, particularly their facial features. I know for a fact that your mother has not seen your face from the nose up for months.

"Get a haircut, Son," I said in a fatherly tone, "and show Mother your forehead. And do it for your old Dad so that he can look you in the eye instead of the hair."

The son was pounding his head against the wall now. It didn't hurt him, of course, because of all that hair, but it made an annoying thumping sound, and I told him to stop it.

He staggered slowly out of the house and down the street toward the barbershop, his hands in his pockets and his head hanging down.

"Look at him," I said to Betty, "his hair is so heavy he can't hold his head up."

"Yes, she said, "it's awful, isn't it? He looks almost as bad as you did back in high school when the wind blew your ridiculous pompadour down."

Theme: _____



Madson, John. *The Mallard*. East Alton, Illinois: Winchester Press, 1960.

d.

Decades of waterfowl banding all over North America, and countless recoveries of those bands, have given biologists an insight of migration, length of life, and other waterfowl mysteries. But one of the most important discoveries was that migrating waterfowl follow four huge, general routes down across the face of the United States: the Atlantic, Mississippi, Central and Pacific Flyways.

Each spring and summer, state and federal waterfowl experts join Canadian biologists on the northern nesting grounds to trap and band waterfowl. Subsequent band recoveries show the routes that waterfowl fly to their wintering grounds, their dates of migration, homing instinct, the ratio of hunting kill to the total population, and many other things.

Banding also shows that different parts of the nesting grounds supply different flyways, and since

the problems and populations of waterfowl vary between these breeding grounds and flyways, the most logical way to manage waterfowl is on a flyway basis. For example, the Mississippi Flyway is the one most heavily used by mallards. But this flyway is also more heavily hunted than, say, the Central Flyway. So although the Central Flyway may have fewer mallards, it also has fewer hunters, and a 5-mallard limit is often set in Colorado while a 4-mallard limit prevails in Arkansas.

High above the banding crews, federal biologists spend the summer flying "transects" — carefully established sample routes over the best nesting grounds — to determine the relative abundance of waterfowl. This is not a count, for it is impossible to accurately tally waterfowl on the myriad small potholes and prairie sloughs of the northland. The tran-

sect flights indicate relative trends, and whether waterfowl numbers are higher or lower than the year before. Only during winter, when waterfowl are

concentrated on open water on their wintering grounds is an attempt made to count ducks and geese.

Theme: _____



"Old tires: New fuel" p. 82-87,
Rock Products, Oct. 1980

e.

Every year in the United States there are over 200 million automobile tires disposed of, and no one knows what to do with them. This statement accurately describes the seriousness and magnitude of this environmental problem in America. Old tires are buried in landfills, used to create artificial reefs for fish, for the recover of chemicals, and in asphalt for roadbuilding. In some 30 states research programs are reported underway attempting to determined what can be done with pulverized rubber. Yet old tires more often than not appear to end up as eyesores, cluttering both landscapes and waterways, becoming a haven for rats and other rodents.

Now a practical solution to the disposal problem has been demonstrated . . .

. . . as a fuel in the manufacture of portland cement. This approach not only alleviates a national environmental problem in disposal of old tires, but achieves it at economic advantage in realization of

significant energy savings . . .

The old tires are not shredded for burning but instead are fed whole directly into kilns. The system begins with forklift truck movement of tires from a storage pile onto a conveyor. This carries the tires up a preheater tower to a point where automatic weighing takes place. A constant flow of tires to kiln feed is dependent on proper weight, with the average movement being one tire every two minutes. These tires enter the kiln via a chute and through an air lock compartment which minimizes fuel loss as entry of each tire takes place.

Tires enter at the inlet-end of the preheater kilns where temperatures of over . . . (1832F) ensure complete combustion without experiencing any environmentally negative aspects. There are no resultant odors or remaining residue. The iron that is in the tires melts, and along with ash material combines with the clinker without affecting cement quality.

Theme: _____



Stokes, William. "Let's Split," *Ship the Kids on Ahead*. Madison, Wisconsin:
Forrest Publishing Co., 1968.

f.

The trouble with this country is that not enough people split wood.

There was a day, you know, when almost every able-bodied individual, including women and children, swung an ax as part of the daily routine.

Even in the summer, somebody had to hack up wood for the cookstove. In the winter, there was more wood splitting than snowball fighting.

Great chunks of oak had to be split small enough

to fit into either the furnace or the heater. This was the kind of exercise you could get your back and heart into. You had to learn how to hit a chunk of wood so that the grain of it favored your efforts. A good clean blow with just the slightest twist of the ax head at the instant of impact would break open a frozen hunk of wood as easy as cutting an apple in two.

It would, that is, if you didn't happen to get a hunk

that had a big knot in it. Then sometimes you had to chop and swing at it until you were blue in the face — and in the mouth, too.

These difficult chunks were always left until you got down toward the bottom of the pile and there wasn't anything easier to work on. Ah, the hours of my youth that were spent pounding away at a knotty piece of oak. It's enough to make me ache to this day.

My mother was not a first-rate wood chopper, as females of the day went. I think she was too kind-hearted and didn't want to hurt the wood. However, she could rustle up bread-baking-wood if the rest of us were in hiding.

While I do not have any statistics to substantiate it, I do believe that there was less per capita violence in the days of wood splitting. It figures. If you had a mad-on for somebody or something, all you had to do was pretend that the object of your emotions was a

piece of wood.

Until it is proved otherwise, I will believe that more emotional overhauling could be accomplished by the psychiatrists if they would throw out their couches and bring in an ax and a pile of good tough oak.

With benefits to accrue from both a mental and physical standpoint, it is hard to figure out why someone doesn't start a nationwide chain of drive-in wood-splitting stands, where you could drive up and, for a quarter, go in and smash your boss, or maybe even a close relative, with an ax.

I say, we've got to revive wood chopping for young and old. And don't worry about the kids. Today they catch it if they monkey around with an ax. I caught it if I didn't.

And I've got 10 toes, as well as a scar on my left instep to prove it.

Theme: _____



Excerpt from "Should you Sell your House Yourself?" *Better Homes and Gardens*, May, 1973. © Meredith Corporation, 1973. All rights reserved.

9.

Far and away the biggest single expense item in selling a house is the commission you'll pay the real estate broker for his services. These fees, amounting to six or seven percent of the sale price (depending on where you live), cost Americans close to six billion dollars last year.

Not that you shouldn't employ the services of a broker. Indeed, most experts agree that the average person probably needs one.

However, considering the large amount of money that is at stake, there is no reason why you should not first make an intelligent try at selling your house yourself before calling in a professional. If you go about it correctly, you will in no way jeopardize your chances to sell the house through a broker later. In fact, many of the efforts you make in your own behalf are things which you would have to do anyway if you listed with a broker from the beginning.

Your attitude counts

Although some people succeed in selling their own homes, many fail. If you succeed, you'll save a lot of money (probably several thousand dollars), you'll

run your own show, and you'll enjoy considerable satisfaction. And if you fail, it's no disgrace. That's why there are hundreds of brokers in the country.

Don't start off with the idea that you may be "lucky" and sell your house right away. You *might* be, but it's better to think that you are going to *earn* that six or seven percent sales commission for yourself rather than paying it to a broker. As with other do-it-yourself projects, you have to emulate professional methods if you are going to get professional results. That means work. It also means that you must be willing to stick close to home, especially on week-ends.

One of your obligations as a do-it-yourself seller is to have the house ready to show at any reasonable hour, seven days a week. Brokers usually make appointments in advance before bringing a prospect to your house. If you are acting as your own broker, you may want to show the house to any prospective buyer, even if he wasn't considerate enough to call in advance. This means keeping beds made, dishes out of the sink, and the house in general good order at all times.

You must have patience and a low boiling point with people. You have to learn to think like a salesman, yet you must be objective about what you're

selling. This may be hard to do when it is your own home — especially if people are not tactful about the fact they do not like the house.

Theme: _____



Excerpt from "Smart Shopping: What the New Food Labels Really Tell You,"
Better Homes and Gardens, May, 1973, © Meredith Corporation, 1973.
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h.

Ingredient labeling

Right now all nonstandardized foods must carry a full statement of ingredients on the label, listed in descending order of predominance. This regulation doesn't apply to those products for which the FDA has established a "standard of identity." The standard defines the basic ingredients and composition of standardized products such as mayonnaise or catsup. Generally the law requires that labels on standardized products state the name of the product, as specified in the standard, and a list of optional ingredients. Normally, mandatory ingredients need not be listed except for artificial coloring, flavoring, and preservatives which must be listed for all food products

except ice cream, butter, and cheese. Under the new regulations, standardized foods to which nutrients have been added must carry nutrient labels.

Regulations also urge voluntary listing of ingredients for standardized products. In answer to the demand for ingredient labeling, a number of companies now voluntarily list the ingredients in standardized foods, and others are expected to follow suit. When this information is not on the label and you want some idea of the ingredients in standardized food, write the FDA for a free copy of the standard for the product in question, or write the manufacturer for a breakdown of ingredients.

Theme: _____



Compare your ideas with those in the Answer Key.

Proceed to the Flexible reading and read the directions.

Flexibility and the Specialized Article

FLEXIBLE READING

Discussion. All of us are likely to encounter specialized articles frequently in our daily reading. These articles are written for a select audience — people with a special interest in a field of subjects. Personal rewards of reading such specialized articles are broader interests, new opinions, new perspectives, and facts you might need.

Here's an opportunity to apply your specialized reading skills. The article is from *The American Rifleman*, published by the National Rifle Association. It's intended for people who are interested in shooting as a sport or hobby. Maybe you're one of them. Maybe not. But read "You Can't Reload Your Hearing." And see how straight you can shoot when you answer the five questions at the end.

Directions. Time yourself, as usual. Go as fast as you can. Enter your scores and rate after you answer the five questions in your Success Log Box.

Leonetti, Walter L. "You Can't Reload your Hearing," *The American Rifleman*, September, 1972, pp. 62-64. Reprinted from a fully copyrighted publication of The National Rifle Association of America. Any further reproduction without permission is prohibited.

It's a great feeling to get away from it all — to be at your favorite camping or hunting spot, to breathe clean, fresh air and to rest in an atmosphere of formidable silence. The birds, the wind, but little else can be heard.

The sound of a shot is in extreme contrast to conditions such as these. It appears louder than it did back at the range, though of course it is not. As the firing pin strikes the cartridge primer, the physics governing the environment in which the shot is fired are changed suddenly, wherever you may be.

One facet of these physical upheavals should be of interest to every shooter, although most just shrug it off. As the bullet or shot charge leaves the barrel, the "boom" occurs; many shooters adjust to the gun's report, but how about the shooters' ears? There's a ringing which persists for a few seconds, but it always manages to disappear.

That ringing in the ears following any loud explosion is a sign from your inner ear that it's been traumatized. Repeated exposure eventually will cause irreparable damage. Intermittent exposure will allow the ear time to repair itself. This is a tentative explanation, since it's an established fact that every person has a different sensitivity, or damage point, with respect to noise. The first shot you ever fire or the three thousandth might cause permanent damage. There is no way this sensitivity can be measured.

Exposure to gunfire will result in a hearing loss composed of two elements: a temporary and a permanent component. With intermittent shooting the permanent component usually is slight, therefore a

recovery process occurs (the disappearance of the ringing and the restoration of hearing efficiency to normal levels).

With repeated exposure and subsequent inner ear trauma the opposite is sometimes true. The temporary component is slight and the permanent component is devastating.

The human ear does have some capability to recover, though not always, to quasi-normal hearing levels. But this is not usually the case. Recovery, if achieved, is limited to a lesser extent of hearing loss. To effect recovery, if any is possible, is to abstain from all noise exposure. Translated, this means no shooting at all.

Repeated hearing tests are the only assurance as to whether a temporary or a permanent loss exists. Hearing tests are plotted by frequency versus intensity (loudness) on graphs called audiograms. The frequencies tested range from 250 to 8000 cycles per second.

Within this range normal or abnormal hearing can be tabulated. The vertical dimension demonstrates the intensity required of a sound for the subject to hear it. The more depressed is the mark plotted on the audiogram for a given frequency, the more loss has occurred.

The report of the firearm eventually will affect the frequencies immediately above those required for understanding speech. The ear is built in such a way that only a particular band of frequencies is necessary for conversation. This fact has been proven repeatedly. The telephone, for instance, transmits and receives

this band of frequencies. In the audiograms the speech area is from 500 to 2000 cycles per second. The diagonally lined area indicates trouble areas for speech. The lower limits of normal hearing should fall above this area. Should the intensity level for more than one frequency be found within this area, speech reception has been affected.

Continued exposure to gunfire drives the intensity thresholds for the frequencies above the speech range lower and lower on the audiogram. Eventually this continued trauma will begin to affect the upper limits of the speech frequency range.

Once this has occurred it is usually too late to do anything restorative. The common effects of this loss are a persistent ringing, which seldom subsides, accompanied by difficulty in understanding high frequency speech sounds. The previous sentence, for example, contains approximately a dozen such sounds. In American speech the high frequency elements carry meaning and enable a person to differentiate between words.

The type of damage which has been discussed so far is a type which is not correctable by surgery or drugs. It is actually the physical destruction of major components in the sensory and neural portions of the inner ear.

Since restoration is nearly an impossibility then prevention is definitely the route to be taken by all shooters, regardless of the firearm used.

A 105 mm. howitzer will wipe out hearing much more rapidly than will a .22 revolver — that's only logical — but the principle is the same. Most people within the close proximity of a 105 will shove their index fingers in their ears automatically in an attempt at prevention. The rifleman or handgunner simply cannot do this.

The small-arms shooter must resort to some artificial means to reduce noise to acceptable levels. This minimizes the possibility of hearing damage, whether of the temporary or permanent type.

Three basic types of protection are available to shooters. The ear cup or ear muff type completely covers the ears and, by means of a tensioned headband, creates a closed space of air around and in the ear. The cups should be made with a sponge perimeter where they contact the head. The sponge's compressible quality will compensate for irregularities and maintain the protective air space. The entire ear should be covered. If there is any point where the border does not contact the head securely, then the ear muff does not provide the protection it was designed for.

The ear plug is a common device. The plug must seal the ear canal. A simple test for the efficiency of the seal is to strike two pieces of metal together. The sound should be muffled; if it is not, your ears are

not protected. All ear plugs should be made of soft rubber slightly larger in diameter than the ear canal.

A variation of the ear plug is the personalized mold. The mold of the ear is cast; then a soft rubber duplicate is forwarded to the purchaser by the manufacturer. This mold is fine for adults but not for adolescents or young teenagers. Due to the maturation process ear canal dimensions can change within a matter of months. The change in configuration could preclude an adequate seal.

The problem with any device inserted into the ears is the difficulty of obtaining and maintaining a seal against muzzle blast. Once the seal is broken you are not protected.

The third type of device is the piston-type ear plug. This is a device with minimal protective qualities that is inserted into the ears. The device is designed to protect against impact noise, such as gunfire. A piston within a metal sleeve wrapped in a soft rubber collar is rammed inward by impact sound waves, thereby effecting a seal. Since this is an ear-plug, it should be tested as an earplug. The impact noise resulting from metal to metal contact should sound muffled. If it does not, there isn't a seal.

Some shooters who use ear protection, test the protectability by clapping their hands. This isn't a bad test, but it's better to bang two pieces of metal together because the metal test duplicates more closely the sound you want to protect against.

At almost any rifle range shooters can be seen firing the largest of pistols, revolvers and rifles with nothing more than simple cotton plugs in their ears. This has the effect of placing a screen door on a submarine! In no way does cotton significantly protect against any noise, especially the type we're talking about. Cotton cannot create a seal. With wax-type ear plugs it is possible to obtain a seal but difficult to maintain one.

The previously mentioned protective devices are based on three principles with the common cause of sealing the ears from the environment. The ear cup design isolates the ears from the sound with layers of plastic, foam, sponge and air. The ear plug is designed to lessen all sounds by trapping an amount of air under the plug. The piston-type plug traps an amount of air only a fraction of a second before the impact noise reaches the ear. The trapping process is the seal which protects.

The highest portion of the lower jaw borders on the floor of the ear canal. Every time you place a stock against your cheek you run the risk of breaking the seal. The better fitting the stock, the less risk. A good rule to follow is to test for the seal then cheek your stock. Rather than fire, recheck the seal by smacking two pieces of metal together. The checking process sounds involved but should take no longer

than five seconds. Chewing gum or yawning can also break a seal.

Of all the types of protection mentioned, only the piston-type plug enables the shooter to hear speech, provided the speaker is close enough. One drawback of this type occurs when a stiff breeze is blowing. Due to the piston nature the wind sounds as if it's blowing at 50 m.p.h. rather than an actual 10 m.p.h.

With other types in place, conversation is not a simple matter although it is possible if both persons are in close proximity and raise their voices.

Advertising literature points to the low frequency nature of speech. For all intents and purposes all a person needs to understand speech is a frequency band from 500 to 2000 cycles per second as previously mentioned. What kind of frequencies or band of frequencies are we dealing with when a shot is fired? Actually, it's not known. All sounds in nature are a composite of frequencies. The frequency question is of some interest, and eventually someone will catalog all firearm reports. This has the appearance of a couple of months of work, but we must consider the effects of such variables as powders, bullets, muzzle brakes, chokes and barrel lengths.

As is quite evident, the task would require a lifetime, since all of these factors will have a definite bearing on the resulting blasts' frequency range.

Are the frequencies that important? The answer, quite simply, is no. The factors that cause damage to the hearing apparatus are a combination of the loudness (which everyone concedes) and the "impact"

nature of the noise. Impact noise is quite loud, usually in excess of every person's threshold of pain for hearing. As you squeeze the trigger you'll reach the point at which the "boom" will occur. The boom lasts a few thousandths of a second. At the most the report is one yard from your ears. Of course the louder the report the greater the damage, either temporary or permanent. Considering the difference in sensitivity between people, the point at which damage occurs could be the first report of a .22 long rifle cartridge or the six hundredth report from a .44 Magnum. The report does get worse with increasing calibers, shorter barrels and hotter loads. Since a majority of riflemen are right handed, the resulting damage is more pronounced in the left ear, since it is pointed towards the muzzle. The opposite is true for left handers.

The caliber of gun you shoot should not be used to determine whether you protect your hearing. All ears should be protected, especially those of observers, both outdoor and indoor. If you value your hearing and can't part with shooting, your only alternative is protection. If you decide to protect, then use some or all of the equipment mentioned. Combinations can be worn if desired.

Whatever you shoot, damage will result from repeated exposure. Without protection, eventually you will find yourself in a doctor's office paying him to tell you that nothing can be done for your hearing loss and that, if you care anything about your hearing, you'll have to give up shooting.

Press the joystick button to **STOP** the timer.

1. Intermittent, as compared to repeated, exposure to gunfire
 - a. causes severe permanent trauma in the inner ear
 - b. usually causes only slight permanent damage to the ear
 - c. causes only slight immediate damage, but has a cumulative permanent effect
 - d. almost always causes ringing in the ears, which is a sure sign of hearing loss
2. The best way to recover from a severe hearing loss is to
 - a. stop shooting
 - b. take a course in lip reading
 - c. submit to therapeutic surgery
 - d. purchase a high-quality hearing aid
3. The main problem with ear plugs for shooters is
 - a. getting them out after long use
 - b. to maintain the seal against muzzle blast
 - c. that they frequently lodge in the inner ear
 - d. that they must be changed frequently to fit the ear canal

4. Which two factors combine to cause damage to the hearing apparatus?
- a. rifle caliber and loudness
 - b. frequency and impact of the noise
 - c. loudness and nature of the noise
 - d. loudness and proximity of the noise
5. A shooter's ears should be protected
- a. whenever he shoots
 - b. whenever he fires a .44 Magnum
 - c. when he fires a short barrel rifle
 - d. when he shoots anything larger than a .22 caliber

SUCCESS LOG FLEXIBLE READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(20 points per correct answer)	

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 5

Directions

READING EFFICIENCY INDEX _____

1. Refer to the three Unit 5 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
2. Record your Unit 5 REI above *and* on the REI Record page in the back of your Workbook.
3. Press **START** to load the Reading Progress Graph. While the graph loads, read “Make Your Life Easier” below.

MAKE YOUR LIFE EASIER

Take a moment to quickly review your progress. Study your graph when it appears. Is the REI for each unit accurately showing your progress? We hope it's useful as a basis for comparing your results.

What was your beginning reading rate? What is it now? Has it steadily increased or have you reached “plateaus” and leveled off for a lesson or two? Most people experience plateaus where their rate seems to stay the same for a while. Don't get discouraged! Keep trying and you'll see more improvement.

Give yourself a pat on the back for making a *good* investment in *yourself*. You spent most of your life reading at your beginning rate. Now, in only several hours you are reading faster—saving time and becoming a more efficient reader. Even reading 100 words per minute faster is a great increase! Keep up the hard work and *use* your new skills. Put them into practice in your daily life, and make life easier. Feel the effects of beginning to achieve more, personally and professionally. Stick to your guns! And continue your progress. In the units that follow we'll give you more help in reaching your goal to read faster and more efficiently — the ATARI way.

4. Enter your Pretest and Units 1-5 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
5. Press **START** to view your graph.

UNIT 6

MATCHMAKING

- To begin Unit 6 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 3 with Side 2 up.
- After listening to the audio segment, turn to the Warm-up and read the directions.

WARM-UP EXERCISE

Directions. In this Warm-up drill phrases instead of words will appear in the center of the screen in the Reading Window. An initial phrase will occur and then several phrases will appear below it. Push the joystick button when you see the initial phrase reappear.

Set your beginning RWR Between 60 and 90. Then increase it as you proceed through the exercise. You may want to repeat the exercise, once you are familiar with the format. Push the joystick button to begin. Record your results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Directions. Keep up your pace! Don't slow down! Set your rate 50 words per minute faster than you did for Unit 5. Look for the gist of the material along with a few facts. Push the joystick button when you are ready to begin. Record your rate below.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting at the beginning of the Paced reading.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

Directions. The Paced selection deals with a timely topic, energy, and contains a number of facts. See if you can get the gist — and some important facts — at a rapid rate. Skim when you can. Set your tones-per-minute rate and push the joystick button to begin and when you finish.

Selection: "Where Solar Heat Pays Off." Reprinted with permission from *Changing Times Magazine*, (c) 1980 Kiplinger Washington Editors, Inc., July, 1980.

Whether you're remodeling, building a new house or replacing the water heater in your present home, this may be the time to consider heating your water with the sun. In many homes solar energy can supply 50% or more of household needs and, assuming proper installation of an efficient system, it can do the job economically except in those rare places still blessed with bargains in conventional fuel rates.

Installing a solar hot water system is a simple way to get acquainted with the virtues of solar energy without investing in an expensive space-heating setup. No drastic alterations to the house are required, structural insulation can remain the same, and rooftop collectors that gather the sun's rays are modest in cost and size compared with those required for space heat.

Once installed, a solar system provides nonpolluting energy that is exempt from ever-rising fuel prices. However, there are situations in which solar hot water is neither practical nor economical. The location and shape of your house and property may rule it out. The pattern of your family's water use may not conform to the way solar heat is delivered. The cost of installation and a continuing need to rely heavily on backup energy during prolonged cloudiness could render a solar system impractical.

Heating water with the sun is basically uncomplicated. Shallow rectangular boxes covered with glass or transparent plastic collect heat in absorbent material, usually black or some dark color. Liquid or air circulating through the panels picks up the heat and delivers it to a separate tank for later release.

In the simplest setup — called a direct, or thermosiphoning, system — plain water heated in the collectors flows through pipes to a tank installed in the attic or on the roof. Household hot water is drawn directly from the tank, which is resupplied by pipes from the public supply or a well. A system like this is relatively inexpensive because it requires little maintenance and no pump; water is fed via gravity to faucets in rooms below. But with such a system the underpinnings of the

attic floor or roof must be sturdy enough to support the weight of the tank. And because the water is used directly, no toxic substances can be added to prevent corrosion or freezing. This makes the system impractical in places with hard or acidic water or severe winters, though a manual or automatic valve for draining the water can be installed.

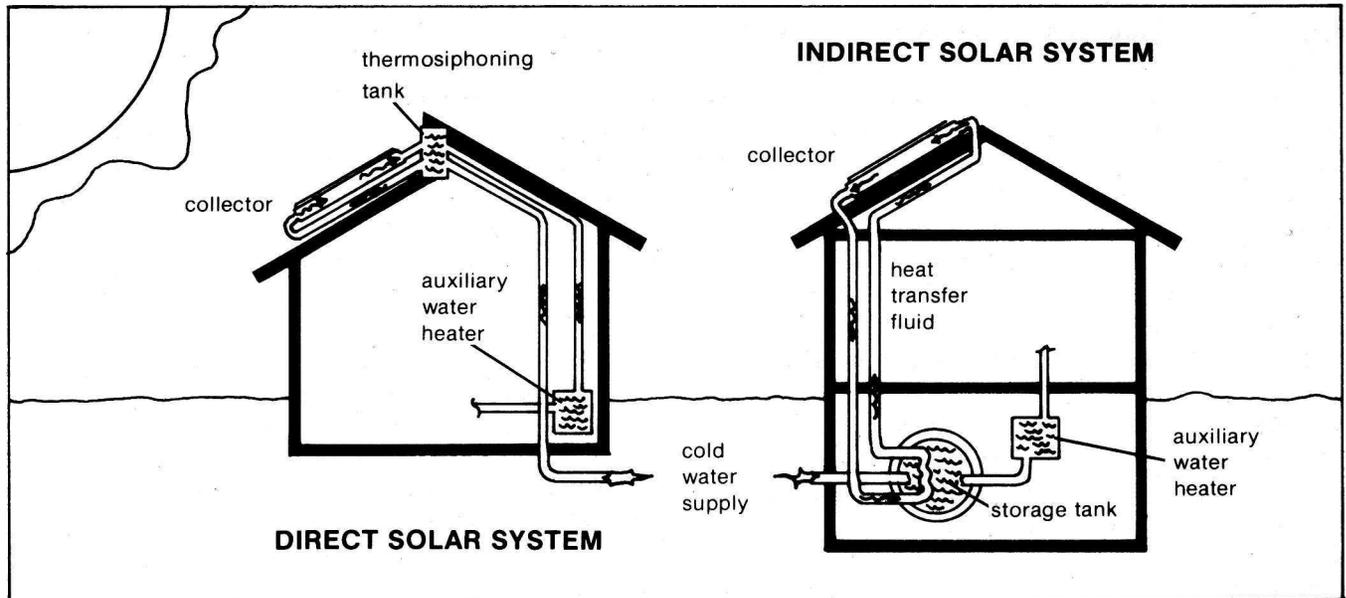
With the other main kind of solar water heater — called an indirect, or closed loop, system — heat gathered by the collectors is stored in a tank that is usually paired with a conventional water heater nearby. The fluid used to absorb heat from the sun is not the water you draw from the tap, but a liquid contained in a closed system (like your car's radiator) that transfers the sun's heat to the water supply by a heat exchanger, which may be a large coil either inside the storage tank or wrapped around it. A pump intermittently cycles the liquid with the protective chemicals through the collectors and back to the heat exchanger without contaminating the household water.

The crucial elements of a system

If the idea of solar hot water appeals to you, consider the logistics involved. Comparatively small collectors — 30 to 100 square feet, depending on climate and your water consumption — can provide a steady supply of water at a temperature of about 140°F. A mixing valve can be installed to keep water from becoming dangerously hot.

Collectors facing south are usually most efficient, though a case can sometimes be made for facing them westward to take advantage of higher late-afternoon temperatures. Angling collectors correctly to catch the sun's rays is as important as which direction they face. Generally, the angle should correspond to the latitude of your home. The farther north you are, the steeper the angle, though a deviation of ten degrees either way is unimportant.

Collectors set at sharp angles obtrude above the roof



line. Consider whether they can be located in a spot that's unshaded both summer and winter — on the ground, perhaps, or against a wall, or installed as an awning. If not, what do town ordinances or your neighbors say about the esthetics of rooftop structural changes like that?

Inside the house, can pipes from outdoor collectors be installed without major disruption? Is there space near the existing water heater to locate a storage tank that has about an 80-gallon capacity if you are a family of four?

Except in regions where warm temperatures are the rule, you could not count on solar energy for all your hot water. Even in ideal climates, solar units should have a separate backup system to provide hot water when a few days of thick clouds block the sun. This means you must retain your conventional system and pay for some energy source to make up for the free but incomplete service of the sun.

A solar-heated portion of 50% of household hot water is usually most practicable, but in some areas you can get higher percentages. In Florida, for example, a solar water heater can provide up to 75% of a family's requirements. In that state, where water heating accounts for about 25% of the average household's energy cost, some users report savings of \$10 to \$15 on each monthly utility bill when the electric backup unit is set constantly at 140°F. The farther north you are or the cheaper the conventional fuel you use, the less you can expect to save with solar hot water, with some exceptions.

The collector area you need depends on the number of household users as well as geographic location. With the collector sizes listed below, homeowners can expect to get at least 50% of annual requirements.

household members	2	4	6
	collector size in square feet		
Billings, Mont.	40	60	80
Birmingham, Ala.	40	60	80
Burlington, Vt.	60	80	100
Chicago, Ill.	60	80	100
Jacksonville, Fla.	40	60	80
San Francisco, Cal.	40	60	80
Tucson, Ariz.	40	60	80

The sizes were calculated by Philadelphia's Franklin Research Center and appear in *Hot Water From the Sun*, a new book sponsored by the Department of Housing and Urban Development in cooperation with the Department of Energy. Estimates included in the same volume, to be sold by the Superintendent of Documents, should give you an idea of recent costs of installing systems designed for areas where protection from freezing is required.

collector size in square feet	installed in new homes	installed in existing homes
20	\$1,450	\$1,600
40	1,900	2,050
60	2,300	2,550
80	2,750	3,000
100	3,200	3,500

Prices do not take into account the federal government's new 40% tax credit or state credits, which would lower the cost substantially for taxpayers taking advantage of such provisions. On a unit costing \$2,000,

for example, you could subtract \$800 from income taxes you owe Uncle Sam, to say nothing of additional tax breaks on income and property taxes now allowed by many states and municipalities. Arizona, for example, grants an income tax credit of 35%, Massachusetts a property tax exemption for 20 years following installation. Ask your state tax office about its policy. Additional information on tax incentives and other aspects of solar installations is available from the National Solar Heating and Cooling Information Center, P.O. Box 1607, Rockville, Md. 20850; or call toll-free, 800-523-2929, in Pennsylvania 800-462-4983, in Alaska and Hawaii 800-523-4700.

Another financial break will be coming in a new federal program to lower the interest rates on loans for solar installations. Under the solar bank program the interest for financing a solar project would run about half the going rate for ordinary consumer loans. Details of the program, recently approved by Congress, are being worked out.

Figure what proportion of your hot water needs might be obtained from the sun's heat, how much you would have to invest to get that much solar energy, and how long it would take to recover your initial investment. You may want to seek help from SOLCOST, the Department of Energy's computer program, which can not only work out figures in terms of specific solar applications in various climates but also show how purchasing solar units would compare in the long haul with putting the same money in another investment. Information about SOLCOST is available from International Business Services, Inc., 1424 K St., N.W., Third Floor, Washington, D.C. 20005. And for \$35 you can have a printout of an analysis done for your individual situation. To assemble some of the required information, you may have to consult a local heating engineer, builder or utility company. For detailed information on getting a SOLCOST analysis, write to SOLCOST Service Center, 2524 E. Vine Dr., Fort Collins, Colo. 80524.

Standards and certification

Federally approved standards covering materials and performance are still being developed jointly by the government and several private testing groups.

Voluntary standards for collectors, not whole systems, have been developed by the Solar Energy Industries Association, which authorizes decals with the association's initials (SEIA) for display on products of complying manufacturers. A list of approved makers meeting minimum standards is available from the organization, Suite 800, 1001 Connecticut Ave., N.W., Washington, D.C. 20036. Individual states have developed standards of their own. Florida, for instance, requires that collectors meet certain standards for materials and construction before they carry a certification label of the Florida Solar Energy Center.

Experience in Florida shows the need for such standards. An on-site inspection of 60 solar hot water systems, installed before adoption of more stringent rules, found serious operating or installation flaws in all but 16; many owners were unaware of the problems.

Choose a licensed contractor who has local experience with solar installations. Ask for a list of customers and talk to them about their experiences with solar hot water, taking into account differences in size and type of backup heat. The local Better Business Bureau or consumer protection office should be able to report on any previous complaints against the seller.

Brands and types of equipment you'll be asked to consider can be confusing. In cold climates or when extremely hot water is needed, a flat plate collector with double glaze and an absorber with a selective coating is more efficient than one with a single glaze and nonselective surface. The more efficient the collector, the higher the price, but double-glazed collectors are usually required only in the severest climates.

Does a maintenance contract go with installation? If not, find out who does repairs and whether parts will be available. Ask for a warranty of at least one year on the installers' workmanship. Collectors depending on liquid for heat transfer usually carry five-year warranties, though other parts of the system may carry individual protection. Once the system is installed, have the contractor or a representative of the primary manufacturer of the system check it out for proper operation.

Press the joystick button to **STOP** the timer.

1. As a home-energy supply, solar energy
 - a. can meet all your heating needs
 - b. serves a double use as a hot tub and heater
 - c. can supply about 50% of your household needs
 - d. is really only practical in hot, sunny areas

2. In a closed loop system, the water used
 - a. comes from your tap
 - b. is recycled from your previously used bath/dish water
 - c. circulates in a system like a car radiator
 - d. is heated exclusively by the sun
3. Heat collectors are generally most efficient when
 - a. facing westward to catch higher afternoon temperatures
 - b. facing in a southerly direction
 - c. lying flat (when possible) to gain greater surface reflection
 - d. placed at a 10° angle
4. A thermosiphoning system is not practical where the
 - a. attic floor is weak
 - b. winters are severe
 - c. water is acid
 - d. all of the above
5. To keep solar heated water from becoming dangerously hot
 - a. the collector panels must face north
 - b. a flective covering can be pulled over the collector
 - c. auxiliary tanks eject cold water into storage tanks
 - d. mixing valves are used
6. Solar collectors are commonly placed on the roof
 - a. because it is the hottest area around a home
 - b. due to their large, inconvenient site
 - c. because the neighbors are less likely to see them
 - d. but can be located in a variety of other places
7. The effective size of your solar collector depends on
 - a. how much space your living quarters provide
 - b. how strong your building structure is
 - c. the average sunny days in your area per year and the cost of local utilities
 - d. the number of people in the house and your location
8. The price of solar heat
 - a. is lowered by tax credits and varying statewide tax breaks
 - b. is reduced by 60% in federal government tax credits
 - c. is free because nobody owns the sun
 - d. is about 25% less than the cost of burning buffalo chips
9. Standards covering solar heating materials and performance
 - a. are the same sort of bureaucratic boondoggle we all know and love
 - b. guarantee interchangeable parts
 - c. were demanded by unionized solar heating installers
 - d. are needed to reduce the many complications and flaws in the earlier installations
10. The article suggests that solar installations be handled by
 - a. Sears
 - b. any building contractor
 - c. specialized solar heat installers
 - d. the money saving homeowner

SUCCESS LOG PACED READING

READING SPEED _____ WPM

COMPREHENSION SCORE _____ %
(10 points per correct answer)

PRESS **START** TO CONTINUE.

TIMED READING

Directions. The next article on using windmills for energy is like the last one. It's filled with facts and figures. How did you do with the Audio Pacer? You may need to adjust your tpm rate a bit. But read rapidly and apply your skimming skills. Answer the questions and record your scores in the Success Log Box. Press the joystick button to begin reading and again when you finish.

Selection: Pullen, John J., "Will It Pay You to Put Up a Windmill?"
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Country Journal Publishing Co., Inc.

At midmorning of April 12, 1979, a pleasant day with the still-leafless treetops swaying in a moderate breeze, I joined an unusual group gathered at the home of Rosemary and Alan Hanks in Madison, Connecticut, on a hill overlooking the East River about a mile north of its outlet into Long Island Sound. Conspicuous on the scene, and most curious, was the presence of men in yellow hard hats from the Connecticut Light & Power Company. They were there on private property to help install a windmill, which might have moved a casual observer to ask, "What hath the energy crisis wrought? Are the wind folk now in bed with the electric utilities?"

When I arrived the CL&P fellows were digging a hole in which to plant a 70-foot wood pole, which was lying nearby. Their machines included a 50-ton crane, a backhoe, a line truck with cherry picker, an earth tamper, and an air compressor. "This is overkill," the foreman told me. "You don't need a fifty-ton crane to put up a three-hundred-pound wind generator. But it's what we had available." The generator itself, which was to be mounted on top of the pole, was about 6 feet long and 2 feet across, with a three-bladed propeller 13 feet in diameter. Across its gleaming fiber glass nacelle was lettered the word ENERTECH, the name of the manufacturer (also a distributor of other types of wind plants). Busy supervising the installation of the generator were Eugene Butler and Peter Kaminsky of Energy Alternatives, Inc., a distributor of energy equipment with a home office in Greenfield, Massachusetts. At odd moments they discussed with me a feature of the machine, known as the Enertech 1500, that represents something new in windmill technology. The Enertech 1500 produces alternating current (AC) that is identical to 115-volt, 60-cycle utility power supplied to your home; it is connected by a simple plug to any 20-ampere wall outlet, and wind-generated electricity then flows directly to lights and appliances in the house. If there is a shortage, the electric utility automatically makes up for it, and if the wind produces more than is being used, the surplus flows into the utility's distribution system. This arrangement eliminates the need for a set of storage batteries, which has traditionally been one of the costliest components of a

wind-powered system.

Representing the utility was Robert W. Goodrich of Northeast Utilities (parent of CL&P). Asked if Northeast was planning to offer a windmill-installation service, he said, "No, that will most likely continue to be done by private contractors. What we are doing here today is part of a two-year experiment we are conducting along with Energy Alternatives. There is another Enertech 1500 installed at Colrain, Massachusetts, up in the Berkshires, about a thousand feet above sea level. We're instrumenting that house and this one here in Madison to gather data on wind power both at a shoreline location and one up in the hills." One of the things utilities like about the Enertech 1500, Dr. Goodrich said, is that it automatically stops generating when there is a utility power failure, so that wind-generated power cannot be fed into a "down" utility line and shock linemen who may be repairing it. (As this fail-safe feature indicates, the Enertech 1500 is not at present a stand-alone, or back-up system. It is designed to slow down your consumption of utility power and reduce your electric bill.

By early afternoon the pole at the Madison site was in place and securely guyed. The generator was lifted to the top of the pole and attached. The connecting cable and accessory equipment were installed. At 2:40 p.m., whirling with a sound like the distant beating of wings, the propeller started making red, white, and blue circles in the sky. Almost involuntarily, everybody cheered. On a control box inside the house, a meter showed that the Enertech 1500 had begun to deliver.

A fast, simple operation. The cost? In this case, I was told, Northeast Utilities had contributed the pole and the installation out of its research budget, but the normal cost is reasonable. The wind turbine generator and its control system as of the end of 1979 was priced at about \$3,475 F.O.B. Norwich, Vermont. The additional cost — the pole or tower, installation, and wiring — may run from \$1,000 to \$4,000 depending primarily on the height and the type of pole or tower. (A wood utility pole, if it can be used, is less expensive than one would think.) It was obvious that much planning and technical expertise had gone into this accomplishment, so I was not surprised to learn that Enertech's chief design engineer is Henry

Clews, a nationally known pioneer in wind-energy systems. Driving home from Madison, I couldn't help thinking about another trip I had made to East Holden, Maine, where Henry Clews was running his own business, the Solar Wind Company, almost five years previously. (See "Energy from the Wind," January-February 1975.) A lot of wind has gone over the mill since then. In 1974 I could identify only one U.S. manufacturer of wind turbine generators. Now there must be twenty-five; there are generous federal and state incentives for installing windmills; and there is a federal program to encourage and aid the commercial development of wind-power.

Back in 1974, struggling by himself in Maine, Henry Clews was a distributor for a couple of imported wind machines, and he quickly learned a lot about the windmill business as distinct from the windmill art. "We had thousands of inquiries," he told me, "probably more than fifty thousand, but of those only a small percentage, maybe one in a thousand, turned out to be buyers. If it hadn't been for the little booklet 'Electric Power From the Wind' that I wrote and sold, I probably wouldn't have been able to stay in business. Eventually I sold the franchises for the imported machines and began to work on a design of my own. I actually built several prototypes, but I didn't put any into production. They were direct-current (DC) battery-charging types, and the problem was that none of them could ever be competitive with utility rates. So it didn't seem to me that they'd ever have widespread acceptance. It wasn't until I closed down Solar Wind, spent a summer riding a bicycle across the United States and then went to work for Enertech that I got started on the new idea.

"The new approach came about as a result of a project we did at Enertech for Xerox Corporation, making a bicycle-powered generating system. They wanted a bunch of little units that children could pedal to generate electricity that could be fed directly into a power line to light up the White House Christmas tree — a sort of public relations project. We built twenty of these. In doing so, we learned a lot about using induction generators to feed power directly into an AC line."

This is a key point. The machines traditionally used in wind systems — the DC-producing generators and the AC-producing alternators — cannot accomplish this direct feed-in, because as wind speed changes they turn out an electric current with varying voltage and frequency, not synchronous with utility power. Therefore their output must be stored in batteries. Since batteries accept and supply only DC, the current from an alternator must be changed to DC by an appropriate device before storage. When electricity is drawn from the batteries it can go directly to lights and some appliances that will function on DC; but many appliances require

AC, and for these there must be an inverter change DC to AC. The inverter is expensive and uses up a good deal of power just in running itself. All rather complicated.

The induction generator that Henry designed into the Enertech 1500 produces AC that is always synchronous with that of the electric company, therefore it can simply be plugged into a wall outlet, eliminating the need for batteries and inverters. The induction generator is actually (and should be called) a motor-generator. When electric power is fed into this machine it causes a rotor to turn and a mechanical driving force to be produced; it is then acting as a motor. But mechanical force, such as that of the wind, can be applied to turn the rotor and do the opposite — that is, cause electricity to be produced. It is then acting as a generator. Induction motors (generators) are standard, off-the-shelf items, so their cost is quite reasonable, and millions of them have been in use for decades, so their reliability has been proven, and the bugs have been pretty well worked out.

Another noteworthy feature of the Enertech 1500 that would seem to make for simplicity and trouble-free operation is the power train. One problem in windmill design is to get all the power possible at low wind speed, but to prevent high-speed operation that could destroy the machine. Traditionally, many manufacturers have provided this overspeed control by means of a variable-pitch propeller. Instead of adding this mechanism, Enertech uses a fixed-pitch design based on a "rather subtle" (as Henry calls it) aeronautical principle that sends the blades into a progressive stall when wind speed gets too high. At the same time, the propeller is efficient at low wind speed. It is not self-starting, but this potential difficulty is easily overcome. Utility power is used for the first few seconds to bring the machine up to synchronous speed as a motor; then the wind takes over, and the motor becomes a generator. Even after start-up a small amount of electricity from the utility continues to flow through the machine to energize the magnetic field necessary for generating electricity. If there is a utility "outage" and this flow stops, wind-generated electricity also stops perforce. This is the ultimate fail-safe feature that protects utility linemen. In addition, the Enertech 1500 has an electro-mechanical brake. Operation of the motor-generator is controlled by a small logic circuit that receives signals from an anemometer located on the tower near the windplant. When the anemometer indicates that wind speed is at least 11 mph, the brake is released, and the machine is "motored up" to synchronous speed. If wind speed drops below 8 mph (at which point the motor-generator would start drawing instead of generating power) or if utility power fails, the brake is automatically applied, and the wind machine stops.

Will a windmill pay where you live?

The amount of electricity a wind turbine generator produces varies with wind speed. For those who have forgotten their electrical terms, a brief refresher: a *watt* is the basic unit for measuring the electricity a piece of equipment is producing or using. A *kilowatt* (kW) is 1,000 watts. A *kilowatt hour* (kWh) is 1,000 watts produced or used for an hour or the equivalent; for example, 100 watts produced for ten hours. Enertech has designed the Enertech 1500 to reach its rated output of 1.5 kW at a wind speed of 22 mph and to produce roughly 370 kWh a month at a site where winds average 12 mph. The rating and claimed output of any wind generator must similarly be related to specified wind speeds.

Although the discussion that follows uses the Enertech 1500 as an example, it is mostly applicable to all windmills. To begin with, on a general basis, wind systems are not for everyone. They are best suited for windy locations where the cost of commercial power is unusually high. They are better suited for rural or semirural locations than they are for urban or suburban areas where building and zoning regulations, as well as interference with the wind caused by nearby structures, may be encountered. Given a location that seems generally favorable, the most critical remaining factor is average wind speed at that site. As little as 1 mph at ground level can make the difference between a system that will pay for itself and one that will not. And winds can vary considerably between sites that are only a mile or so apart. It is therefore highly important to determine carefully the average wind speed for each individual location.

Starting with a visual check, a good site is one where treetops sway or a flag flies fully extended most of the time. Deformed trees may also provide a clue; strong continuous winds tend to reduce foliage on the side toward the wind. Sites may benefit from irregularities in the local terrain, such as narrow valleys that compress, or rounded hill crests that speed up, wind flow. Old residents, Forest Service personnel, and others who may have observed local wind behavior are worth consulting.

For preliminary estimates, it may be enough to measure and record wind speeds at eye level twice a day for two or three weeks, using a simple hand-held instrument that costs about \$10. If the average of these

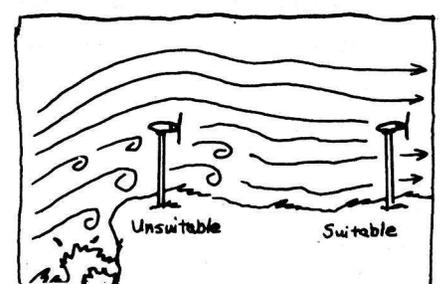
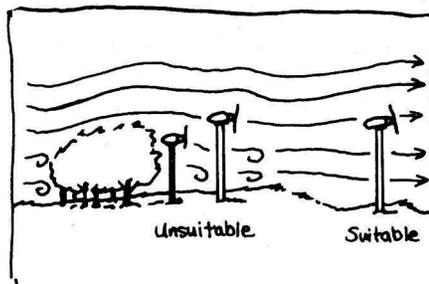
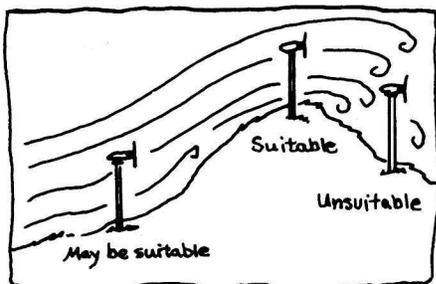
measurements is less than 8 mph and commercial power is available, Enertech advises you to go no further; the site is probably not satisfactory. Other manufacturers may suggest different minimum wind speeds. If the site appears to be promising, the next step is to install an anemometer, a recording device to measure and record wind speed over a period of several months or even a year. The resulting data may be compared with the records of public or private weather stations near you. The U.S. Department of Commerce, National Climatic Center, Federal Building, Asheville, North Carolina 28801, issues two publications: "Local Climatological Data," which is inexpensive and includes monthly average and wind speeds for a current year; and "Airport Climatological Summary," which is more detailed and technical and covers a longer period. The first publication is prepared for about 290 stations, the second for about 160. One of these stations might be near enough to your site to provide helpful data. (When looking at these summaries, be sure to note the height of the recording instrument above the ground.) One great value of a comparison with historical records is that you can judge the effect of seasonal variations, which do not change much from year to year. For example, if your measurements are made in summer, you may see that you can predict a higher year-round average by taking into account the windier winter months.

Choosing tower height and type

One purpose of the tower or pole is to raise the wind machine above and away from turbulence, which may damage it, and from "wind shadow," caused by nearby trees or buildings. A site on a hill doesn't necessarily lessen the need for a high tower. (See drawing.) Some authorities suggest that both turbulence and wind shadow can be avoided by erecting a tower that is at least 30 feet higher than any obstacle within 100 yards, or 40 feet high, whichever is greater. Others say the tower should be at least 60 feet high.

Another purpose of the tower relates to wind speed. Wind measurements at ground level can be misleading; here winds are slowed by the drag of the earth's surface and by various obstacles. Wind speed generally increases with height, and even though this increase may be only 4 or 5 mph, it is significant.

Press the joystick button to **STOP** the timer.



1. The Enertech windmill was being installed by a 50 ton crane
 - a. because that was what was available
 - b. due to its massive weight
 - c. which also dragged the windmill from the manufacturer to the buyer
 - d. and dropped onto a 70 foot silo-type pedestal
2. The Enertech 1500 produces alternating current
 - a. on windless days, otherwise direct current
 - b. that flows indirectly into the electric circuits
 - c. which a generator transforms to AC
 - d. that is identical to power supplied for your home
3. Northeast Utilities was installing the windmill
 - a. as part of their Energy Alternatives services
 - b. as part of an Energy Alternatives experiment
 - c. because private contractors can't profit on such jobs
 - d. to keep electricity flowing during utility power failures
4. Henry Clews' first windmill prototypes
 - a. could not compete with utility rates
 - b. were received with little interest or inquiry from the public
 - c. were made while he worked for the Xerox Corporation
 - d. became wildfire financial successes
5. Traditional wind machines are not synchronous with utility power because
 - a. as wind speed varies they turn out current with varying voltage and frequency
 - b. they depend on steady wind speeds and are limited to specific areas
 - c. DC watts can never be transformed for AC appliances
 - d. the energy produced is too varied and unreliable
6. Henry Clews invented a generator that
 - a. transforms DC to AC inexpensively
 - b. can be plugged into a wall outlet
 - c. effectively stores unused energy in ordinary batteries
 - d. can be manually "peddled" on non-windy days
7. When wind speeds get too high, the Enertech 1500
 - a. automatically turns off and self starts when desirable conditions recur
 - b. sends its blades into a progressive stall
 - c. should simply be unplugged
 - d. is able to store all the excess power via a specialized power train
8. If there is a utility outage, the Enertech 1500
 - a. can supply a home electricity until normal power is resumed
 - b. can only regenerate stored kilowatts
 - c. will continue as long as winds remain above 8 mph
 - d. electricity production ceases to safeguard utility linemen
9. Given average windspeeds of 12 mph, the Enertech is designed to produce how many kWh a month?
 - a. 370
 - b. 1.5
 - c. 22
 - d. 12

10. Windmills are well suited for
- windy areas where utilities are high in cost
 - industries where electrical consumption is high
 - anywhere, because costs are so low
 - densely populated areas where the public utilities are overtaxed

SUCCESS LOG		TIMED READING	
READING SPEED	_____	WPM	
COMPREHENSION SCORE	_____	%	
(10 points per correct answer)			

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

First and Last

TECHNIQUES

Tape Counter Setting _____

Discussion. You've practiced skimming for key words and phrases. And for the general idea of some short and some longer selections. In this lesson you'll use your skimming techniques to quickly grasp additional information.

Instead of trying to determine just the theme of the article, you'll be trying to rapidly detect the main points in individual paragraphs. A clue: The main point, or topic sentence, of a paragraph is often made in the first or the last sentence. But whether or not the topic sentence introduces a subject or summarizes a subject, it is the one sentence in the paragraph that includes the ideas in the other sentences. The other sentences usually contain related or supporting details.

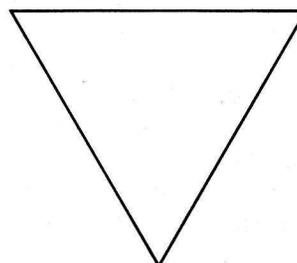
Look at paragraphs *a* and *b*. In each paragraph the topic sentence is in boldface type. Note how the other sentences present details that relate to the main idea expressed in the boldface sentence.



Excerpt from "Getting Along with Your 1973 Car,"
Better Homes and Gardens, May 1973, © Meredith Corporation, 1973.
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a.

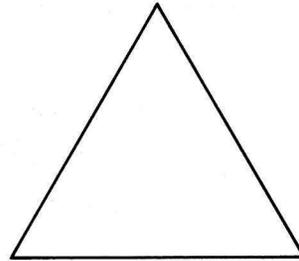
SEVERAL NEW FEATURES PROVIDE SOME PROTECTION FROM AUTO THEFT. On many cars the hood release is now located inside the car. Steering column and transmission lock in place when the ignition is turned off, making steering (and towing) impossible. At extra cost, optional theft alarms raise a hue and cry against illegal entry, a good investment.



Hollister, George E. "With Legs Like These . . . Who Needs Wings?"
National Wildlife, August, 1973, p. 13.

b.

He's half tail and half feet. The rest of him is head and beak. When he runs, he moves on blurring wheels. He can turn on a dime and leave change. He doesn't need to fly because he can run faster. He kicks dirt in a snake's face, and then eats the snake. He chases lizards, and watches hawks with an eye . . . **HE'S AN ODD BIRD, BUT A REAL ONE — THE ROADRUNNER.**



The simple diagram next to each paragraph can serve as an aid in remembering these two types of paragraph organization. The base of the triangle represents the topic sentence and the apex represents the supporting details.

While most readers prefer reading well-structured paragraphs, we all know that many paragraphs simply cannot be "dissected." That is, they may contain no structure or be so complex that the structure is not evident. When you are searching for topic sentences, don't become too frustrated, if you can't locate a good "overall statement."

Remember: While many paragraphs will have a first or last sentence that states the main idea, others may have no one general statement (such as, a list of details), a topic sentence in the middle of the paragraph, or even have two topic sentences. Your goal is to identify the main message of each paragraph, as you skim it, so that you have several complete thoughts at the end of an article. Then you can integrate the separate thoughts into one descriptive statement about the entire selection.

1. Practice picking out the topic sentence of a paragraph by skimming (*don't* slow down and read) paragraphs *c - g* below. Then underline the topic sentence in each one. If you don't think a paragraph has a general statement, just mark it with an *x*. Check yourself with the Answer Key.



Marvin B. Sussman, "Coping With Modern Society"
Wisconsin State Journal, October 26, 1980, Sec. 5, p. 6

c.

On their surface bureaucracies are impersonal and rational. They are governed by rules, and are thus presumably fair and immune to personal influence. They are, ideally, systems designed to permit easy social exchange among strangers in a world that is too large and complex for exchange to be governed solely by kinship, friendship, and other informal, personal relationships. But the words "bureaucracy" and "bureaucratic" have come to connote an inefficient, rule-bound, maze-like system that obstructs rather than facilitates obtaining services.

I. William Berry, "Overload, Is Better Worse?"
Ski, Nov. 1980, p. 117

d.

Down we came into the funnel, the crowd thickening at every intersection like a river gathering speed as the ice thaws in spring. Patrollers had the control fences in place, a maze of blue net to turn the torrent, but some of the novices had trouble negotiating the narrow entrances while the fast-Eddies hit them like GS gates. Then through those checkpoints and onto the shallow, narrow runout, bombers at 30 mph and snowplowers at 2 mph and short-swingers looking for the high ground. A brush here, a nudge there, and elbow now and again — but none of our group went down. We had survived the gantlet — and the brew was our reward.

e.

When Suzy reads, she usually tries to figure out the meaning of new words by studying the context in which they appear — looking at the preceding and following sentences. Peter always checks out a new word in the dictionary and notes the root of it. The root is the most basic part and helps him remember the word, understand it more thoroughly, and often learn about a whole new “family” of words at the same time. Jean invariably studies the prefixes (beginnings) and suffixes (endings) of new words. She can sometimes guess at the whole meaning of a word, once she has determined what part of it means. One of Johnny’s reading habits is to use new words right away — several times — once he has acquired their meaning. He figures they are more likely to stick with him if he becomes accustomed to saying them. What do these students all have in common? They are interested in improving their vocabulary and have found these techniques helpful. They have realized that learning new words is not difficult and that practicing one or two new reading habits easily paves the way. Maybe the next step for each student is to practice more than just one or two of the vocabulary improvement techniques.

2. Now practice picking out the topic sentences in an entire article. Skim the following selections. Look for the general statements at the beginning and end of the paragraphs. Then answer the questions at the end of each selection by writing either a short answer or True/False in the space provided. The questions ask about the main points contained in either the beginning or end of the paragraphs.

For questions you can’t answer, go back to the selection and *scan* it to find the missing detail. Don’t waste time reading the entire selection.



Excerpt from “Could You Be Color Blind?” *Better Homes and Gardens*, May, 1973,
© Meredith Corporation, 1973. All rights reserved.

h.

Is there any doubt in your mind about what is meant by a “red stoplight” or “yellow cab”? Do you have much trouble selecting matching pieces of clothing, or tastefully decorating a room? If not, you’re probably batting a thousand on your color-vision perception. But such color-coded words and actions don’t mean a thing to over ten million people in this country, because they’re color blind—that is, they have difficulty seeing some colors.

Color blindness (called *color vision deficiency* by doctors) poses only minor difficulties and no real problem to the vast majority of people with the disorder, primarily because relatively few people are *totally* color blind. By making some adjustments in

Marvin B. Sussman, “Coping With Modern Society”
Wisconsin State Journal, October 16, 1980, Sec. 5, p. 6

f.

Families today, as in yesteryear, are the primary care system for their members, from the newborn to the elderly. Although organizations and institutions provide specialized services such as health care, relatively few persons grow up or live out their lives in institutions. Even among those older than 65, only about 5 percent are in long-term care facilities such as nursing homes or homes for the aged.

g.

On the main island winds, gusting to 80 mph, roared through the coastal towns for 24 hours. Torrents of rain and golf-ball sized hail descended during the first night and into the next morning, leaving flooded conditions everywhere. The temperature plummeted 30°, to a record low. No lifelong inhabitant had ever felt such cold. High tides and unsanitary conditions followed for weeks after the storm’s passing.

lifestyle, they find their various color-vision defects relatively easy to live with. Understanding color blindness is another thing, however, since just how we human beings see color is not yet totally understood. **What causes color blindness?**

Most people who are color blind are born that way. The commonest type of color-vision deficiency, red-green blindness, is believed to be inherited—transmitted as a sex-linked characteristic. For example, a mother with defective color vision will pass on color blindness to all her sons, regardless of her mate, and all her daughters will have one defective gene. . . . Total color blindness, when all colors appear as gray, is also congenital—but it’s

extremely rare.

Acquired color blindness, yellow-blue blindness, also is very rare and usually is a symptom of a more serious illness. Lead poisoning, for example, can cause changes in color vision, as can certain vitamin deficiencies.

Who is most likely to have color vision problems?

Statistical evidence (and the genetic patterns) reveal that men are overwhelmingly more apt to be color blind than women. In our total population about eight percent of men have color vision problems and less than one percent of women. These

Why do some fail to see color?

Wake up in a darkened room and look around. You readily realize that strong light is the essential factor for color perception. Without it, there is no color. In our eyes, the short, blunt, flask-shaped cones of the retina are our bright-light receivers and, thus, our color receivers. These cones are believed to convert light energy into nervous impulses which are sent to the brain.

We see color, then, as a result of a physiological mechanism within the eye and a psychological process in the brain. When a person has a color-vision deficiency, the absence or malfunction of the retinal cones is responsible. Persons who are red-blind or green-blind use only two colors (yellow and blue) to perceive all color. The result is confusion in red,

data are confirmed by a national health survey on color-vision deficiencies in children six to 11 years old which shows that of the 3.8 percent of affected children, 6.95 percent were boys and only 0.53 percent were girls.

How are color vision deficiencies detected?

Amazingly, many color-blind people don't realize they have any difficulty at all. It is, however, possible to test for color blindness, although it requires a professional to interpret the test results, since color vision defects may be mild, moderate, or severe

blue-green, and gray.

What can be done about color blindness?

Common, inherited color blindness does not have a "cure," nor can it be corrected. It has to be lived with, and early detection and education along that line can make color vision defects virtually no problem at all.

Also, children with color deficiencies should recognize that certain careers where a keen sense of color is imperative are not good choices for them.

To find out if you, or your child, have a color vision deficiency, it's important to have your eyes checked specifically for color-vision defects, especially if there is color blindness in your family. And be aware that color-vision testing may not be a part of routine eye examinations.

1. Are very many people affected by color blindness or is it fairly rare? _____
2. Do doctors know how humans see color? _____
3. What is the cause for most color blindness? _____
4. Who is most likely afflicted? _____
5. Do color blind people suffer greatly? _____
6. What is necessary for color perception? _____
7. What can you do for inherited color blindness? _____
8. Is color blindness always checked for in routine eye examinations? _____

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i.

Shortly after 5 a.m. on July 23, 1971, several occupants of 12th-floor rooms in a 17-story motel in New Orleans smelled smoke.

They called the front desk. Two building guards hurried to the floor and traced the smoke to room 1218, which was unoccupied. Neither guard had a fire extinguisher. One stayed to break open the door.

The other guard began evacuating guests from their rooms. He helped two groups to escape on the elevator before smoke and heat forced him to leave the floor. He couldn't find the guard who had gone there with him.

At 5:26 a.m. the occupants of room 1214 called the fire department. The fire fighters arrived to find a fiercely blazing fire, but they were able to lead the remaining guests to safety and extinguish the flames quickly.

Only then did they find the body of the missing guard, on the floor near room 1218. In the corridor near the elevator were more bodies — a doctor, his wife and their two small children. Lying in the elevator doorway was a woman, still alive. Her grown son was on the elevator floor. She died at the hospital, a victim of smoke inhalation, but her son survived.

Later the son told how he and his mother along with the doctor and his family, after they had been alerted to the fire, had taken the elevator down from the 15th floor. When it reached the 12th, the doors opened automatically, and smoke and heat poured in.

The doctor and his family had started down the smoke-filled corridor toward the exit stairway. The woman had collapsed as she started to leave the elevator. Then her son, too, was overcome and collapsed.

All six who died that day could have lived. But the story of their deaths could save other lives, perhaps yours. Wherever you may be — hotel, motel, apartment house, high-rise office building, department store, hospital, nursing home, public building, your own house — the basic principles of fire safety apply. But you must know them beforehand. It's too late when fire strikes.

If you live or work in a high-rise building, know the location of the fire exits on your floor and fix firmly in your mind that you should use the fire stairs, not the elevator, if you hear an alarm.

In that motel fire, for example, the fire exit was beside the door to the room in which the doctor and his family were staying. Instead of taking the escape route at hand, they walked 135 feet to the elevator. The mother and her son walked 100 feet to the elevator instead of 35 feet to the fire exit.

Learn the sound of the fire alarm in your building. Some alarms sound like the elevator alarm bell or make a whooping noise. Encourage the building management to draw up a sensible plan for dealing with a fire emergency so that tenants and staff alike know what to do. The local fire department will be glad to help.

The multistory building occupied by the National Fire Protection Association in downtown Boston is, as you might expect, safer than many. It has a full sprinkler system, a safety factor that the association regards highly because there has never been a report of multiple deaths in any building with a complete and operating sprinkler system. Even so, NFPA frequently stages unscheduled fire drills.

When you enter a public place, such as a department store, restaurant or hotel meeting room, make it a habit to note the exits. If you find any that are barred, chained or otherwise locked — a fairly common and extremely dangerous practice — object strongly to the management. If nothing is done about it, leave.

If the furnishings or decorations look particularly

hazardous for the kind of gathering that is taking place, you face a decision about whether to stay. The Coconut Grove nightclub fire, which killed 492 people in 1942 in Boston — by far the worst fire disaster in this country in half a century — had three things in common with the 1977 Beverly Hills Supper Club fire in Kentucky and several other fatal restaurant-nightclub fires: The buildings had inadequate exits, combustible interior finishes and no sprinkler systems. Making matters worse, many were overcrowded.

If you're in a hotel or motel, survey your surroundings as you check in. Sprinkler heads in corridor ceilings are reassuring signs. If there are none, look for smoke detectors. You could carry a portable one with you.

As soon as you get to your room, look for the way out. Even if you're tired and want to relax, go back into the corridor to see where the fire exit is. Have everyone with you do the same.

Look for any obstructions, such as ice or vending machines, that might block your path. It's a good idea to open the fire door to the stairwell. Sometimes there is a second door inside. Know about it in advance and you won't panic when coming upon it in an emergency.

Count the number of doors on your way back to your room. If you are crawling along the floor under a heavy pall of smoke, the exit sign could be difficult or impossible to see.

Make sure you can open the window in your room. If it can't be opened, you'll have to think about whether you can break it and get out safely or whether you want to get a different room. If the door locks from the inside with the key, leave the key in the lock. Then you'll know exactly where it is, even in the dark. Besides, you'll keep any thief from entering your room with a master key while you sleep.

Every second counts

Take fire seriously. Don't stall. A mild smoke haze can turn into a dense, killing cloud in moments. And it is usually smoke, not fire, that kills.

If you smell smoke in a public place, alert an employee to sound the alarm and leave promptly yourself. If you hear an alarm, get out. Don't assume that it's a false alarm simply because you don't see fire or smell smoke.

Take little fires in your home or office building seriously, too. Smother a wastebasket fire immediately with anything that's handy — a blanket, pillow, coat, anything. Don't try to carry the flaming basket outside: You could set the entire room or corridor on fire. And don't go for water to put out the blaze: In the few minutes you are gone, superheated air could fill the room and virtually explode as you reenter, setting everything ablaze.

The same principle applies to a kitchen fire. If a pan flares up, smother it with a lid, a towel, anything. Don't

try to pick it up and don't throw water on it. If you have a fire extinguisher at hand, stand back at least ten or 12 feet before you turn it on. The typical dry-chemical extinguisher works by fogging the fire. Stand too close and the force of the blast could blow the pan off the stove and spread fire to the rest of the room. Remember to turn off the burner.

When you leave a room in which there's a fire, shut the door and *don't go back*. Opening the door even moments later could unleash a violent tongue of flame that almost certainly will kill you. By leaving the door shut until fire fighters arrive, you'll confine the damage. They know how to open a door into a fire without endangering themselves.

If you're awakened in the night by the telephone, by someone banging on the door or by the smell of smoke, find out what's going on before you go back to sleep.

When there's smoke in the air or you hear an alarm, get out of bed and stay low to the floor. If smoke is coming into your room, it will rise to the ceiling. People have died walking through smoke when they could have survived by crawling. Even a seemingly mild haze may contain chemicals or gases that can knock you unconscious in seconds.

Before opening the door, feel the door and the knob for heat. If there is none, brace your shoulder against the door and open it slowly. If the corridor appears clear, go quickly to the fire exit and down the stairs. When there is smoke, stay low and close to the wall. You'll be able to breathe more easily and you'll be less likely to become disoriented.

If you aren't physically able to walk down the stairs, you should be able to survive a fire simply by staying in the fire stairwell. When 16 people died and hundreds of others were injured in a fire that destroyed a 31-story office building in Sao Paulo, Brazil, hundreds more who had remained in the building's fire stairwells emerged safely.

Do not open a door if it is hot or if smoke is coming in around it. Stuff bedspreads, towels or rugs against the door to keep out smoke.

If you're on the first floor, you may want to go out the window if you can do it without injuring yourself. If you're on the second story or above, don't try jumping. You're far safer where you are. Many people have jumped to injury or death when they could have escaped unscathed by staying put.

Open a window — at both the top and the bottom if possible — to ventilate the room. If you can't open the window, break it with a chair and lay a folded blanket over the opening to minimize the possibility of gashing yourself. To alert fire fighters to your presence, hang a sheet or bedspread out the window.

Fire experts say you can survive inside a room as long as 45 minutes with a fire raging outside the door — more than enough time for help to reach you. But if the smoke gets heavy, lie down on the floor or put your head out the window. You can also wrap a wet towel around your face to help filter out smoke.

Staying safe involves just a few precautions and a little forethought. If that seems too much to ask of yourself, consider the alternative.

Answer the questions according to whether the statement is something the author believes or has suggested.

9. The six people who died in the 1971 New Orleans fire never had a chance to escape. _____
10. When you hear an alarm, take the quickest route — whatever it is. _____
11. Make it a habit to always check out the fire fighting equipment in a public building. _____
12. Carrying a smoke detector with you is one way to feel reassured. _____
13. In a group, one person should be specifically assigned to check out the fire exits and report back. _____
14. Walking along your escape route in advance is important. _____
15. Memorize how the exit signs look, so you can spot them quickly in case of fire. _____
16. Leaving your key in the inside lock is a good idea. _____
17. The cause of death is often smoke, rather than fire. _____
18. When you hear an alarm, check it out quickly to see if it's for real. _____
19. When you leave a fire in a room, shut the door, and then check on it later if you are able. _____
20. When you are awakened in bed, get up and run out as fast as you can. _____
21. A chemical in a small haze can cause unconsciousness. _____
22. Avoid remaining too long in fire stairwells. _____
23. Jumping is a good alternative when trying to find a quick exit. _____
24. It's possible to survive a nearby raging fire by staying inside your room for a short time. _____

"Look out for those Home Improvement Frauds." Reprinted from *Better Homes and Gardens*, May, 1973. © Meredith Corporation, 1973. All rights reserved.

j.

In Pennsylvania, two hundred homeowners were recently defrauded by a roofing concern for a total of over \$42,000. An Oregon widow lost \$51,000 to a dishonest exterminating firm, and an elderly Midwesterner paid \$8,000 to criminals posing as sewer inspectors. There's also a large clan of itinerant workmen, well known to the authorities, who move quickly from state to state, keeping one jump ahead of the law.

In contractor jargon, unethical contractors are called "the blue suede shoe boys," or "hit and run" fly-by-night operators. The paving contractor who offers to tar your driveway at an unheard-of low price, then disappears before the first rain washes away the "tar," falls into this category. So does the repairman who works out of his hat, takes your deposit, then vanishes without a trace.

Even in those cases where the work is satisfactorily completed, the unscrupulous racketeer may have fled with your money, leaving you with unpaid mechanics' liens (bills of subcontractors).

Selling door to door is a time-honored American tradition and it would be unfair to say that all doorbell-ringing salesmen are crooks. In fact, one prominent Midwestern roofing company boasts of thousands of satisfied customers contracted door to door. But every homeowner should be especially on guard when dealing with unknown contractors.

Are you better protected today?

The vast majority of reliable contractor-businessmen deplore the black eye given their reputation by dishonest remodelers. Legitimate operators recently have taken steps, in cooperation with consumer protection and government agencies, to alert you to the dangers of fraud and to assist in the policing of their industry. However, the fact remains that complaints about home improvement contractors received by the Better Business Bureau in some areas of the country represent as much as ten percent of all complaints. It's a matter of record that thousands of dollars are lost by unwary consumers each year to home improvement frauds.

Still, your rights are improving. From the standpoint of consumer protection, you are in a much safer position to proceed with your remodeling plans than you would have been a decade ago. Here are some important recent developments.

Consumer protection agencies have been formed at every level of government, from the smallest township to the federal level—all with protection of your rights the first order of business. In not a few agencies the director and his deputies have power of

arrest and prosecution.

Licensing of home improvement contractors is becoming more common. Contractors and consumers should welcome this practice, since it minimizes credential requirements in the homeowner's mind.

State and federal legislation is getting more responsive to existing inequities of the law, such as the "holder in due course" defense, which permitted both bank and contractor to collect from you no matter how poorly or incompletely the contractor performed. Increasingly, judges are not allowing this defense, and many regard existing legislation as untenable. A federal law is expected within two years to correct inequities of this policy.

A *three-day rescission law*, or cancellation law, provides a legal "out" for you under certain circumstances within three days of signing the contract. Usually the law applies when the loan could involve the loss of your family home. This law gives you time to check out the credentials of the contractor—even after signing the contract. No longer must you fear the consequences of your weakening defenses against the persistent sales pitch.

Professional contractor groups are another encouraging sign. A large number of ethical remodelers in 50 to 75 cities across the country have banded together, either in affiliation with national associations or independently, and voluntarily subscribe to a code of ethics, membership in the local Better Business Bureau, and frequently to binding arbitration clauses in their contracts. One such code of ethics is that adhered to by local chapters of the National Home Improvement Council. Each member contractor of that Council promises to "observe the highest standards of integrity, frankness and responsibility in dealing with the public . . . by encouraging only those home improvement projects which are structurally and economically sound . . . by making, in all advertising, only those statements which are accurate and free of the capacity to mislead or deceive the consumer . . . by requiring all salesmen to be accurate in their descriptions of products and services . . . by writing all contracts so that they are unambiguous and fair to all parties concerned . . . by promptly fulfilling all contractual obligations . . . and by performing all work in a manner compatible with recognized standards of public health, safety and applicable laws."

Homeowners associations have been organized by people to protect themselves from the dishonest repairman. Some groups provide lists of approved repairmen for hundreds of home needs.

How can you protect yourself?

Apart from the legal guarantees and organized help to preserve your rights when dealing with a contractor, there are many things you can do on your own. For example, some homeowners completely avoid the problem of selecting a contractor by using an architect for their projects. He, in turn, selects and supervises a contractor known to him. The average architect's fee on a remodeling job is 18 percent of the contract price. He will most likely request five percent of his fee as an *advance* retainer. Actually, there is a range of commission fees from 14 percent to 20 percent. As the contract price increases, the architect's percentage decreases.

In addition to relieving you of the contractor problem, the architect, with his know-how, will probably save you more than his fee. Also, your project will be professionally designed, and probably more attractive.

To select an architect, check with friends and associates. It won't be difficult to find out from them whether or not they've been satisfied with a certain architect. Also, most medium-sized cities have local chapters of the American Institute of Architects, which will provide you with a membership list.

If you want to select your own contractor, follow these rules:

- Call your local Better Business Bureau. They'll be able to tell you if the contractor is a member of their Bureau. If he is, this is an excellent recommendation. In any event, they will be able to tell you if they have a complaint file on him.
- You should be encouraged if the contractor displays—in his newspaper or telephone book advertising—his affiliation with a professional trade association... such as the National Home Improvement Council, the National Association of Home Builders, or the American Institute of Kitchen Dealers.
- Ask the contractor for bank references, and the names of at least two satisfied customers. He shouldn't resent your wanting to see one or two completed jobs, either.
- Plan to get competitive bids from at least three or four contractors. Give each contractor identical plans and specifications. Be sure each contractor is aware you are getting bids from others.
- Check to see that the contractor has an *established* place of business in your area. It's another good sign if he has been there for a reasonably long period of time.

How to spot phony door-to-door contractors

What should you look for when the doorbell rings and an individual presents himself to you as a legitimate home improvement contractor? For one thing, your suspicions should be aroused immediately

if his car or pickup truck bears out-of-state license plates. Be especially wary of the quick—and generally low—estimate on any job, as well as pressure for the order and a cash deposit. Don't be persuaded by any excuses about lack of credentials, bank references, and customer referrals.

Above all, don't be stampeded into the trap. Take your time, remain calm (this applies equally in dealing with a reliable contractor), and ask the necessary questions to elicit proof of his identity. As with any business transaction, it's important to know whom you're dealing with.

How to write a good contract

A reputable home improvement contractor does not give you a proposal on the back of an envelope. He prepares a comprehensive set of material and labor specifications; carefully estimates costs; and offers you a detailed proposal, at a package price, covering every aspect of the job, from removal of existing materials to thorough cleanup after the repairs, changes, or additions have been made. If your contract is for a major job (\$3,000 to \$10,000 and up), be sure your lawyer sees the contract before you sign. Even if you do sign right away, remember that the law under certain circumstances gives you a full 72-hour period from the date of signing to get out of the contract.

Your contract should contain these provisions:

- To prevent mechanics' liens on your house, the contract should contain a provision that final payment is not due until the contractor supplies an affidavit that all material suppliers, labor and/or subcontractors have been paid.
- The contractor agrees to maintain required insurance coverage, including workmen's compensation policies.
- All materials should be specified by brand name and model number, with substitutions only by mutual agreement.
- The contractor will agree to be responsible for a *complete* clean-up of the premises, including removal of all waste materials.
- He guarantees his work for at least one year.
- He secures any permits that are required.
- Dating and initialing of plans and specifications should be made an integral part of the contract, with no changes except by mutual agreement.
- The work you plan to do yourself should be specifically excluded from the contracted work.
- Satisfactory completion of work should be the basis for cash payments in installments that match completion of the work. Usually, ten percent of the total payment should be withheld pending final approval of the job by the homeowner.
- As required by federal law, the contract should clearly state the exact financing charges in dollars and

in annual percentage rates. This is the same federal law which provides a three-day rescission period, during which you may check the contract and financing charges with your attorney or bank.

- An excellent clause in a contract with a home improvement contractor is one which provides for binding arbitration. This means that instead of going to court, you and the contractor agree to settle your differences through the selection of a neutral party. In many areas, the Better Business Bureau provides a free arbitration service. The American Arbitration Association also provides one for a fee, which depends on the amount in dispute.

How can you avoid being overcharged for the work?

At the initial stage, both you and the contractor can talk only of approximate costs. Naturally there will be varying costs for different materials used. The size of the space and the variety of work that can be done under any given heading affects your pocketbook. These sample figures, provided by the National Home Improvement Council, are intended as a loose rule of thumb:

Remodeling a kitchen	\$2,500 to \$6,000
Modernizing a bath	\$1,500 to \$4,000
Room additions	\$20 to \$40 per square foot
Finishing basement/attic	\$1,000 to \$4,500
Re-siding	\$75 to \$150 per 100 square feet
Adding an outdoor swimming pool	\$5,000 to \$9,000

If you follow the advice given on getting bids from at least three contractors, you'll be way ahead of the game. Also, if your architect and contractor realize that you are working on a budget, there's a tendency to keep bids and costs in line.

A checklist to protect yourself

1. Only employ a contractor with an established place of business, preferably in your area.
2. Be sure he has adequate financial references.
3. Get references from him of satisfied customers for whom he has done remodeling work in the area, and check on them personally by phone or visit.
4. Use your local Better Business Bureau as a reference.
5. Observe how precisely he sizes up your proposed project. Note his suggestions and discuss them thoroughly with him.
6. Don't be rushed. He has time, and so do you.
7. Regarding major projects especially, be sure to have written agreements for plans and specifications.
8. Don't "shop" with the contractor on prices of materials and labor rates after he has submitted his bid and it has been accepted.
9. Insist that you okay all plans *before* work begins.
10. Insist, also, that the contractor provides a Certification of Insurance covering Workmen's Compensation, property damage, and personal liability.
11. Specify all materials by brand name and quantity.

25. A roofing concern defrauded some people in Pennsylvania _____
26. Most businessmen don't care about the dishonest remodelers. _____
27. The licensing of contractors has not yet caught on. _____
28. No one has yet formed a protection agency against dishonest repairmen. _____
29. According to the article, there are steps you can take on your own to protect yourself. _____
30. According to the article, affiliation with a professional trade association can be a good sign. _____
31. According to the article, there is little need to bother with bank references. _____
32. The article does not tell whether it is bad or good to be persuaded by a repairman. _____
33. You should demand a written proposal from your home repair contractor. _____
34. The article suggests a one-year guarantee on the work. _____
35. The article suggests you might call the Better Business Bureau about your repairman. _____
36. The article does not mention provisions that should be included in the contract. _____

k.

Before you decide to take a pet along on your family vacation this year, decide whether or not traveling with him really will be a vacation. In almost every situation, separate vacations for family and pets are more enjoyable for both.

Taking a dog on a vacation trip is practical only if it is to be a camping vacation, and if the dog enjoys such activities. Even then, most public camping areas have restrictions against dogs running loose. This means keeping your dog tied, or on a leash, at all times.

If you will be staying with friends or relatives, bear in mind that they may be too polite to let you know your pet is not entirely welcome. If they have pets of their own, clashes between the animals are a distinct possibility. If they don't have pets, it's probably because they prefer not to, and would probably prefer not to have yours, either.

If your vacation is to be a sight-seeing trip and you'll be staying in motels and visiting points of interest, a dog—even a well-loved and well-behaved dog—is almost certain to cause problems.

Most vacations come during the summer months. Dogs left in closed cars can die from excessive heat. Dogs left in cars with windows open can jump out and injure themselves or hang themselves on leashes or collars, or get themselves run over. Dogs can become lost, permanently, by escaping from the family car in a strange town, while the owners are in restaurants or souvenir shops.

Assuming none of these dire things happen, there are lesser drawbacks. While some motels welcome canine travelers (a booklet, "Touring with Towser," is available from TWT, Box 1007, Kankakee, Ill. 60901), many others don't. Unless you've planned your trip around motels that allow dogs, you may have to drive on until you find one that does accept them. And this may mean extra hours of driving after you already have been behind the wheel too long.

Even if you manage to get your dog into a motel room, you still have problems. He'll need to be taken out, usually late at night or early in the morning and, after all, one of the luxuries of a vacation is *not* having to get up to walk the dog. Often, pets who are perfectly housebroken in their own homes forget everything they know when confronted with the scents of motel room carpeting.

Some families' reluctance to leave pets behind can probably be summed up in one word: anthropomorphism, the technical term for endowing nonhuman objects or animals with human characteristics. We imagine how we would feel if we were being left at home or how we would hate being

locked up in a cage or a kennel run by strangers. The canine mind simply doesn't work that way.

A dog who is not accustomed to being separated from his family will probably feel some apprehension about his strange surroundings. It seldom lasts more than a day. It is a rare dog or cat who doesn't settle into the new routine with an ease that would insult some owners.

Where is the best place to leave your pet? Willing relatives or friends may offer to pet-sit. In some cases this is a workable solution, but often it is not, unless your pet lives in a cage or an aquarium and requires only food and water. For dogs and cats, it gets more complicated. Pets can be destructive in strange houses. They can be hard on rugs, on furniture, and on friendships. Unless the foster home has a fenced yard, dog-walking can become a nuisance, especially to people who may not be motivated by love for the animal, but only by friendship for you. The household may already contain a pet or two which would cause more complications.

Thoughtful pet owners prefer to pay for professional care for their pets, rather than imposing on friends or neighbors. Many large cities have in-home pet care services. For a fee, usually higher than boarding kennels charge, a qualified pet-sitter will come to your home once or twice a day to care for your pets. In some cases the pet-sitter will move into your home and devote his full time to pampering your dog or cat. This service is quite expensive.

Some veterinary hospitals offer boarding services, but this is not always an ideal solution. Hospitals are for sick animals, and in even the most sanitary and most thoroughly disinfected pet hospitals, there is always a chance of infection. Most small animal hospitals are located in urban areas where outdoor runs are skimpy, if they exist at all. The facilities simply aren't designed for long-term visits. In addition, most veterinarians are busy with their medical practices and would rather not be bothered with healthy canine boarders.

The best bet is a boarding kennel. A good boarding kennel, designed for maximum comfort of its paying guests and run by competent people, offers the best in facilities at a moderate cost. Boarding kennels can be found, in any area, through veterinarians, local dog breeders, or the yellow pages. Many have facilities for both dogs and cats.

Boarding charges may range from one to ten dollars a day, depending on the size of the dog and luxury of the facilities. Two dollars a day is about average for a small or medium-sized dog, although prices may be higher in metropolitan areas. Most

kennels charge substantially more for very large breeds.

It is an excellent idea to do your kennel-shopping well in advance of your trip. Visit several kennels, and ask to see their facilities. Reputable kennel owners won't mind; they will appreciate the intelligence of your approach and, if their kennels are well run, they will welcome comparison with competitors.

Carry a mental checklist with you. Is the place clean or does it have a noticeable kennel smell, multiple dog stools in the runs, and clouds of flies?

Is there more than one dog to a run? Unless two dogs belonging to the same owner are being kenneled together at the request of the owner, it is an extremely bad practice to double up the dogs.

Does every run have at least partial shade? This is especially important for dogs of the snub-nosed breeds, such as Pekingese and boxers. They suffer

more acutely from the heat than other breeds. And is water available at all times?

Are gate latches escape-proof? Are run fences high enough? Is there some sort of auxiliary fencing around the premises, so that, if a dog should get out of its run, it will still be confined to the grounds?

If your dog is overweight and you are too softhearted to put him on a diet at home, ask the kennel owner to restrict your pet's diet. Much can be accomplished in two weeks' time, and someone else can be the heavy in your dog's eyes.

Many boarding kennels also offer grooming services. This might be a good time for the trimming, matt-removing, or flea bath that you've been too busy for.

Everything considered, touring with the family pet is a doubtful pleasure at best. Instead, enjoy your vacation without him . . . and let him enjoy his.

37. Does the author feel most pets should go on the family vacation? _____
38. What kind of vacation is most practical with a dog? _____
39. According to the article, would most friends or relatives be likely to tell you if your pet were not welcome? _____
40. What does the author say could possibly happen to a dog left in the car? _____
41. Do most motels generally welcome pets? _____
42. What word sums up why people don't want to leave their pets behind? _____
43. What is one problem mentioned concerning having a friend take in your dog while you are gone? _____
44. Are veterinary hospitals the safest place to board your dog? _____
45. How does the author feel about doubling up dogs in a run? _____

"Family Sport Vehicles: Do you have the right insurance?" Reprinted from *Better Homes and Gardens*, May, 1973. © Meredith Corporation, 1973. All rights reserved.

I.

Do you have your eye on a runabout or a yacht? A motor home? Travel trailer? Or maybe something less conventional—like a motorcycle, dune buggy, or an all terrain vehicle (sometimes called an "ATV")?

With expected sales of more than one million recreational vehicles this year, chances are pretty good you'll spend at least part of your summer vacation in one. Whether you buy a dune buggy, rent a boat, or just take a nice, leisurely vacation in the family car towing a camper, you'll probably need extra insurance.

There are two basic kinds of insurance to know about:

- *Liability insurance* provides coverage for various types of legal liability you may incur. If a friend injures himself on board your boat, for example, he

could sue you for "pain and suffering" and loss of income, as well as for medical costs. Car owners normally satisfy the various state financial responsibility laws by purchasing liability insurance, but it's a good idea to have it for other vehicles as well.

- *Comprehensive and physical damage insurance* covers your vehicle and some or all of its accessories against collision, fire and theft, and most other so-called "normal hazards." For a boat, this might include everything from loss of life jackets to towing charges or damage repairs, depending upon the policy you buy.

Several companies offer policies in some or all of the following areas. Don't limit your inquiries to the major general-purpose companies; there are a number

of excellent specialty insurance outfits, too. Prices and plans cited below are merely typical; you may find some variation according to company, policy, and where you live. Also ask about recreational package policies, available with companies in some states.

Boats

A good policy covers you for liability while your boat is in use, whether for motoring or for sports such as water-skiing or aqua-planing. Policies vary according to the size of the boat and the seasonal exposure they are subject to in their geographic area. Premiums vary, too, depending upon size and value of the boat and its motor, value of accessories, principal docking or storage location, and extent of coverage. Deductibles may lessen your premium considerably. Sometimes deductibles are reduced automatically at no additional cost after a number of claim-free years.

You'll find that classifications of boats vary from company to company. Typically, open cockpit boats with in- or out-board motors less than a certain length will be called *runabouts*. If you own a runabout worth about \$2,500 and live in the Great Lakes area, you would pay around \$89 for a package policy including \$100,000 liability, \$1,000 medical and physical damage with a \$25 deductible.

Closed-cockpit cruisers more than a certain length (again, according to individual company specifications) and most sailboats classify as *yachts*. They cost more to insure, so it is worth your while to find out how several different companies draw the lines between classifications.

If you own a yacht worth \$12,000 and live in the Great Lakes area, the base rate of your premium would be about \$220. Such a policy would include \$100,000 liability, \$1,000 medical and \$100-deductible physical-damage coverage. With some companies, you may be able to earn premium credits. For example, one company will give you a ten percent premium reduction if your boat is diesel rather than gas powered, 15 percent off if your boat is a sailboat, five percent if you have Coast Guard training, and from 2-1/2 percent to five percent for electronic equipment. Total possible reductions amount to about 35 percent of the original premium.

Liability insurance is available for \$25,000, \$50,000, \$100,000, and \$300,000, with \$1,000 medical payments inclusive. You can get additional medical coverage up to \$5,000 for boat-related injuries. Some companies provide you and your immediate family with special coverage for loss of life or limb.

Motor homes and truck campers

Policies vary to some extent among companies and geographic areas, but prices and terms generally are competitive. If you own a motor home worth

\$10,000 and live in Western Michigan, for example, a policy might cost you about \$294 a year. This includes bodily injury liability of \$100,000 per person per accident, and \$300,000 per accident; property damage liability of \$25,000; uninsured motorist protection; and \$2,000 medical coverage. This policy would include comprehensive coverage with a \$25 deductible and collision coverage up to the cash value of your vehicle, minus a \$100 deductible. Some companies provide additional benefits such as towing charges and an emergency expense allowance if, for example, you have to check into a motel while waiting for repairs.

Comprehensive insurance covers your motor home against fire, flood, hailstorms, freak accidents, and theft. Interior portions of the motor home are usually covered, but personal belongings may not be. For an extra premium these may be protected too. Collision coverage is available with \$50, \$100, and \$250 deductibles.

Travel trailers

In many cases, your auto policy covers you for liability only, and then only when your trailer actually is attached to the car. You may need special insurance. Coverage for a trailer worth about \$3,000 would cost about \$86 a year in most states. This includes comprehensive coverage without a deductible, and collision coverage with a \$50 or \$100 deductible. You also can get coverage for emergency expenses up to \$150 per need, as well as towing and labor charges.

Where state law allows, you may buy accidental death and dismemberment policies, plus special vacation liability coverage for your trailer when it is detached from the car. Incidentally, the small, fold-down camping trailers sometimes are covered under your auto liability and homeowners policies when the trailer is hooked up to your car. Be sure to check before you buy more insurance.

Motorcycles

Most states require a minimum of liability insurance, both bodily injury and property damage. You may buy up to \$50,000 for each person, \$100,000 each accident bodily injury protection, and \$15,000 property damage coverage quite readily. Higher coverage is wise if you can get it.

Considering the special hazards that most cyclists face, check into policies designed especially for motorcycles. For example, you may get special guest passenger liability insurance to protect you if a friend riding on your cycle is injured in an accident in which you are at fault. Comprehensive coverage protects against fire, theft, vandalism—usually after a \$50 or \$100 deductible. You also may have your bike trailer covered on the same policy. And look into medical expenses coverage thoroughly, too.

Some companies institute higher deductibles if you use your bike in organized competition; others won't insure you. Sometimes you can pay reduced premiums if you store your bike in the winter. You also may pay less for older bikes simply because they are worth less. Often you can buy policies covering more than one bike.

Premiums vary from state to state. If you live in Pennsylvania, for instance, and own a 350 cc. bike, you'd pay around \$116 a year for an insurance package including liability, comprehensive, and collision. Liability coverage would be \$10,000 per person per accident, \$20,000 per accident, and \$5,000 property damage (called a 10/20/5 package). If you plan to store your bike for three months during the year, you may buy identical coverage for about \$102. During the storage period, collision and liability coverage are suspended, although your bike is still covered for such things as fire and theft. And you may get ten percent off for a model more than a year old.

For a minibike (defined by many companies as a motorcycle not exceeding five horsepower or weighing more than 150 pounds without passengers), you would pay about \$20 for a complete 10/20/5 package covering you for 12 months.

All terrain vehicles (ATVs)

Policies for all terrain vehicles, air cushion vehicles, and snowmobiles are all basically the same, although some states now have special laws governing snowmobiles. Again, you'll want liability and physical damage coverage. A good policy also should cover damage done to someone else's shrubbery, trees, fences, buildings, or livestock. To collect, you'll have to avoid property posted against trespassing.

An average-priced vehicle of around \$1,025 would cost about \$64 to insure for 12 months. This includes \$25,000 liability (maximum for one accident), and \$50 deductible comprehensive and collision. Guest passenger liability is included. Uninsured motorist coverage would cost an extra \$4 to \$6.

A few companies offer you a discount if more than

one all terrain vehicle is covered under the policy. Some companies also provide insurance if you enter your vehicle in organized competition.

Dune buggies

A dune buggy is a passenger vehicle, like a car or jeep, modified for special purposes. Many insurance companies feel it's too risky to insure these vehicles at all. Other companies insure them the same as automobiles, especially if the dune buggy is to be used on public roads.

One Chicago company insures on the basis of value. For example, if you live in California and own a dune buggy worth about \$1,500, you would pay \$90 a year for \$100,000 liability and property damage coverage with \$25 deductible. In Michigan, the same coverage would cost \$117. In both cases, the buggy is covered only on beaches, not covered on public roads.

Renting

If you can't afford to buy a recreational vehicle—or you'd rather try one out before you buy—you may be able to rent one. In most cases, insurance is included in the rental contracts; but check it out before you ride off into the sunset.

Be careful about paying additional fees for coverage that isn't worthwhile. For example, certain rental contracts offer reduced deductibles for an extra fee, say, of \$1.50 a day. Over a period of just a few days, the cost of your contract has been substantially increased. Be sure to ask yourself if you really need the extra coverage after all.

Health and accident insurance

Most medical plans are valid for traveling, but if you go boating or camping you might want extra coverage. A short-term accidental death and dismemberment policy costs about \$1.75 to \$2.15 per person for a minimum three-day coverage of \$5,000 for death or dismemberment, \$500 for accident medical expenses, plus \$20 a day for 60 days if hospitalized. The same type of policy would cost you about \$5 per person for 14 days.

46. How much money is to be spent in recreational vehicles "this" year? _____
47. Is extra insurance necessary for a sport vehicle? _____
48. What are the two basic types of insurance to know about? _____
49. Are boats classified uniformly by the companies? _____
50. Are prices and terms generally competitive for motor homes? _____
51. Most auto policies cover trailers very adequately? _____
52. Few states require minimum liability on motorcycles. _____
53. Might using your bike in organized competition affect your deductible? _____
54. There is a great variance regarding policies for all terrain vehicles. _____

Proceed to the Flexible reading and read the directions.

The Importance Of Being Flexible

FLEXIBLE READING

Tape Counter Setting _____

Discussion. This selection, "Warnings of a Violent Nature" is filled with dates and figures. But the message is clear.

The article is a good example of one that has a general theme and relates pertinent facts to the development of that theme. It provides a good opportunity to profitably use your skimming techniques. Skim for the main points in the paragraphs, rather than just to determine the general theme.

Directions. Time yourself as you read. Press the joystick button to begin reading and again when you finish. After you answer the 5 questions that follow this article, record your scores in the Success Log Box.

Selection: "Warnings of a Violent Nature," written by Janet Hopson;
reprinted by permission from *Outside Magazine*.
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Animals are aware of precursors before earthquakes;
Let us summarize their anomalous behavior for prediction.
Cattle, sheep, mules, and horses do not enter corrals,
Rats move their homes and flee.
Hibernating snakes leave their burrows early,
Frightened pigeons continuously fly and do not return to nests.
Rabbits raise their ears, jump aimlessly and bump things,
Fish are frightened, jump above water surface.
Every family and every household joins in observation,
The people's war against earthquakes must be won.

—*Rules for earthquake prediction,
issued by the Seismological Office of
Tientsin, China*

The Chinese ardently believe that weird animal behavior can help predict large earthquakes. And considering their success in forecasting temblors, the evidence of skittish livestock and clumsy rabbits is hard to ignore. Belatedly, scientists in the United States have begun to investigate the value of monitoring animal behavior to predict earthquakes, violent weather, and other cataclysmic environmental changes. Some of the initial results look promising, but others indicate that an early warning system based on turkeys and yaks probably will never do for a modern society.

On February 4, 1975, a powerful earthquake rumbled

through Haicheng, in China's Liaoning province. Buildings tumbled and bridges fell, but there were very few injuries. Hours before the earthquake most residents had been evacuated from their factories and communes to safe ground. Chinese officials estimate that a million lives were spared, and credit thousands of amateur earthquake watchers with this miraculous prediction. These observers took regular readings of electrical currents flowing through the ground; listened for strange rumblings; and watched for bizarre animal behavior, lightning, and glowing emanations from the earth. Hundreds of reports started to flood in: Pigs were climbing walls and biting off each others' tails; turtles were jumping from the water screaming. Portable seismic stations were rushed to the area, and readings were taken of electrical and magnetic changes in the earth and of radon changes in well water. (This isotope is released deep in the earth when rocks crack under the great stress that builds before an earthquake.) A state of emergency was declared. People were evacuated, and after a few hours, huddled together in safety, they felt the fearsome rumbling and shaking.

Two other earthquakes over 7.0 on the Richter scale were predicted in China in recent years, but the forecasting network also has had its failures. In 1973 an entire population was evacuated at night in a winter storm — and no earthquake materialized. Then there was the tragedy of July 1976, when the dramatic indicators failed to show up in T'angshan, an industrial city 100 miles southeast of Peking on the Yellow Sea. The turtles didn't scream and the livestock failed to panic — or if they did, no one noticed. The second worst earthquake in recorded history ripped through T'angshan, killing as many as 750,000 people and leveling 75 percent of the city's multistory buildings.

Geologists have called 1976 the worst year for great quakes in modern times. Besides the T'angshan disaster, 50,000 lives were lost in earthquakes in Guatemala, Italy, Turkey, and the Philippines. With that sort of death toll, understanding earthquake prediction is more than a matter of satisfying scientific curiosity. How *does* it work — when it works at all?

History turns out to be the most basic predictive tool. Where there have been strong quakes in the past, there are likely to be more in the future. Many people think California is the only state with seismic potential, but other danger spots include western Washington; the Rockies in Idaho, Montana, and Utah; the New Madrid fault system that underlies the Missouri bootheel and adjoining parts of Illinois, Arkansas, Tennessee, and Kentucky; the area around Charleston, South Carolina, where 90 percent of the buildings were damaged by a quake in 1886; Boston, which experienced a quake that toppled 1,200 chimneys just before the Revolutionary War; and western New York State, along the Great Lakes. In all of these areas, slipping and grinding of adjacent tectonic plates and underground faults is impeded by "sticky" spots that must eventually break free.

In addition to historical hints, there is physical evidence of impending disaster. Geologists can detect changes in air pressure, gravity, the tilt and elevation of the earth in a given area, low-frequency sounds, electromagnetic and static electricity fields, water levels, and emissions of gas from rock fissures. These harbingers can occur years before the expected quake (the Palmdale bulge in southern California, for example, uptilted many years ago) or just a few minutes before a temblor starts (lightning or electrically charged glowing gases issuing from the ground). If animals are indeed able to predict quakes, it must be some of these transient signs that tip them off — and scare them senseless at the same time.

But can a pig or a snake detect changes in the electromagnetic field, shifts in gravity, or the low-frequency sounds of massive rock plates grinding and cracking miles beneath the earth's surface? In 1976, geologists, biologists, and seismologists from around the world met at the U.S. Geological Survey in Menlo Park, California (itself just a few miles from the infamous San Andreas fault), to answer that question.

The answer was unequivocally yes. Animals can sense a wide range of subtle physical changes that humans often miss. The conferees were less certain, however, about the consistency with which animals respond to these environmental indicators. Some quakes go entirely unnoticed. In the process of answering the question, the Menlo Park conference produced the best collection of animal earthquake anecdotes ever assembled — a body of observations that is hard to dismiss, even in the absence

of scientific proof.

Italian archives from 373 B.C. show that moles, mice, and weasles swarmed from the ground minutes before a quake. In 1868 flocks of sea birds flew inland and screeched hysterically before a Chinese temblor. Modern Chinese zoo keepers reported that just before a large earthquake in 1969, tigers were depressed, yaks rolled on their sides and refused to eat, and pandas held their heads and screamed. The Chinese have also noted anomalous plant behavior. Cabbage and potato vines bloomed before a quake in late fall; apricot trees were said to have flowered in winter just before the Haicheng quake.

In Japan, most observations of abnormal behavior center around aquatic life — catching sardines with stomachs full of mud (even though they don't normally bottom-feed), or taking nets filled with catfish rather than eels. One observation befits a Japanese horror film. Before a 7.0 earthquake in 1855, hundreds of crabs crawled into downtown Tokyo.

Even in the skeptical United States, observations of abnormal animal behavior before quakes are common. They range from the standard barking dogs and biting pigs to the more exotic: foxes rushing into the open in full daylight, Kodiak bears leaving their winter dens early, and alligators fleeing their bayous to take refuge in the woods — roaring loudly all the way.

Scientists at the Menlo Park conference compared these bizarre observations with all the physical earthquake precursors in order to determine which phenomenon might be a cue for animals. In almost every case, however, the changes before a strong bout of seismic activity are relatively small — smaller, in fact, than the normal daily fluctuations of gravity on a moving animal, or air pressure changes due to weather fronts. This eliminated all physical cues but three: the emission of gas from rock fissures, the sounds from grinding rock plates, and the effects of static electricity — in this case, positive air ions. There was no evidence of gas smells associated with abnormal behavior, and the effect of sound would be limited to animals in the immediate vicinity of the quake's epicenter. Only the positive ions seemed to hold promise for explaining the odd behavior.

A controversy over how positive ions affect health has been raging now for about 30 years. Negative ion generators — little appliances that spew out negatively charged particles — became popular in the 1950s to fend off the supposedly damaging effects of positive ions, including migraine headaches, nausea, vomiting, irritability, and colds. Many people bought them to treat chronic medical problems rather than the effects of positive ions alone, and the Food and Drug Administration tried to stop that practice. Nonetheless, studies in the late 1970s showed conclusively that positive ions can induce all of the above symptoms in perhaps 30

percent of the public.

(These positive ions are also generated during the hot, dry winds — the “ill winds” — that blow in some parts of the world. Among them are the Swiss *foehn*, the California Santa Ana, the chinook of the Rockies, the Middle Eastern *sharav*, and the Argentine *zonda*.)

The connection with earthquake is simple: There seems to be a huge increase in positive ions just before some large quakes. The atmospheric condition can increase the level of serotonin in the blood, and this neurohormone is thought to cause the unpleasant symptoms. Since many animals have serotonin as well, their odd behavior could be due to feeling rotten — all of a sudden. If this malaise were superimposed on a pattern of tiny changes in air pressure, sounds, gravity, and electrical phenomena (none a sufficient cue by itself), then the animal might sense something was very wrong and try to flee or defend itself. If, in addition, underground water tables changed, burrows would become inundated and hibernating and sleeping animals would be driven out into the open to complete the scene of panic.

Largely unexplored are the connections between an animal's ability to sense a coming earthquake and its instinct for taking shelter before a storm. But since awareness of a changing environment can be critical to survival, there is every reason to expect a multispecies, sharply tuned talent for predicting both. But tapping this talent and, in turn, ordering precipitous human action — like evacuating cities — is another matter altogether.

A study of chimps at the Stanford Outdoor Primate

Research Facility showed that on two separate occasions, chimps acted abnormally the day before a significant quake on the nearby San Andreas fault. Further analysis, however, showed that they acted exactly the same way before holiday weekends — because of the increased air pollution from heavy traffic on the nearby freeway. The chimps also failed to react at all before other quakes of equal magnitude. Either the positive ions weren't bristling in the air that day, or the changing pattern of gravity, electromagnetic waves, and air pressure didn't register. The quakes surprised the chimps as much as they did the scientists.

In another study a group of geologists from UCLA has for three years been monitoring kangaroo rats and pocket mice in artificial burrows near the Palmdale bulge. So far their results are ambiguous, but they hope to find which organ and sensory systems are used to detect quakes. Perhaps then a mechanical or electronic instrument with homologous powers, could be used more reliably than animals.

Another study, “Project Earthquake Watch,” is using a network of 1,200 volunteers throughout California to monitor the behavior of livestock, zoo animals, seeing-eye dogs, pets, and animals in the wild. The results have been inconclusive, but if a great quake ever strikes California, it's nice to know that the animals will be consulted.

Not, of course, that their advice would be followed without similar — but less hysterical — warning from the scientific community. One certainly wouldn't want to be roused from bed because of the mistaken complaint of an air-polluted chimpanzee.

Press the joystick button to **STOP** the timer.

1. Residents of Haicheng were evacuated in time to escape many of the ravages of a 1975 earthquake thanks to
 - a. volcanic rumblings in nearby mountainous areas
 - b. seismic stations located in the area
 - c. thousands of amateur earthquake watchers
 - d. unusual behavior of aquatic life in the area
2. The most basic tool for predicting earthquakes in a given area is
 - a. bizarre animal behavior
 - b. a history of strong quakes
 - c. changes in the electromagnetic field
 - d. changes in the flowering times of plants
3. Of all the physical precursors of earthquakes, animals most probably respond in a bizarre way to
 - a. positive ions in the air
 - b. the odor of gasses
 - c. unusual sound waves
 - d. rapidly changing weather fronts

4. In Japan, observations of abnormal earthquake-related behaviors are almost entirely related to
 - a. domestic farm animals
 - b. the budding time of common flowers
 - c. crabs deserting the sea for the suburbs
 - d. aquatic life

5. Chimpanzees at the Stanford Primate Research Facility
 - a. reliably predict earthquakes with their unusual behavior
 - b. appear to lack any particular sensitivity to earthquake-related phenomena
 - c. react similarly to auto-related air pollution and earthquake-related phenomena
 - d. have joined the Earthquake Watchers Union and are out on strike

SUCCESS LOG FLEXIBLE READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(20 points per correct answer)	

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 6

READING EFFICIENCY INDEX _____

Directions

1. Refer to the three Unit 6 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
2. Record your Unit 6 REI above *and* on the REI Record page in the back of your Workbook.
3. Press **START** to load the Reading Progress Graph. While the graph loads, read "Familiar Territory" below.

FAMILIAR TERRITORY

Were you able to identify the main point in several of the paragraphs? The article is descriptive, and many paragraphs do have a main thought. But a couple of the longer paragraphs have more than one main thought! Don't get discouraged when paragraphs and articles don't fit a pattern — just do your best to track down the relationship each paragraph has to the overall topic.

One very helpful hint in getting the gist as well as some facts from an article, is to preview the article as we discussed in Unit 5. Skim it first for key words and phrases, for the general style. Then go back and either read or skim each paragraph for the main thought.

Remember, your previewing will familiarize you with the topic or presentation. And the more familiar you are with it, the more facts and ideas you will comprehend. Compare your own reactions to several of these articles. Were you knowledgeable about energy and not about wines? Or vice versa? Reading about something you're familiar with is *much* easier! Learn to acquaint yourselves with material before digging in, and then apply your techniques for concentration and skimming. You will be amazed at what information you can learn.

4. Enter your Pretest and Units 1-6 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
5. Press **START** to view your graph.

UNIT 7

STRIKE A MATCH

- To begin Unit 7 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 4 with Side 1 up.
- After listening to the audio segment, turn to the Warm-up and read the directions.

WARM-UP EXERCISE

Directions. The exercise is similar to the one in Unit 6, so set your Reading Window Rate a little faster than last time. Make sure it really challenges you. Yet still try to get a majority of the items correct! Push the joystick button when you are ready. Record your results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Directions. We reminded you in the audio portion to continually try to see more words in each eye stop. Seeing only one phrase in the Reading Window for each line of print will encourage you to do this. You may want to start at your same beginning words-per-minute rate as for Unit 6, and then increase your rate as you become accustomed to the movements of the Reading Window. Work on becoming consistent, comfortable, and confident!

Push the joystick button when you're ready to start. Record your rate below when you finish.

PHRASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting in the space provided at the beginning of the Paced reading.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

Consolidate Your Gains

PACED READING

Tape Counter Setting _____

Discussion. Again, consolidate your gains. How did your pace on the Phrase-reading exercise feel? Try to maintain it now. Make only a modest increase in your tones-per-minute rate this time. Get the confidence that you strive for and get most of the important details from what you read. Push the joystick button when you are ready to start and again when you finish.

Wagar, Ivan. "Race of the Americas," *Braniff Place*, 2(6), pp. 8-10.

No sport in history of the U.S. has exploded into big time the way motocross has. This year the AMA will sanction almost 2000 motocross events from the Atlantic to the Pacific, with more than a hundred riders per event. That adds up to a lot of participants, but more important is the size of the viewing audience. About one million people will pay to spectate at motocross races in the United States this year. And, ABC's Wide World of Sports claims 28 million viewers, making motocross the top motor sport on TV only topped in ratings by Mohammed Ali and the World Olympics!

Because of this surge in popularity, a lot of individuals have joined CYCLE WORLD (one of the very first promoters of motocross in the U.S.) as promoters of motocross, but none are more enthusiastic than Braniff International Airlines.

So, Braniff Airlines, along with several of bike riding enthusiasts and well-to-do businessmen in Lima, agreed to sponsor a dream: The Race of the Americas. When all was said and done, a national holiday weekend was chosen, and two days of motocross were scheduled with racing on Friday and Sunday, and a day off in between for a barbecue and sight-seeing. The riders' total points from three motos each day would decide the overall winner.

No less than eight South American countries turned out for the race — Argentina, Chile, Venezuela, Colombia, Brazil, El Salvador, Ecuador and Peru. There was only one entry from the United States because the riders who had been invited already had other race commitments. Wyman Priddy from the Lone Star State of Texas (complete with the accent) was the rider selected to represent the States, and he proved to be one of the best ambassadors of goodwill ever sent to South America. It wasn't long before the local press had dubbed him 'the quiet American' ("shucks, that's only 'cause I don't speak their language"). He didn't need to know their language — there was a mutual understanding between him and the race fans right from the start. In

bright green leathers, to match his green Kawasaki, he meant business and the race fans knew it.

The venue for the first Race of the Americas was in a hilly, almost Southern California-like desert, called Manchay, a dozen miles from the city of Lima. Considering that Manchay is desert, "El Clan Braniff" did an amazing job of creating a circuit to truly test the skill of the 40 international riders competing in the race. Small, about a mile in length, the circuit features a safe starting area that will accommodate up to 45 riders, and a mechanical starting gate that was finished only the night before the race; it is the only mechanical gate in South America. Because the gate was constructed from photos of the mechanism at Saddleback Park, Calif., the whole affair when the flag falls is termed a "Saddleback start."

Unfortunately, there were the same initial problems with the gate that Saddleback Park encountered with their first effort; it was not high enough to really stop riders from jumping the gun, and when 40 angry motocross machines pressured front wheels against the long restraining rail it was not possible for the gate operator to move the release lever. The problem was solved by laying a chalk line a half a meter behind the actual gate. Riders were told at the riders' meeting that crowding the gate would result in a 1-lap penalty, and because the motos were only 10 laps in distance, there were no violations of the rule. There was no way a 1-lap or 10-percent handicap could be made up, even by the greatest rider ever born, especially on the torturous 1-mile circuit of Manchay.

For the opening international moto on Friday morning, the Norte Americano, Wyman Priddy, was asked to start farthest from the pole; the chatter around the pits was that since Priddy was the only rider in the race familiar with a Saddleback start, he should be handicapped by starting at the very end. But sometimes these things have a way of backfiring. Priddy was the rider nearest to the man who had to heave all his body weight on the lever to release the

start gate. As the tension mounted, engines revving, Priddy was less than 2-ft. away, looking straight into the eyes of the man operating the lever. Despite the handicap of having to travel the farthest distance on the first turn, Priddy was the fourth man at the turn, and from then on was chasing a Venezuelan jet named Ricardo Boada on a Maico and fellow countryman Jesus Urosa on a C-Z. And that was how the first moto finished. Venezuela 1st and 2nd and United States 3rd. It was obvious that the Venezuelans were going to be tough to beat.

In the second moto, Venezuelan Boada crashed early in the race, leaving Priddy to battle it out with another equally quick Venezuelan named Freddie Brandt, son of the Honda distributor for Venezuela and riding a Honda Elsinore especially flown in from Japan for the race. The fans by this time had decided Priddy was their man, and excitement began to mount as Priddy won the second moto, with the handsome South American champion Kuto Horta (Chile) finishing 2nd, and Freddie Brandt 3rd. Ricardo Boada, after crashing early in the race, finished in 8th place.

The final international moto of the day combined the excitement of the first two races with Priddy trying desperately to catch Boada and Brandt. He finally got by Brandt and ended up 2nd to Boada.

So ended the first day. The Texan had lost six points with his 3-1-2 finishes, while Boada followed closely with 10 points, by virtue of his 1-8-1 finishes.

While the international 250 cc motos were the prime attraction, there was a national event for 125s. This was designed as a filler, and the entry consisted of a dozen or so young novice riders.

But there was this young kid, on a Honda 125, who balked on the start and began the first race in 10th place. By the 7th lap, though, he not only led the race but had begun to lap the back markers. It seems that he, Gustavo Prado, is the grandson of a former President of Peru, Manuel Prado by name; a member of the aristocracy, or "40 families" of Peru. Since Manuel owns the largest horse ranch in Peru, Gustavo, who won all three 125 races, picked up the nickname "Secretariat."

Then came Saturday, the day off. Our driver, Juan Espinosa, has to be the most enthusiastic man in Lima. He had read the extensive press coverage of the Texan in the evening and morning newspapers, and couldn't do enough for us. Although Juan could speak only limited English, and our Spanish was, to say the least, inadequate, we managed to find our way to one of the open air markets for which Lima is famous. Among the arts and crafts in the market stalls there are beautiful llama fur rugs. The llama, with its dirty habit of spitting a great wad of smelly gorp up to 20 ft. when it is angered, is the mainstay animal

in Peru. Used for transportation, clothing and food, the llama makes a camel look fairly conventional by animal standards.

Priddy and his mechanic DeVaughn Mitchell (also Texan) decided they had to take home a llama rug. That was the beginning of two hours of haggling, cajoling, entreating, take-it-or-leave-it bargaining. Finally the stern-faced Indian woman let the guys have the rug for half the asking price — 900 soles — (approx. \$21 American). She then broke into a smile and kissed them goodbye.

Because we spent so much time at the market haggling over rugs and looking at the beautiful but remarkably inexpensive gold and silver jewelry, we had to miss the sightseeing and go directly to a barbecue at the home of the Government Sport Commissioner Mario Suito and his very charming wife. No less than 200 people invaded the gardens of his beautiful residence for an afternoon of gaiety, feasting and bench racing.

It was quite a party, with Indian musicians and dancers giving a display of native Peruvian dances. We sampled the typical Peruvian appetizer known as *ceviche*, a highly seasoned raw fish marinated in lemon juice and charcoal broiled *anticuchos*, beef heart squares prepared with vinegar and hot chili. The favorite drink was Pisco, a distilled grape brandy, and known as the national drink. Pisco sours are very popular.

Most of the attention at the barbecue was centered on Priddy and his experiences in riding against U.S. motocross stars such as Brad Lackey, Jim Weinert, Pomeroy and Tripes. Priddy left the party early, for he knew that he had to win the first moto Sunday in order to allow for any eventuality that might come up during the day. The responsibility of being the only U.S. rider in the race was a heavy burden. As Priddy put it, "They sure expect a lot from ol' Priddy, and I sure don't want to disappoint anybody."

Probably because of the extensive coverage of the event in the newspapers, no less than 12,000 people left the ever constant winter drizzle of Lima to bask in the hot sunshine of Manchay and to watch the lone Yankee take on South America's best. The crowd was of an amazing size when we consider that back in Lima the soccer match (largest South American spectator sport) was Peru vs. Columbia; one of THE sporting events of the year.

Making no mistakes after a good start, the determined Priddy glided his Kawasaki to an almost easy win in the first moto, thus ensuring a comfortable start to a serious day's racing. The crash and burn tactics of the Argentine Gilera team did not go on without notice. Racing heavy four-stroke 250 Singles against the lithe Oriental and German

two-strokes, team Gilera ace rider Claudio Pesce wrestled his under-powered mount with a tenacity that made strong men weep for his survivability. Crashing hard several times, the young ace joined us on the return trip to hopefully take up racing in the U.S., and (hopefully) become a star outside of his native Argentina. A couple of merit badges should also be given to the El Salvador riders Harbort and Garcia for their daring exploits on virtually standard Honda XL250 four-stroke Singles, but their best efforts could not put them in the first 10 over-all finishers.

Sunday's second moto also turned out to be a Priddy benefit. Urged on by the chants of "Priddy-Priddy Ole," the Texan led the way for Chilean Horta and Venezuelan Brandt. Meanwhile Secretariat continued his invincible winning streak by leading all of the support races with unbelievable ease.

The final moto was almost anti-climatic. Priddy had only to finish in the first five positions in order to win on total accumulated points. It is possible that the Venezuelans, had they found a way to work together, could still find a way to unseat the Texan. But, as one sage put it, "The Venezuelans fight more among themselves than they do with other people." So there was no game plan. They all wanted to beat Priddy as individuals, which certainly would give him overall victory.

Such a ploy might have been successful, for while negotiating a double humped knoll, Priddy found neutral on a gear change from second to third, and had the unfortunate experience of a nose dive as the second hump kicked his rear wheel into the air. The engine was still running as the Texan remounted, and worked his way back to 3rd place to clinch overall victory in The First Race of the Americas.

The Trophy Presentation took place in the Hotel Crillon in Lima. Guest of honor was the Mayor of Lima, Eduardo Dibos Chappuis, a very unusual mayor as he plans to race a three-litre Porsche in the 24-hour race at Daytona, Florida, next February. Once a motorcycle road racer himself, he is very enthused over the sport of motocross and pleased the audience by saying he would do everything he could to support motocross in the future. Wyman Priddy received seven trophies in all, including a solid silver bowl which he wondered how he was going to get through customs. !

Several things are significant about The First Race of the Americas, not the least of which is the fact that riders from nine countries competed; and they all were Americans. When we consider that there was no representation from Canada, Mexico and Panama, I wonder about the participation in the next annual Race of the Americas, and the eventual popularity of motocross over soccer as a national sport in South America.

Press the joystick button to **STOP** the timer.

1. Lately, the sport of motocross has
 - a. become part of the World Olympics
 - b. suddenly soared into popularity
 - c. been having its traditional high and low points
 - d. been determined the most exciting, death-defying sport in existence
2. Wyman Priddy was a fine goodwill ambassador because
 - a. he was fluent in the native language and enjoyed talking with the fans
 - b. his soft spoken manner was appealing to the girls
 - c. he had a southern accent that proved popular with the press
 - d. there was a mutual understanding between him and the fans
3. The problem of "jumping the gun" was solved by
 - a. putting up a stronger restraining rail
 - b. imposing a five-lap penalty for doing it
 - c. drawing a chalk line before the actual starting line
 - d. warning the riders that the race would be cancelled if they tried it
4. Since Wyman Priddy was the most experienced rider in the race,
 - a. other racers ganged up on him
 - b. most people placed their bets on him
 - c. he was given an older cycle to use
 - d. he was asked to start on the end

5. When Priddy and his mechanic bought a llama rug, they
 - a. got it for half price
 - b. refused to haggle with the woman
 - c. cheerfully paid twice the asking price
 - d. paid about \$50 in American money for it
6. How did Priddy feel about being the only U.S. rider?
 - a. unconcerned
 - b. very responsible
 - c. extremely nervous
 - d. glad for the chance to show off — Texas style
7. The author felt there were so many spectators at the event because of the
 - a. fantastic weather the day of the race
 - b. extensive coverage by the local press
 - c. South Americans' great loyalty to the sport of motocross
 - d. South Americans' lack of interest in the soccer match
8. The Venezuelans couldn't beat Priddy because
 - a. their game plan failed
 - b. they didn't work as a team
 - c. they were far too inexperienced for him
 - d. several of them were disqualified
9. In the final moto, Priddy
 - a. crashed before placing third
 - b. cruised easily into first place
 - c. had a vicious bout with the El Salvador riders
 - d. finished tenth but was still the overall winner
10. The motocross race was significant because
 - a. a North American won in South America
 - b. all countries in the Americas participated
 - c. it marked the advent of competitive sports in South America
 - d. it brought enthusiastic participation from many parts of the Americas

SUCCESS LOG PACED READING

READING SPEED _____ WPM

COMPREHENSION SCORE _____ %
(10 points per correct answer)

PRESS **START** TO CONTINUE.

TIMED READING

Directions. In reading the selection that follows you're going to take an intriguing trip through South America. With a young American celebrity. Travel as rapidly, but as comfortably as possible while reading "Miss Teenage America Visits South America." Record your scores, after you answer the 10 comprehension questions. Press the joystick button to begin and again when you finish.

Galbraith, Melissa. "Miss Teenage America Visits South America,"
Braniff Place, 2(6), pp. 12-14.

Imagine a canoe trip down the mighty Amazon — a journey into the mysterious, ancient world of the Incas — an excursion through an old Spanish town where the Gauchos still roam the countryside — or an expedition to the paradisiac islands of San Blas which are still inhabited by the Cuna Indians!

Unbelievable! — but unbelievably real for me, Melissa Galbraith as these miraculous wonders were all part of a fifteen day tour of South America. Without a doubt, this trip was the highlight of my reign as Miss Teenage America.

My Latin American adventure began immediately when I left the Miami Airport on the Braniff International flight to Peru. The hostess, speaking both English and Spanish, generated the colorful spirit of South America itself.

Of all the beautiful places I visited on the Latin continent, the most striking was my first stop, Peru. With its skyscrapers, wide boulevards, and neon signs, Lima, the magnificent capital of Peru, is surprisingly beautiful. Its cathedrals, mansions, churches, and plazas fuse into a picturesque blend of Colonial Spain. Our tour of Lima included a visit to the National Cathedral, the oldest building in Lima, and the Plaza de Armas, and President's Palace, where we observed the majestic changing of the guards.

Yes, Lima, Peru, was a mixture of antiquity and modernity. One of the more contemporary buildings was the local television station. Unlike our luxurious Madison Avenue television studios, Lima's T.V. station was a dilapidated, one-room structure — very simple. Nonetheless, I had quite an interesting experience here. I appeared on a television program called "What Is My Secret" — very similar to "I've Got A Secret." Four panelists tried to guess who I was, but when they asked the questions, the host of the program had to interpret them for me. Once in a while, however, the host and the panelists conversed with each other, and the audience laughed and applauded. Obviously something was funny, and I still find myself wondering what in the world it was!

My next adventure was an excursion from Lima to Iquitos where I was greeted by a Braniff

representative, and his daughter and son who brought me delicate pink flowers from the Amazon jungle. We then had an unusual lunch at the Amazon Lodge — papaya juice, pineapple juice, cocona, and fresh palmitos, the heart of the palm.

After lunch, we got into our dugout canoe and ventured down the Amazon to an Indian camp. It was a fascinating but frightening experience. The jungle itself is awesome in its beauty, thick with vegetation.

The Indians live in primitive grass huts clustered along the river, in a small community called a Mingo, the equivalent of a commune. While we were there, the adult Indians, armed with bamboo blow guns that released poisonous darts, were hunting the Amazon for their evening meal. The children, meanwhile, amused themselves, like children everywhere, by playing in the dirt. Two of these naked urchins, about three or four years old, went swimming in the Amazon. One of our guides asked them if they were afraid of the piranhas, but the boys said that piranhas never bothered anyone unless he had a cut or blood on him.

From the Amazon wilderness, we returned to civilization and then flew over the snow-capped Andes to Cuzco, the sacred city of the Inca Empire. Some 10,500 feet above sea-level, walled off from the world by the Andes, I felt lost in time. Mute reminders of the lost Inca Empire were stone walls, the unique Inca defense system. Built on lush green terraces without any known means of leverage and without mortar, the walls consisted of perfectly knitted stones, some of them weighing as much as 600 tons — obviously the work of a culture in an advanced stage of technology.

The death of a once thriving civilization is most pronounced in the silent mountain-topped ruins of Machu Picchu. From a pinnacle high amid the clouds, overlooking miles of trackless jungle, these ruins include the remains of one hundred different stairways, the Watch Tower, the Sacred Square, and several temples — the Main Temple, the Temple of Three Windows, the Temple of the Moon; and finally, the Temple of the Sun — or the Sun Clock. Many of

the Inca ruins, such as the old Inca bridge, are still being used today. Machu Picchu is truly a land of mystery. It is a sensational example of human ingenuity, for the Incas built this city without iron and steel tools and without the wheel. Another mysterious wonder — the only human remains discovered were those of women and children.

Returning to the modern world of Lima, I found myself discothequing in the Jumbo 747 — a night club shaped like a huge jet. Feeling much at “home” again, I listened to the rock ’n roll music and watched the Peruvian teenagers “go wild” on the dance floor — just as the American teenagers do.

If one really wants to keep in tempo with today’s pulsating times, he must visit Buenos Aires, Argentina. Having been transported into an ancient world while in Peru, I expected to undergo similar journeys in Argentina. How mistaken I was! Buenos Aires was very modern — high-rise apartment buildings, swimming pools, tennis courts, shopping arcades, subways, parks, theaters, and opera houses.

I was overwhelmed with the rapid transformation of this South American city. I felt as if I were in New York, trying to keep up with the hurried pace of busy people. The dress of the Argentines was quite fashionable. Furthermore, the women of Argentina are as concerned about elegance and gracefulness as they are about wearing the latest fashions. Perhaps this is why some say that the women of Argentina “constitute the best view in the city.”

We took a boat cruise down the Tigre River, and it was quite a change from our canoe trip down the Amazon. The river was simply jammed with traffic — vessels, ships, cruisers, yachts, speedboats and — in addition — deep-sea divers and water skiers. Contrasting to the primitive grass huts along the Amazon, were yacht clubs, rowing clubs, and racquet clubs.

We finally left the rat-race of the city and toured an old Spanish town, San Antonio de Areco. This was the land of the Gauchos, or South American cowboys. The Gauchos wore droopy-rimmed hats, bolero vests, gaucho pants, and ornate coin belts in which they carried their dagger-type swords. But the pride of the Gaucho lies in his saddle. Soft leather saddles embellished with gold and silver command respect.

San Antonio de Areco holds a wealth of history. The Parish Church, one of the oldest churches in Argentina, is located here; while the Old Bridge, the first toll bridge, built in 1857, is still in use today. Saloons, water wells, pigeon houses, wheat mills, old carriages, and a colonial coach contribute to the historical scenery.

Of course, we couldn’t leave Argentina without having a steak dinner. After all, Argentines are known

for their cattle. They have annual cattle shows in which the animals are awarded prizes for the fine results of a long and careful breeding. Imagine paying only \$1.25 for a juicy, two-inch thick steak!

From the cattle grazing lands of Argentina, we advanced to the greatest fishing area of the world — Panama — which, loosely translated, by the way, means “an abundance of fish.”

In Panama, I found a definite North American influence. North American products are sold everywhere. And nightclubs and casinos are as integral to Panama City as they are to Las Vegas.

Naturally when one mentions Panama, he immediately thinks of the Canal Zone. The intricate workings of the locks in the Canal were as fascinating as the Inca architecture — another breath-taking example of human ingenuity and modern technology!

Finally, we took another short flight across the Isthmus over the untamed jungles to the Caribbean Sea and primitive San Blas Islands, where the Cuna Indians live in their own serene world. The Cuna women are noted for their colorful *molas* — blouses, hand-sewn in a variety of designs.

An interesting feature of the Cuna Indian woman is that her nose is pierced with a gold ring. The amount of gold she wears indicates how well she is liked by her tribe.

Exploring the world of South America has certainly been an experience to look back upon. If I could relive one experience that I had during my reign as Miss Teenage America, I’m sure I would choose my Latin American adventure.

Braniff International is a National Association Sponsor of Miss Teenage America, a relationship initiated by the 1973 awards.

Braniff International sponsors the Miss Teenage America Contest for four primary reasons.

- 1) *To show its response for the appreciation of the youth of America.*
- 2) *As a demonstration of its awareness that today’s young people are action oriented and keenly aware of their responsibilities to each other, their countries, their nation and to the world environment.*
- 3) *To express its knowledge of what young people want and gain from travel.*
- 4) *To encourage young people to travel within the United States and other nations.*

Braniff International is dedicated to the principle that travel, within the nation and to other nations, is vital to national and internal development and prosperity.

Miss Teenage America serves as Braniff International’s “Youth Travel Counselor” and “Good-Will Ambassador” during the year of her reign.

Press the joystick button to **STOP** the timer.

1. Of all Melissa's stops on the Latin continent, which was the most striking for her?
 - a. Peru
 - b. Argentina
 - c. Panama
 - d. San Blas Islands
2. When Melissa went to Lima, what did she do?
 - a. converse in Spanish with a native family
 - b. have dinner with a native family
 - c. appear on a television show
 - d. enjoy the abundance of delicate pink flowers
3. What was the name of the Indian camp which Melissa visited?
 - a. a Cuzco
 - b. an Iquitos
 - c. a Mingo
 - d. a Cuna
4. What did Melissa especially appreciate about the walls around the Inca empire?
 - a. their fantastic height
 - b. the intricate carving on the stones
 - c. the tiering of the terraces about them
 - d. the perfectly knitted stones in them
5. Which of the following is a mystery of Machu Picchu?
 - a. how the Incas constructed their temples without the use of tools
 - b. how the Incas connected their primitive wheels
 - c. why only temples and no dwelling places were built
 - d. why the only human remains discovered have been those of women and children
6. Melissa thinks Buenos Aires is
 - a. an oversized Argentine village
 - b. a lot like New York City
 - c. only a subtle contrast to Lima
 - d. quite large, but not too modern
7. The Argentines are known for their
 - a. cattle
 - b. old churches
 - c. soft leather saddles
 - d. silver and gold adornments
8. In Panama Melissa found
 - a. a city identical to Las Vegas
 - b. many structures similar to those of the Incas
 - c. a very old Spanish influence
 - d. a North American influence
9. What does the size of the gold ring in the Cuna Indian woman's nose indicate?
 - a. whether she is married
 - b. the class of society to which she belongs
 - c. how well the tribe likes her
 - d. how many blouses she has hand-sewn herself
10. Which of the following is not given as a reason for Braniff's sponsorship of the Miss Teenage America Contest?
 - a. showing its appreciation of America's youth
 - b. encouraging young people to travel
 - c. teaching the youth of other countries to be more like our own
 - d. expressing its knowledge of what young people gain from travel

SUCCESS LOG TIMED READING

READING SPEED _____ WPM
COMPREHENSION SCORE _____ %
(10 points per correct answer)

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

Get Organized

TECHNIQUES

Tape Counter Setting _____

Discussion. Notetaking and outlining skills go hand in hand. If you do them effectively, you will be able to grasp the facts and general ideas in an article and understand their relationship.

To take good notes on an article, what do you do? Answer: Use your skimming techniques! You look for the key words and phrases and topic sentences, then quickly jot them down. Be sure to stick with the *key* words—don't lapse into recording unessential details. And, organize your notes so they are easily understood by you or anyone else who reads them at a later date.

A good way to organize is to create an outline—at least in your mind, if not on paper. It will help you relate each new piece of information to the overall theme of the selection. And to sort out the superordinate and subordinate relationships among the many ideas. Understanding the relationship of ideas is important if you want to remember them.

In this exercise we offer you practice in taking notes to complete partial outlines. Practice this skill, so that you begin to do it automatically with substantive material you want to later recall.

1. Study the partial outline below. Then skim the selection quickly to find the missing subheads. If you do not find all of them the first time you skim, go back to the beginning and skim rapidly a second, or even third, time. *Don't* resort to "studying" the paragraph. Write the missing information into the outline.

Excerpts from "Tips on Tea,"
Better Homes and Gardens, May, 1973
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As the bone of contention in the Boston Tea Party, tea played an important role in propelling us toward the American Revolution. In those days tea cost \$30 to \$50 per pound!

Basically, there are three kinds of tea — black, green, and oolong. All come from the same type of tea plant. The processing makes each kind different.

Black tea, the most popular in the United States, is coppery colored, and rich and robust in the cup. This

Kinds of Tea

- I. Black
 - A. Most popular in U.S.
 - B.
 - C. Fermented — when oxidized, leaves turn bright copper
 - D. Variations
 - 1.
 - 2.
 - 3.

is a fermented tea. In the oxidation process, the leaves change color and become a bright copper. Black teas include Assam, Darjeeling, Earl Grey, English Breakfast, and Lapsang Souchong, names sometimes indicative of where the teas are grown.

Green tea gives you a light-colored beverage with a distinctive flavor. While the leaves are withered to make black and oolong tea, green tea leaves are softened by steaming and heating, and retain their characteristic green color. Green teas include Basket Fired and Gunpowder.

Oolong, a pleasing compromise between black and green, also makes a light-colored brew. Tea leaves are partially fermented resulting in a greenish-brown leaf color. When these leaves are dried, fermentation ceases. Oolong teas include Formosa Oolong, Jasmine scented with blossoms, and Peppermint.

If your taste runs to the exotic, you can get teas blended with flowers, fruit peels, sugar, and a variety of spices.

And if you'd rather do away with the ceremony of tea brewing, a variety of instant teas are available. Introduced in the 1950s, the instant tea lineup now includes plain instant tea, tea flavored with sugar or lemon, and tea pre-sweetened with non-caloric sweetener.

4.
5.

II. Green

- A.
- B.
- C. Leaves — softened by steaming and heating
- D. Kinds
 - 1.
 - 2.

III. Oolong

- A. Compromise between black and green
- B. Color — light
- C.
- D. Kinds
 - 1.
 - 2.
 - 3.

IV. Teas Blended

- A.
- B.
- C.
- D.

V. Instant Teas

- A.
- B.
- C.

Follow the same procedure to complete the next two outlines. See if you can fill them in with one less skimming of the article.

“How to Write a Business Letter” by
Malcolm Forbes, President and
Editor-in-Chief of *Forbes Magazine*, 1980.

A good business letter can get you a job interview.

Get you off the hook.

Or get you money.

How to Write a Business Letter

It's totally asinine to blow your chances of getting *whatever* you want — with a business letter that turns people off instead of turning them on.

The best place to learn to write is in school. If you're still there, pick your teachers' brains.

If not, big deal. I learned to ride a motorcycle at 50 and fly balloons at 52. It's never too late to learn.

Over 10,000 business letters come across my desk every year. They seem to fall into three categories: stultifying if not stupid, mundane (most of them), and first rate (rare). Here's the approach I've found that separates the winners from the losers (most of it's just good common sense) — it starts *before* you write your letter.

Know what you want

If you don't, write it down — in one sentence. "I want to get an interview within the next two weeks." That simple. List the major points you want to get across — it'll keep you on course.

If you're *answering* a letter, check the points that need answering and keep the letter in front of you while you write. This way you won't forget anything — *that* would cause another round of letters.

And for goodness' sake, answer promptly if you're going to answer at all. Don't sit on a letter — *that* invites the person on the other end to sit on whatever you want from *him*.

Plunge right in

Call him by name — not "Dear Sir, Madam, or Ms." "Dear Mr. Chrisanthopoulos" — and be sure to spell it right. That'll get him (thus you) off to a good start.

(Usually, you can get his name just by phoning his company — or from a business directory in your nearest library.)

Tell what your letter is about in the first paragraph. One or two sentences. Don't keep your reader guessing or he might file your letter away — even before he finishes it.

In the round file.

If you're answering a letter, refer to the date it was written. So the reader won't waste time hunting for it.

People who read business letters are as human as thee and me. Reading a letter shouldn't be a chore — *reward* the reader for the time he gives you.

Write so he'll enjoy it

Write entire letter from his point of view — what's in it for *him*? Beat him to the draw — surprise him by answering the questions and objections he might have.

Be positive — he'll be more receptive to what you have to say.

Be nice. Contrary to the cliché, genuinely nice guys most often finish first or very near it. I admit it's not easy when you've got a gripe. To be agreeable while disagreeing — that's an art.

Be natural — write the way you talk. Imagine him sitting in front of you — what would you *say* to him?

Business jargon too often is cold, stiff, unnatural.

Suppose I came up to you and said, "I acknowledge receipt of your letter and I beg to thank you." You'd think, "Huh? You're putting me on."

The acid test — read your letter *outloud* when you're done. You might get a shock — but you'll know for sure if it sounds natural.

Don't be cute or flippant. The reader won't take you seriously. This doesn't mean you've got to be dull. You prefer your letter to knock 'em dead rather than bore 'em to death.

I. Know what you want

A.

B.

C.

II. Plunge right in

A.

B.

C.

III. Write a pleasing letter

A. Be positive

B. Be nice

C. Be natural (read your letter outloud to check it)

D. Don't be cute or flippant

E. Use a sense of humor

F.

G.

Three points to remember:

Have a sense of humor. That's refreshing *anywhere* — a nice surprise in a business letter.

Be specific. If I tell you there's a new fuel that could save gasoline, you might not believe me. But suppose I tell you this:

"Gasohol" — 10% alcohol, 90% gasoline — works as well as straight gasoline. Since you can make alcohol from grain or corn stalks, wood or wood waste, coal — even garbage, it's worth some real follow-through.

Now you've got something to sink your teeth into.

Lean heavier on nouns and verbs, lighter on adjectives. Use the active voice instead of the passive. Your writing will not have more guts.

Which of these is stronger? Active voice: "I kicked out my money manager." Or, passive voice: "My money manager was kicked out by me." (By the way, neither is true. My son, Malcolm Jr., manages most Forbes money — he's a brilliant moneyman.)

Give it the best you've got

When you don't want something enough to make *the* effort, making *an* effort is a waste.

Make your letter look appetizing — or you'll strike out before you even get to bat. Type it — on good-quality 8½" x 11" stationery. Keep it neat. And use paragraphing that makes it easier to read.

Keep your letter short — to one page, if possible. Keep your paragraphs short. After all, who's going to benefit if your letter is quick and easy to read?

You.

For emphasis, underline important words. And sometimes indent sentences as well as paragraphs.

Like this, See how well it works? (But save it for something special.)

Make it perfect. No typos, no misspellings, no factual errors. If you're sloppy and let mistakes slip by, the person reading your letter will think you don't know better or don't care. Do you?

Be crystal clear. You won't get what you're after if your reader doesn't get the message.

Use good English. If you're still in school, take all the English and writing courses you can. The way you write and speak can really help — or *hurt*.

If you're not in school (even if you are), get the little 71-page gem by Strunk & White, *Elements of Style*. It's in paperback. It's fun to read and loaded with tips on good English and good writing.

Don't put on airs. Pretense invariably impresses only the pretender.

Don't exaggerate. Even once. Your reader will suspect everything else you write.

Distinguish opinions from facts. Your opinions may be the best in the world. But they're not gospel. You owe it to your reader to let him know which is which. He'll

IV. Give it the best you've got

A. Make letter look good

1.

2.

3.

B. Keep letter short

C.

D.

E.

F.

G.

H.

I.

J. Edit well

appreciate it and he'll admire you. The dumbest people I know are those who Know It All.

Be honest. It'll get you further in the long run. If you're not, you won't rest easy until you're found out. (The latter, not speaking from experience.)

Edit ruthlessly. Somebody ~~has~~ said that words are ~~a lot~~ like inflated money — the more ~~of them~~ that you use, the less each one ~~of them~~ is worth. ~~Right on.~~ Go through your entire letter ~~just~~ as many times as it takes. ~~Search out and~~ Annihilate all unnecessary words, ~~and~~ sentences — even ~~entire~~ paragraphs.

Sum it up and get out

The last paragraph should tell the reader exactly what you want *him* to do — or what *you're* going to do. Short and sweet. "May I have an appointment? Next Monday, the 16th, I'll call your secretary to see when it'll be most convenient for you."

Close with something simple like, "Sincerely." And for heaven's sake sign legibly. The biggest ego trip I know is a completely illegible signature.

Good luck.

I hope you get what you're after.

Sincerely,



V. Sum up

A.

B.

Years ago, International Paper sponsored a series of advertisements, "Send me a man who reads," to help make Americans more aware of the value of reading.

Today, the printed word is more vital than ever. Now there is more need than ever before for all of us to *read* better, *write* better, and *communicate* better.

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INTERNATIONAL PAPER COMPANY

We believe in the power of the printed word.

"How to Write Clearly" by
Edward T. Thompson, Editor-in-Chief,
Reader's Digest, 1980.

How to Write Clearly

If you are afraid to write, don't be.

If you think you've got to string together big fancy words and high-flying phrases, forget it.

To write well, unless you aspire to be a professional poet or novelist, you only need to get your ideas across

simply and clearly.

It's not easy. But it *is* easier than you might imagine.

There are only three basic requirements;

First, you must *want* to write clearly. And I believe you really do, if you've stayed this far with me.

Second, you must be willing to *work hard*. Thinking means work — and that's what it takes to do anything well.

Third, you must know and follow some *basic guidelines*.

If, while you're writing for clarity, some lovely, dramatic or inspired phrases or sentences come to you, fine. Put them in.

But then with cold, objective eyes and mind ask yourself: "Do they detract from clarity?" If they do, grit your teeth and cut the frills.

Follow some basic guidelines

I can't give you a complete list of "dos and don'ts" for every writing problem you'll ever face.

But I can give you some fundamental guidelines that cover the most common problems.

1. Outline what you want to say.

I know that sounds grade-schoolish. But you can't write clearly until, *before you start*, you know where you will stop.

Ironically, that's even a problem in writing an outline (i.e., knowing the ending before you begin).

So try this method:

•On 3" x 5" cards, write — one point to a card — all the points you need to make.

•Divide the cards into piles — one pile for each group of points *closely related* to each other. (If you were describing an automobile, you'd put all the points about mileage in one pile, all the points about safety in another, and so on.)

•Arrange your piles of points in a sequence. Which are most important should be given first or saved for last? Which must you present before others in order to make the others understandable?

•Now, *within* each pile, do the same thing — arrange the *points* in logical, understandable order.

There you have your outline, needing only an introduction and conclusion.

This is a practical way to outline. It's also flexible. You can add, delete or change the location of points easily.

2. Start where your readers are.

How much do they know about the subject? Don't write to a level higher than your readers' knowledge of it.

CAUTION: Forget that old — and wrong — advice about writing to a 12-year-old mentality. That's insulting. But do remember that your prime purpose is to *explain* something, not prove that you're smarter than your readers.

I. Three Requirements

A. Want to write

B.

C. Follow guidelines

II. Basic Guidelines

A. Outline material

1.

2. Make piles according to points

3. Arrange piles in sequence

4.

B. Start where readers are

1. How much do they know?

2.

3. Avoid jargon.

Don't use words, expressions, phrases known only to people with specific knowledge or interests.

Example: A scientist, using scientific jargon, wrote, "The biota exhibited a one hundred percent mortality response." He could have written: "All the fish died."

4. Use familiar combinations of words.

A speech writer for President Franklin D. Roosevelt wrote, "We are endeavoring to construct a more inclusive society." F.D.R. changed it to, "We're going to make a country in which no one is left out."

CAUTION: By familiar combinations of words, I do not mean incorrect grammar. *That* can be unclear. Example: John's father says he can't go out Friday. (Who can't go out? John or his father?)

5. Use "first-degree" words.

These words immediately bring an image to your mind. Other words must be "translated" through the first-degree word before you see the image. Those are second/third-degree words.

First-degree words	Second/third-degree words
face	visage, countenance
stay	abide, remain, reside
book	volume, tome, publication

First-degree words are usually the most precise words, too.

6. Stick to the point

Your outline — which was more work in the beginning — now saves you work. Because now you can ask about any sentence you write: "Does it relate to a point in the outline? If it doesn't, should I add it to the outline? If not, I'm getting off the track." Then, full steam ahead — on the main line.

7. Be as brief as possible.

Whatever you write, shortening — *condensing* — almost always makes it tighter, straighter, easier to read and understand.

Condensing, as *Reader's Digest* does it, is in large part artistry. But it involves techniques that anyone can learn and use.

•*Present your points in logical ABC order:* Here again, your outline should save you work because, if you did it right, your points already stand in logical ABC order — A makes B understandable, B makes C understandable and so on. To write in a straight line is to say something clearly in the fewest possible words.

•*Don't waste words telling people what they already know:* Notice how we edited this: "Have you ever wondered how banks rate you as a credit risk? ~~You know, of course, that it's some combination of facts about your income, your job, and so on. But actually,~~ Many banks have a scoring system . . ."

C.

D. Use familiar combinations of words and correct grammar

E. Use first degree, precise words, for example, face; not visage

F.

G. Be brief

1. Present points in order
2. Don't discuss what readers know already
- 3.
- 4.
- 5.
- 6.
7. Stop, when the points are covered

•*Cut out excess evidence and unnecessary anecdotes:*
Usually, one fact or example (at most, two) will support a point. More just belabor it. And while writing about something may remind you of a good story, ask yourself: "Does it *really help* to tell the story, or does it slow me down?"

(Many people think *Reader's Digest* articles are filled with anecdotes. Actually, we use them sparingly and usually for one or two reasons: either the subject is so dry it needs some "humanity" to give it life; or the subject is so hard to grasp, it needs anecdotes to help readers understand. If the subject is both lively and easy to grasp, we move right along.)

•*Look for the most common word wasters:* windy phrases.

Windy phrases **Cut to** ...
at the present time now
in the event of if
in the majority of instances usually

•*Look for passive verbs you can make active:*
Invariably, this produces a shorter sentence. "The cherry tree *was* chopped down by George Washington." (Passive verb and nine words.) "George Washington *chopped* down the cherry tree." (Active verb and seven words.)

•*Look for positive/negative sections from which you can cut the negative:* See how we did it here: "The answer ~~does not rest with carelessness or incompetence. It lies largely in~~ having enough people to do the job."

•Finally, to write more clearly by saying it in fewer words: when you've finished, stop.

Edward T. Thompson

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2. The following three outlines cover fairly detailed material. Again, study the outline first. Then see if you can note the detail (the subheads listed) while skimming, and come up with the appropriate main heads for the blank spaces in the outline. Write your answers, check them, and go on to the next outline.

Excerpt from "Kitchen Buymanship,"

Better Homes and Gardens, May, 1973.

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Refrigerators and Freezers

Refrigerators and freezers have been in the "basic necessity" class for so long we tend to take their services for granted. But today's versions of these essential helpers deserve a close look. The new models offer more storage in less space, and more features for the same or *even less* money than you'd have spent a decade ago. Refrigerators and freezers incorporate a host of basic improvements to justify the price.

So if it's time to replace your present equipment, prepare yourself for pleasant surprises. Before you start, though, ask yourself a few questions: Is your family size going up or down? Remember, the average refrigerator life is about 15 years. Don't buy a larger model than you really need.

Do you need more or less capacity than you now have? Would you like more freezer space in the refrigerator or do you intend to get a separate freezer?

Must the new equipment fit an existing space in the kitchen or are you making some changes? If existing space must be filled, arm yourself with the exact dimensions that will meet your needs. Measure carefully before you set out on your shopping trip.

Would you like the appliance or appliances to fit flush to the wall? Do you plan to build in the appliances, surrounding them with storage units?

After you've outlined your general requirements, it's time to think about specific types and features that are available.

Refrigerator/freezer styles

- One-door models offer a frozen food compartment across the top or in a corner of the top of the refrigerator section. These frozen-food compartments maintain a 15° to 20° F. temperature, can be used for short-term storage of frozen foods; they are not intended for original freezing of food. Most of these small freezers must be defrosted manually — you should be aware of this point before you buy.
- A combination refrigerator-freezer, with two or more doors, is a favorite.

Some combinations have horizontal freezers at either the top or the bottom of the appliance; others are side-by-side models where the freezer extends from top to bottom on one side, the refrigerator on the other. The frozen-food sections of combinations are insulated from the fresh-food sections. Freezers

I.

- A. Family size — up or down
- B. Capacity needs — where is freezer space needed
- C. Space for unit
- D. Fit of unit

II.

- A.
 - 1. Small freezer
 - 2. Manual defrost
- B.
 - 1. Kinds of freezers
 - a. horizontal — top or bottom
 - b. vertical

maintaining five degree temperatures or below will guard the quality of your frozen foods for many months.

Three-door combinations offer two freezers (separate from each other, as well as a refrigerator section). The little freezers hold ice cubes, ice cream, and other frequently used items. The main freezer is thus spared door openings that can affect the interior temperature level.

Most combinations today are completely frost free in both the refrigerator and freezer.

In all new models, you can expect these advantages:

1. Greater safety. Federal law specifies that all doors can be opened from the inside with as little as 15 pounds of pressure. This reduces the possibility of tragic entrapment of children. (If you're retiring an old refrigerator, do keep safety in mind. Leave all shelves in place if you intend to use the appliance as a second refrigerator in the basement. If you're discarding the refrigerator, always remove the door from the hinges.)

2. Doors on new models close smoothly, seal magnetically, if unit is leveled properly. You get a tighter seal to protect against temperature changes.

3. Thin-wall insulation. It not only does its job more efficiently — it nets you more interior storage space in appliances.

c. separate

2. Features

a. longer storage of frozen foods

b. frequently used compartments

III.

A. Greater safety

B. Tighter seals

C. More storage in less space

Excerpt from "Granola," *Better Homes and Gardens*,
May, 1973. © Meredith
Corporation, 1973. All rights reserved.

In case you haven't yet met this popular health food, granola is a crunchy combination of whole grains and nuts. It tastes great served with milk for breakfast or as a snack anytime, anywhere. Granola is completely tatable. To take it along for handy, nutritious munching on hikes, bikes, picnics, or camp-outs, simply pack some of this cereal in sandwich bags. You'll also want to try it as a topper on your favorite baked fruit crisp. Or, add a little butter or margarine to the mixture for a crisp, baked pie shell.

However you like granola, you can make it easily at home. Part of the fun is concocting your own formula. Use a combination of grains, like wheat, oats, bran, or wheat germ. Mix in sunflower or pumpkin seeds if you'd like. Nuts are another traditional ingredient. You can also include dried fruits, like apricots, raisins, dates, peaches, apples, and prunes for extra flavor. We've provided a recipe as a guide, but be flexible. Happy improvising!

Granola

I.

A. Crunchy

B. Good taste

C. Tatable

D. Good Topper

E. Crisp pie shell

II.

A. Granins

B. Seeds

C. Nuts

D. Dried fruits

3. These last two selections are somewhat easier. Note the "skeleton" outlines provided for them and then skim the material. After one skimming, see how much of the outline you can complete. Then skim again, and fill in more of the outline. Follow this procedure until the outline is completed.

Food stocks this year have almost dropped to an all time low for this century. All it would take for basic foods to start disappearing from the super market shelves would be minor crop failures or transportation tie-ups. (Lately, the tie-ups seem to be an imminent reality.) If this delicate food delivery system were to be upset, the nation could be in real bad shape.

Already, the supplies of corn, potatoes, peas, dried beans, canned peaches, pears and cherries have hit bottom and cheese and butter supplies are low.

The government's massive grain exportation program, which was intended to strengthen the dollar abroad caused grain stocks to sink to such a low that thought has been given to establishing a national reserve system. Last year's few temporary shortages evidently made the consumer wary and he has begun stocking his pantries with canned goods. This surge in the demand for canned goods has exacerbated the tight supply situation. Perhaps what is needed is a food delivery planning system nation-wide.

Smith, Ned. "Weeds in the Wind,"
National Wildlife, August, 1973, p. 25.

Dictionary definitions of "weed" tell only half the story — the negative half. True, weeds do seem to grow best where they aren't wanted. They outstrip our cultivated, mulched and sprayed garden favorites. Some might even be considered unattractive. But to label all weeds worthless is to deny that dandelion tastes good with bacon, chicory is a flawless blue, and bindweed could teach us about tenacity.

Perhaps weeds became weeds when we became too civilized to use them. Amaranth was not a pest to the Indian. He cultivated it and made flour of its seeds centuries before maize was introduced from the Southwest. European immigrants brought their own food plants with them, and many which we now know as weeds were cherished as edibles before they ran wild in the New World. Though gardeners disdain them, knowledgeable outdoorsmen still gather weeds in the wild.

Weeds belong in the wildlife scheme. Destroy them, and many wild creatures would be without cover for nesting or escape, or places to catch insects in summer and to eat seeds in winter.

But weeds have a quality which only humans — and few humans, at that — enjoy: the intangible we

Food Shortages

- I.
 - A.
 - B.
- II.
 - A.
 - B.
 - C.
 - D.
 - E.
 - F.
 - G.
 - H.
 - I.
- III.
 - A.
 - B.

Uses for Weeds

- I.
 - A. Amaranth
 - B. European food plants
- II.
 - A.
 - B.
 - C.
 - D.
- III.
 - A.
 - B.
 - C.
 - D.

call beauty. Only the dedicated weed-watcher is familiar with the dayflower's crepey, azure blooms, or the elegant cornucopias of the jewelweed. Only he will discover the sculptured symmetry of a milkweed blossom, or put a magnifying glass to a henbit's insignificant spot of color.

How unfortunate that "weed" has such a trashy ring to it. The word narrows our tastes, and the commonplace becomes unworthy of regard. How much better to call weeds "wild flowers" and take a second look at some of Nature's finest works.

Proceed to the Flexible reading and read the directions.

Free and Easy

FLEXIBLE READING

Directions. Again, try to feel comfortable as you rapidly read this interesting article, "A Dilemma of Swans." Some of the facts may surprise — or even disappoint — you. But let yourself go and sustain your speed.

Don't let your surprise keep you from getting at least 7 of the 10 items that follow correct. Press the joystick button to begin and again when you finish. Be sure to record your scores in the Success Log Box.

Selection: Williams, Ted, "A Dilemma of Swans,"
Reprinted with permission from *Yankee Magazine*, published by
Yankee Inc., Dublin, N.H., July, 1980.

It is the biggest beast that flies, weighing up to 50 pounds and measuring as much as nine feet across the wings. It commonly attacks and occasionally kills ducks, geese, dogs, and people. It is at once a symbol of tranquillity and chaos, of natural grace and human ignorance. It is passionately loved and passionately despised. It is *Cygnus olor*, the mute swan; and it is thriving in southern New England.

The mute swan evolved in northern Europe and western Asia, where it was and is revered for its beauty and succulent flesh. It is the stuff of legend, by far the most familiar of the world's seven swans, considered to be the most beautiful because of its unique habit of curving its neck into an "S" when it swims. In Elizabethan England mute swans could be possessed only with approval of the crown. Each bird bore the brand of its owner on its beak and all were presided over by the "Royal Swanherd." A yearly roundup called "swan-upping" garnished the larders of British aristocracy until the 20th century.

Cygnus olor is quiet but not mute. On occasion it has been heard to growl, hiss, bugle, and trill. When alarmed it utters a faint *honk* just before taking to the air. The female summons her brood with a call not unlike the bark

of a puppy, and young swans (cygnets) peep like ducklings. Mute swans fly well and swiftly, with the wind singing through their pinions. When the air is still, this strange, distinctive flight music can be heard at a distance of one mile. Some ornithologists have theorized that it is a substitute for a contact call.

The mute swan's traditional appeal derives from more than its good looks and delicate flavor. Mute swans generally mate for life. Moreover, the species is unique among waterfowl of the northern hemisphere in that the cob (male) has been observed incubating in the absence of the pen (female). Nor will mute swans shrink from mortal danger in defense of their broods. It was probably the bird's "moral fiber" more than its grace and beauty that inspired Henry III to adopt the motto: "Hay, Hay, thou white swan, by Godde's soul I am thy man."

Shockingly intense are the emotions mute swans wrench from human hearts. In her book *The Royal Birds*, Lillian Grace Paca writes:

"One day when I was riding in a bus on Westminster Bridge a swan loomed up suddenly, a white apparition, and the impact (a physical one) was tremendous. The lovely eight-foot wings flailed at the closed windows till the body fell, crumpled, among the wildly swerving cars.

As a frantic spouse (a feathered one) zoomed over the rail to land beside the stricken mate, a policeman's shrill whistle halted the stream of traffic. The passersby waited, some with actual tears in their eyes, while the driver of the bus held a now-docile cob until an ambulance from the nearest R.S.P.C.A. station arrived."

Not all the intense emotions, however, issue from the hearts of mute-swan lovers. A Connecticut duck hunter, an earth advocate and a thinker, who demands anonymity only because his calling has placed him squarely in the national spotlight, puts it this way: "There's no mute swan like a dead mute swan."

Then there is Rhode Island naturalist Bruce Fellman, who writes: "What a majestic bird! What grace and beauty! And what a god-awful pain in the neck!"

As with so many transplanted species, the popularity of mute swans took a precipitous dip when their admirers used them to "improve" the New World fauna. The first releases in North America apparently occurred on the Hudson River in 1910 and at two locations on outer Long Island in 1912. Today the mute swan is firmly established along the Atlantic seaboard from Massachusetts to Delaware. Another population, sustained in part by winter feeding, exists along Lake Michigan's northeastern shore.

Because mute swans, unlike other waterfowl, do not migrate across state lines to any great extent, they do not come under the jurisdiction of the U.S. Fish and Wildlife Service. Instead, the species is a state responsibility, and, since few state fish and game agencies are set up for extensive research, the impact that mute swans are having on native wildlife has not been accurately determined. There is, however, good reason to believe that it has been substantial and that it will get worse.

One mute swan eats between eight and 14 pounds of aquatic vegetation each day, often ripping whole plants out by the roots. This can destroy the food supplies of other waterfowl; and it can seriously degrade water quality, especially when the gluttoned swans fly to another pond to rest. A flock of 50 swans setting down each night on a small pond can be a greater source of pollution than a dozen malfunctioning septic tanks.

Oliver LaPlace has hunted rails — small wading birds related to cranes — in the salt marshes of Connecticut for 70 years. He began guiding rail hunters in 1920. Now, he says, the rail hunting is almost gone. Rails depend on wild rice and wild celery, and there are scarcely any of these plants left around Oliver's old stomping grounds. It turns out that carp, another European import, also eat wild rice and celery. For a while the marshes sustained a few rails and a lot of carp. Then the mute swans moved in.

"The carp are real bad," declares LaPlace, "but at least they've got to clear out when the tide goes down. We've got these swans 24 hours a day. There's nobody doing

anything about it. They're just letting them take over! They root out that rice and celery just like pigs. They're worse than pigs!"

Tom Hoehn, a waterfowl biologist with Connecticut's Department of Environmental Protection, is having an increasingly hard time seeing grace and beauty when he gazes upon mute swans. It is estimated that 2,000 mute swans now populate the Atlantic flyway, and about half of these reside in Connecticut. Hoehn says he gets more phone calls about mute swans — mostly requests to nurse and rescue them — than about anything else. When it comes to mute swans, he is very low on time, staff, and patience. As far as he is concerned mute swans can look after themselves, and they're doing it, he says, all too well. Basically, Hoehn finds mute swans to be "big overgrown starlings." "Mute swans are doing the same thing to our native waterfowl that starlings are doing to our native bluebirds," he says.

Few wild creatures are as aggressive as mute swans. Kortright (1942) described them as "ferocious," Eltringham (1963) as "hostile," Paca (1963) as "fierce and dangerous," Frity (1967) as "savage." Mute swans strike with their heavy, hard-boned wings, inflicting astonishing damage to anything sufficiently fool-hardy or unfortunate to remain in their path. Human deaths from mute-swan attacks have occurred in Europe and America but they are rare, the last in New England apparently a Massachusetts child circa 1930. Severe injuries, including broken bones, are not so rare. There is one report of an infuriated cob's crushing a heavy, galvanized bucket.

Jim Myers, senior wildlife biologist for the Rhode Island Division of Fish and Wildlife, has been attacked frequently and has even had angry swans climb into the boat after him. Once a cob hit him in the hand. He likens the experience to catching a baseball without a glove — a line drive.

"Mute swans," observes Myers, "are about the only species I know that will actually fight each other to the death. This is very rare in nature. It just doesn't make sense for survival, so animals usually have built-in mechanisms for submission. Mute swans don't seem to have that mechanism here in the U.S. We do have male swans killing each other on some of our salt ponds."

Wildlife biologist Charles Willey describes the process in his study, *Mute Swans of Rhode Island*: "The unfortunate swan is usually pursued and 'ridden' by the aggressor, his head being forced beneath the water until he either drowns or succumbs from exhaustion.

A similar fate sometimes befalls other species of waterfowl that stray into mute-swan territory. Mute swans defend up to 12 acres; and while they kill (and occasionally devour) only moulting, flightless waterfowl, one mated pair can sometimes eliminate an entire pond

as breeding and rearing habitat for native ducks and geese.

One answer would be to subject mute swans to hunting pressure. They are, after all, unexcelled as table fare, as any number of Yankee wildfowlers will confide with a sly wink and a pat on the belly. While mute swans are strikingly handsome, they don't compare, by most standards, with, say, male wood ducks or male mallards for which the usual daily bag limits are two and four respectively. Yet because mute swans are bold and highly visible they are protected by state law. Furthermore, there is only one important predator of America's mute swans: the snapping turtle; and, as sea turtles decline, more and more snappers are finding their way into turtle soup.

Almost without exception, New England game managers say they would like to see a hunting season on mute swans, but few believe that the public would tolerate it. H. W. Heusmann of the Massachusetts Division of Fisheries and Wildlife is convinced that mute swans would be an important game species, "if they weren't white." Colton Bridges, a former director of the Division who now maesters the doings of Ducks Unlimited in Massachusetts, Connecticut, and Rhode Island, observes that "efforts to establish a swan season, with no distinction between migrating whistling swans and mutes, have not been received favorably by the Fish and Wildlife Service because it feels that all hell would break loose PR-wise if you open up a season on that great big, white, beautiful bird."

"Biologically speaking," declares Tom Hoehn, "mute swans should be harvested." Hoehn represents Connecticut on the Atlantic Waterfowl Council, a group comprised of the fish and game leadership from the states in the Atlantic flyway. The council's technical committee recently recommended a hunting season for mute swans, but Hoehn reports that the executive board rejected the proposal "for fear of the political repercussions." Earlier, the council had asserted that "mute swans are becoming a problem in many states, especially in New England and several mid-Atlantic states" and that "a policy is needed for mute swans, but seems to be avoided by most states because of social implications."

The alternative to hunting has been the destruction of swan eggs and the allegedly less humane, but more silent, wringing of swan necks. Limited, sometimes covert, swan-control measures have been attempted in Massachusetts, Connecticut, Rhode Island, and Delaware. One effective method, refined by Rhode Island where swan control is an ongoing program, is to scramble the eggs inside their shells. If one breaks the eggs, the swans will just lay new ones. If one strangles the swans, the public will find out. So Rhode Island swan

controllers sneak up to the five-foot-wide, two-foot-high nests and vigorously shake each four-inch-long egg. "Obviously," reports Charles Willey, "the researcher not only has to know precisely what he's doing, but he must be fleet of foot and extremely brave."

Swan control in Rhode Island is endorsed by the state Audubon Society. Dr. Alfred L. Hawkes, the society's director, asserts that the best option of all is "not to let an alien species get started in the first place." Failing that, however, as in the case of the mute swan, Hawkes calls for intensive control. And not just eggshaking. "Addling eggs in the swan's nest," he wrote in a September 1978 report, "is by far the most humane control, but it is not practical on a sustained or wide-scale basis . . . Left to its own devices, the mute swan may soon be looked at in the same way street pigeons are regarded by most people: too commonplace to be noticed, too numerous to be welcome, too ordinary to be valued, too bothersome to be tolerated."

Rhode Island might still be able to "euthanize" adult swans, as the biologists chastely put it, had the Fish and Wildlife Division dealt with the public a bit more intelligently. Instead, it whetted the appetite of the press with clumsy cover-ups and Nixonesque denials. In July 1976, when *The Providence Journal* literally uncovered a titillatingly macabre swan burial pit in the Great Swamp wildlife management area, a Division spokesman reportedly assured the paper that the ten moldering swans therein "had killed themselves." Later, the same biologist was quoted as saying, "I won't answer any questions about our bird-control program. That's something we don't want the public to know about because they get emotional about these things."

After a big stink, the Division promised to stop killing adult swans. But two years later the *Journal* ran this item under the headline, "Telltale Feathers Uncover Female Swans' Execution":

"Despite pledging two years ago that they would not kill swans in attempts to control their population, state biologists on Thursday captured 36 of the birds at Truston and took them to the nearby Great Swamp Management Area, where they snapped the necks of the females."

Jim Myers notes that the natural habitat of the mute swan is brackish water and saltwater. "When we had the birds moving to freshwater ponds, we really became concerned," he says. "That was about six years ago. Now we have them 15-plus miles inland." Myers is understandably a trifle jumpy when the conversation gets around to swan control. But he stresses the need for the program. "They're starting to slow down production of other waterfowl," he says, "and what we're looking for is not just numbers of one species but as many different species as possible. We're certainly not trying to

eliminate the swans.”

The news about mute swans cannot, of course, be all bad. The Americanized birds provide further proof that man does *not* know best, that the absence of a species in a

given geographical area is *not* a function of divine error. Then, too, the elegant mute swan is a vital link in the coastal food chain, a natural asset to quiet salt ponds and tranquil tidal rivers. Ask any European.

Press the joystick button to **STOP** the timer.

1. The mute swan
 - a. is the largest beast that flies
 - b. can have a wing span of up to 11 feet
 - c. remates each season
 - d. migrates up and down the Eastern Seaboard
2. In Elizabethan England, mute swans
 - a. were imported from Asia and kept as pets by aristocrats
 - b. could be possessed only with the royal family's approval
 - c. frequently served to symbolize strength and warfare
 - d. were hybridized from related swan species
3. Mute swans were introduced to the Northeastern Sea Coast when
 - a. the New World's first settlers arrived
 - b. local hunters demanded an increase in game fowl
 - c. predators were needed to keep other bird species in control
 - d. their admirers introduced them to beautify the local countryside
4. The migration pattern of mute swans
 - a. usually does not go beyond state lines
 - b. is from Northern Massachusetts to Southern Delaware
 - c. is erratic and therefore under study with support from federal agencies
 - d. is essentially unstudied and, therefore, unknown
5. Mute swans threaten other species' survival mainly because
 - a. of their enormous appetite and destructive feeding habits
 - b. of their natural aggressive destruction of any non-swan species
 - c. they have no natural enemies
 - d. they have been able to extend their habitat beyond "natural" boundaries
6. Mute swans attack opponents mainly
 - a. with whip-like neck tactics
 - b. with their remarkably sharp and strong beaks
 - c. by flying into them and knocking them down
 - d. with their heavy, hard boned wings
7. A rare animal behavior pattern seen almost exclusively in mute swans is
 - a. rearing offspring in heavily inhabited areas
 - b. boldness and apparent lack of fear of humans
 - c. a lack of sophisticated survival skills
 - d. fighting each other to the death
8. Public reaction to hunting swans is generally
 - a. supportive of the policies of the Fish and Game Department
 - b. highly emotional disapproval
 - c. similar to that for other species
 - d. tentative and somewhat open to change

9. In order to control the swan population, wildlife experts have taken to
 - a. scrambling their eggs
 - b. poisoning the pond areas that swans overrun
 - c. turning swans' eggs over to the Easter bunny
 - d. unleashing snapping turtles in the ponds they inhabit
10. The natural habitat of mute swans is
 - a. freshwater ponds
 - b. thick marshy areas
 - c. brackish water and salt water
 - d. inland river areas

SUCCESS LOG FLEXIBLE READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(10 points per correct answer)	

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 7

Directions.

READING EFFICIENCY INDEX _____

1. Refer to the three Unit 7 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
2. Record your Unit 7 REI above *and* on the REI Record page in the back of your Workbook.
3. Press **START** to load the Reading Progress Graph. While the graph loads, read "Get Comfortable" below.

GET COMFORTABLE

Are you feeling more comfortable with your new, increased reading speed? We hope so. Because that has been one of the main purposes of this course. As you read more and more at your increased rates, you will gain confidence and grow more comfortable using them. You will have a good, secure feeling that you can read rapidly for serious purposes, as well as for fun. You will be able to get the facts and flavor and enjoy reading at the same time. Reading fast will no longer seem like a new, breathless activity, but rather, a comfortable habit that you profit from every day.

4. Enter your Pretest and Units 1-7 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Press **RETURN** after each entry.
5. Press **START** to view your graph.

UNIT 8

THINK FAST

- To begin Unit 8 complete the steps in the STARTING UP section.
- Be sure you have inserted Cassette 4 with Side 2 up.
- After listening to the audio segment, turn to the Warm-up and read the directions.

WARM-UP EXERCISE

Directions. In the audio segment we reviewed the reading skills you've been practicing. Keep up your practice and use the skills whenever you have the opportunity.

Warm up, as usual, by "seeing at a glance" the words in the Reading Window. Set your RWR faster than ever and go for broke! The exercise is the same as in Unit 7. Push the joystick button when you are ready to start. Record your results below.

WARM-UP EXERCISE RESULTS

FIRST TRY	MINUTES	_____
	SCORE	_____
SECOND TRY	MINUTES	_____
	SCORE	_____

Note: Record the tape counter setting at the beginning of the Phrase-reading exercise.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

PHRASE-READING EXERCISE

Tape Counter Setting _____

Directions. Maintain your faster-than-ever speed and see if you can pick up the gist of the article you're reading, as well as some facts. Set your words-per-minute rate faster than your previous best rate. Again, go for broke. Use the Pacer to your advantage. Enter your rate and push the joystick button when you are ready to start. Record your rate below.

PHASE-READING EXERCISE RESULTS

FIRST TRY	READING SPEED	_____	WPM
SECOND TRY	READING SPEED	_____	WPM

Note: Record the tape counter setting in the space provided at the beginning of the Paced reading.

Are you going to repeat this exercise?

PRESS Y OR N, THEN **RETURN** .

PACED AND TIMED READINGS

Tape Counter Setting _____

Discussion. Recall our discussion of the different purposes for reading. One was to read for *both* the general ideas and details. Set this purpose as you begin "Life in a Snowbank." That title sounds like a contradiction, but it isn't. The article centers on how the biological community survives in winter. You'll note that the first half focuses on the different insects, while the second half emphasizes how the different animals maintain their species.

Directions. Set your tones-per-minute rate fast, but keep in mind your purpose: To get the general *and* specific information. Answer the questions for the first half, but don't check them yet. Read the second half and then check all of your work and record your rates and scores. Push the joystick button when you are ready to begin and again when you finish.

Boynton, K. L. "Life in a Snowbank." Originally published in *Yankee*, February, 1974, pp. 64-69, 120, 122. © K. L. Boynton, 1974.

When J. Frost has finally finished his fall paint job in New England, Old Man Winter takes over. Yanking down the shades earlier and earlier in December, he hauls in great shipments of snow, sets the thermostat below zero, and locks up the place in a final frigid fastening of ice. Hiding the key in a snowdrift, he rushes off to see about lighting up the Aurora Borealis; but the trouble is that, being busy and forgetful, he doesn't remember which snowbank he hid the key in and naturally can't find it when he wants it again. So this is why it is New England winters are so long.

But in spite of all that snow and ice there are goings-on amongst some doughty wildlife residents which show that New England in winter is a busy place. And, of all things, certain insects are the first to prove it.

Now it is a fact that not being equipped to function actively in cold weather, the insect tribe by and large shuts up shop in the fall. Some kinds survive as adults only because they are hidden away in the ground or tucked under logs, debris or in tree cavities in a kind of cold storage. Others long ago gave up on this and simply carry their species on by wintering in the egg or pupal stage. So it is most unusual for insects to be out at all and astonishing that some would pick the coldest season of the year to do their wooing.

First and foremost amongst these are the snow fleas, since their idea of a time and place for frolicking is a good snowbank — and who cares about temperature? A sunny day in February with a bit of thaw brings these minute dark-colored insects out of the soil and ground debris by the thousands, their social gatherings looking as if somebody had scattered fine cinders over the snow. Small and wingless, they have soft bodies covered with hairs, big heads and rather a truculent look, what with their antennae, dark eye patches on their faces, and puffed out cheeks. Inside of these hollow face cones, by the way,

are their mouth parts, which have to be stuck outside to work.

While snow fleas have the standard insect number of six legs attached properly to their chest region for walking, a fancy spring mechanism has also been added. This is what produces the mighty leaps so characteristic of these insects, and it consists of a tailpiece made of a pair of appendages joined at their base and attached to the fourth segment of the belly area. This tailpiece is normally carried tucked up underneath the body, pointing forward, and is held in place by a trigger catch. It is worked by muscles, and when the snow flea slaps this tailpiece down hard, it straightens with a snap, propelling him upward and forward perhaps several feet.

Hence the name "springtails" given to his clan — and there are many kinds, some living even in water. The snow flea belongs to the land-based springtails who live in decaying vegetation and most of which breed later in the spring. Specific kinds inhabit various soil layers and, along with beetle mites, are among the most important producers of humus.

Land springtails, including the frolicking snow fleas, lay their eggs in the soil and in vegetative debris. The youngsters hatch as miniature carbon copies of the adults, shedding their skins at various growth intervals. The winter springtails abroad on New England snow dine on windborne pollen and fungus spores, in this aping their Arctic cousins, the glacier fleas, who actually live on the ice, leaving it only to deposit their eggs on stones. For ice and snow are not just white stuff devoid of life. Microscopic forms are there: bacteria of various kinds, algae, pollen, fungus spores, primitive protozoa. A bit of thaw, and a snowbank can spring to life.

Soil animals by and large are tolerant of cold, and hence the springtails as a clan are adapted to chill circumstances. The snow fleas have gone furthest in their adaptation with a reproductive set-up apparently touched off by first thaws and increasing

sunlight at the turn of the year.

The crane flies — those long-legged fellows that look like outsized mosquitoes fluttering and swarming over water during spring and summer evenings — also have off-beat relatives who are snow lovers. Unlike the summer crane flies, these snow-goers are wingless, and what with their long, hairy legs, look more like spiders than insects as they trudge around in the snow. These too are snow breeders, clambering up through the snow from their warm hiding places in leaf litter or around tree roots, attracted by the bright sunlight. Air temperature again seems to make no difference, it being zero one fine day when the winter crane flies were socializing. The females, after mating, returned through the snow to their leaf-litter homes to deposit their eggs.

Nor are the scorpion flies to be outdone. These fellows are the strange-looking little flies seen in summertime around streams and brooks, particularly in rank vegetation. The name comes from the fact that the posterior end of the adult male does resemble the tail of a scorpion, although it is in reality only the genital organs enlarged and modified into a clasping organ. Standard scorpion flies have four wings, most kinds are carnivorous with a long, stout beak and biting mouth parts, and they use their long legs to capture and hold living prey.

The winter scorpion flies include the “snow born Boreus” — the “northwind flies” as they are also called — so indifferent to weather they may appear in vast numbers on the snow any time from November on. Again, they do not look much like their summer relatives. Small and black, these snow enthusiasts are without functional wings but their long legs make them look like tiny grasshoppers skipping about in a winter hoedown. The adults live only in winter and are probably predaceous, though they also feed on mosses. Mrs. Scorpion Fly, equipped with an ovipositor perhaps nearly as long as her body, pokes her eggs deep into leafy ground litter and soil, and the larvae hatching out in about ten days resemble small grubs with brown heads. They live in moss and vegetable debris, dining on what's at hand since they are mostly vegetarian. Their pupal stage is spent under rotten wood or under stones where, by the way, they are to be found until the season rolls around for their turn to be snow adults.

Also out courting in winter are certain species of stone flies — good-sized dark insects whose long wings are carried folded over their backs. Old in time, stone flies are the most primitive of all winged insects, and today's models gracing the New England scene look almost exactly like their ancient ancestors of some 150 million years ago. Stone flies seem to have developed a good thing through the long time of evolution and stick to it, carrying on the clan with a

kind of staggered production schedule covering much of the year. With a set-up like this, plenty of stone flies are bound to make it regularly, and hence their long evolutionary success.

Stone flies, being aquatic insects, spend their early days in the water, the nymphs living in masses of leaves and ground debris, eating algae, diatoms and dead organic matter. When the last metamorphosis is finished, each naiad leaves the water, takes a firm hold on stones or a bit of shrubbery preparatory to the final molt. A slit occurs down its back, and the adult form emerges in about a minute. As soon as its wings are expanded and hard, it is ready to fly, albeit rather clumsily, leaving the empty skin behind. It may live as long as a month as an adult.

The stone flies that emerge in winter are the hardiest of the lot. The naiads leave the water through the first available cracks in the ice and go through the last molt. As brand new adults they crawl over ice and snow, feeding voraciously on blue-green algae growing on tree trunks, stones, old logs, etc. Concrete bridges over icy streams are scenes of much socializing, and in due time each lady returns to the frigid waters to deposit her 5000 to 6000 eggs.

Naturally enough, the nymphs produced by the summer end of the clan are also in the same stream and these will become adults with the arrival of spring. The question immediately arises as to how it is that this winterlaid lot does not go ahead and mature in the next few months too, long before their scheduled winter appearance. Biologists Harper and Hynes, investigating the affairs of these winter stone flies, found that indeed the eggs do hatch directly and that the nymphs proceed to grow to a certain stage in the cold water of late winter and early spring. But as the water warms, something happens. Their bodies become filled with fat globules and they burrow down into the stream bottom to enter a kind of holding period during which they live on accumulated fat. Here then is an adaptation that these winter-operating stone flies have developed to survive the high temperatures of summer and to wait for the proper time for their winter emergence. It is particularly neat since it allows the egg to hatch promptly and the nymph can use the late winter and early spring for partial growth, be inactive during the unfavorable time, and resume its development immediately upon return of cool weather in early fall. Prompt egg-hatching is a great advantage: otherwise the egg must simply sit out the unfavorable period where it happened to land, and stone fly eggs are on many a water-dweller's menu. A nymph, on the other hand, is active, and can find a far better place to hide during its time out of circulation — a matter of importance in species survival.

Press the joystick button to **STOP** the timer.

1. The author says that New England winters are long because
 - a. Old Man Winter's home is in New England and he likes to stick around
 - b. Old Man Winter is away lighting up the Aurora Borealis and can't get back until May
 - c. Old Man Winter can't remember in which snowbank he hid his key
 - d. Old Man Winter's wife likes to stay in Florida until the maple sap starts to flow
2. The snow flea's mighty leaps are produced by
 - a. extremely chilly toes
 - b. extraordinarily long legs
 - c. a spring mechanism under its body
 - d. a tiny kangaroo-like tail
3. The name springtail is given to the snow flea because
 - a. it comes to life in the spring
 - b. it eats more in the spring
 - c. it lays its eggs in the early spring
 - d. it has spring mechanism
4. The unique feature of the stone fly is that he
 - a. is the most highly developed of all insects
 - b. is the most primitive of all winged insects
 - c. flies in erratic, concentric circles
 - d. looks like a short-legged grasshopper
5. When spring comes, stone fly nymphs
 - a. emerge from the pupae
 - b. feed on their body fat on stream bottoms
 - c. develop into full grown stone flies
 - d. eat voraciously to prepare for the next winter

SUCCESS LOG PACED READING	
READING SPEED _____	WPM
COMPREHENSION SCORE _____	%
(20 points per correct answer)	

PRESS **START** TO CONTINUE.

Species survival is the big thing in the insect world and, having been in business for millions of years, insects have come up with a surprisingly large number of ways to achieve it. Not the least of these is "cold hardiness," which is chiefly a matter of prevention of freezing and naturally enough is particularly evident in these winter-active numbers.

In the fall treetop insects and many others migrate to the forest floors which, heavy with fallen leaves and decaying vegetation, stay warm enough under a blanket of snow. Other insects that winter as adults or as larvae may not find such favorable hibernating

places and may well be subjected to freezing. Physiological changes must occur if they are to survive. One such change is that as the temperature falls the production of metabolic water lessens and more of the free body water combines with body proteins, and this apparently lowers the insect's freezing point. The next step is to undergo a kind of gradual "supercooling"—a period of deep chill reached just before the insect's freezing point is reached. This involves a lowering of body temperature along with that of the air to almost the critical point, a rebound upward through the

liberation of latent heat, and then a temperature drift downward to a stable equilibrium with the environment. The critical point where freezing begins varies with different insects, being about -22°F . in many hibernating insects.

Supercooling seems to play a decisive role in the insect's ability to stand being frozen stiff, as indeed some can. Arctic zoologist L. Keith Miller found further that some ground beetles collected in winter survived lab temperatures as low as -126°F . without apparent injury, but that the same kind of beetles collected in summer could not stand any freezing at all.

Highly important also is the fact that many hibernating insects (these Arctic ground beetles certainly) have a high concentration of glycerol or other polyhydric alcohols in their haemolymph which act as a life-preserving anti-freeze. And it is probable that the snow fleas, winter stone flies and the like are similarly equipped, since chilling conditions favor the synthesis of these protective substances — and hence they can be out courting on a winter's day.

Not that these snow-bank Romeos have a corner on winter lovemaking, for it seems that certain other local residents among New England's wildlife are also very, very sociably inclined at this time.

Take *Daphnia*, the water flea, for instance. Being a crustacean and thus a member of the crab-crayfish-lobster tribe, she is, of course, no relative of the insect snow flea. But even before the ice melts on the surface of cold ponds, she's busy with family affairs. A strange, fat little creature she is, with a body covering so transparent that all her interior machinery is on display. So too is the neat brood-pouch knapsack on her back. Inside this her eggs, and later the young when hatched out but still aboard, can be clearly seen. Her antennae, besides adding undeniable charm to her appearance, are highly useful in swimming, which she does by jerking them downward. This propels her upward, and as she slowly sinks, the antennae, fluffing out, act as parachutes. Neat as a pin, she uses the tip end of her trunk, which is turned downwards and forwards and has spines and claws on it, to keep her body covering clean.

Fairy shrimps are also active in the ice-cold water, dining on microscopic protozoa and algae, and extremely busy with their domestic affairs since their season is a short one. These are slightly larger members, perhaps an inch long, of the crustacean tribe that swim on their backs with some 20 segments to their bodies. They are decorated with leaf-like appendages which are used not only for swimming but also in breathing and food gathering. After mating, the adults die, this year's eggs being next year's potential population held over during the

summer waiting period to hatch finally in cold waters. The larvae that have made it this far grow rapidly then, becoming adults just in time for the big winter hoedown.

Other cold-water dwellers are in the family-raising turn of mind, but a word must be said about what is going on topside — in the forests where the air is frigid, the snow deep and the north wind on the howl. For even here things are definitely afoot. Under many a feathered and furry bosom, it seems, beats a romantic heart, undaunted by the winter cold.

Even the fierce, great horned owl, old bad news himself to the rodent community, has mid-winter tender feelings. Expressed in soft tremulous hooting as early as the first January thaw, his basso-profundo love song floats out over the wintry woods. And it brings a lady winging to his side to sit and watch his bowing, wing spreading and bill snapping — but alas, she is apparently unmoved by it all. Still, all is not lost, for the suitor flies off to return in nothing flat with a fresh rabbit. If she accepts it, they're engaged.

Things can move apace now. But since great horned owls are dead set against nest building, a last year's abode of some red-tailed hawk is selected, furbished up slightly, and household chores begin. Now nobody needs to point out to owls that New England is a very cold place at this time of year and that their eggs have got to be kept warm. Mrs. Owl starts her incubation the minute the first round egg is laid, and from then on somebody is on nest duty all the time. There is a lag of a few days before the second egg is laid and again before number three, which is about par for a clutch. Incubation is around 28 days, so the chicks arrive in frigid weather and must be further brooded. This becomes no small job since they are of different sizes because of the original delay in the egg-laying sequence and consequent staggered hatching. The parent owls are extra busy at night, then, working the grocery detail, for what with a nestful of voracious youngsters clacking their bills for food, trip after trip has to be made carrying cargo before they are at last stuffed for the night. Additional supplies are still brought and stowed on the nest's edge for inbetween snacks, and this helps keep up chick metabolism until the next evening's dinner hour rolls around.

While raising owlets in winter may seem like making a hard enough job even tougher, the thing is that the youngsters of these big raptor birds take a long time to develop fully and to become efficient hunters and therefore are dependent on their parents for months. An early start is a must. It also nets the owls the best nesting sites, for they are already ensconced in the hawks' nests by the time the rightful owners get around to their family raising. This means that the hawks have to delay their own affairs while

building another abode, a matter of importance since they too dine on the same local rodent and rabbit supply. There first, the owls have already set up hunting territories. All intruders get the bum's rush so that the owl family is assured of a good supply of food.

Downstairs in the forest the minks, skunks and raccoons are off on their family-raising stints as early as February. Also, upon observing squirrels chasing each other up and down trees, lugging around dead leaves, and peering into this dead tree hole and that, Sherlocks among biologists have concluded that apartment hunting is in order with these buck-toothed forest inhabitants too.

Biologically speaking, all the winter breeders from the snow fleas to the great horned owl, by jumping the gun, have their youngsters off to a good start before competition gets bad in the spring, an obvious advantage for species maintenance. But there is even something more to it. The snow fleas, for example, being springtails, are most valuable members of the great fraternity of soil-makers. They eat organic matter already being worked over by soil bacteria and protozoa and, in their role as secondary decomposers, help break down this dead matter into a usable form necessary to plant growth. Out working during the snow thaw times, they keep the soil-making cycle

going even in winter.

The winter stone flies and their like supply the streams with additional eggs and larvae which form an important part of fish food — particularly that of trout. The minute water fleas and fairy shrimp, being so small, form a part of the fresh water plankton eaten by small water dwellers who are in turn eaten by bigger ones, and so the water food chain is kept going even in spite of an ice cover.

The great horned owl and mink assure a supply of predators needed to keep rodent numbers in check; the skunks supply more scavengers and insect eaters; the squirrels additional tree planters.

So Old Man Winter can fling down as much snow as he likes. True enough, in New England a good many wildlife characters who do the work of keeping that part of the world in balance during warmer seasons are absent in winter, either vacationing in the South or tucked away in a hibernating or survival nook. Still, a surprisingly large number of local residents are on the job. It is due to their efforts that the making of the earth, the stocking of the shelves for the great food chain goes right on all year around, and the delicate balance of life is maintained.

New England in winter is indeed a busy, busy place.

Press the joystick button to **STOP** the timer.

6. Which of the following does not play a part in helping an insect adapt to cold?
 - a. hibernation
 - b. supercooling
 - c. concentration of glycerol
 - d. the combining of body water with protein
7. An interesting feature of the crab-like water flea *Daphnia* is
 - a. that she lays her eggs in the ice
 - b. that she walks like a lobster
 - c. her transparent body
 - d. her mere skeleton of a body
8. Fairy shrimps' bodies consist of
 - a. a single coiled segment
 - b. two hornet-like segments
 - c. some 20 segments
 - d. hundreds of segments
9. Great horned owls become "engaged" when the
 - a. female lays her eggs
 - b. female accepts a dead rabbit from the male
 - c. female accepts a red-tailed hawk's nest selected by the male
 - d. couple finish building their new nest
10. In the final paragraphs of the article, the author explains the important role of the winter breeders in
 - a. breaking up the monotony of winter
 - b. the never-ending food chain of nature
 - c. aiding the decomposition of last summer's vegetation
 - d. preparing the forest for spring flowers

SUCCESS LOG TIMED READING

READING SPEED _____ WPM
COMPREHENSION SCORE _____ %
(20 points per correct answer)

Note: Record the tape counter setting at the beginning of the Techniques section.

PRESS **START** TO CONTINUE.

Set Your Purpose

TECHNIQUES

Tape Counter Setting _____

Discussion. Remember! Never read a word unless you have a reason for doing so! Why? Because your understanding will always be best when you read for a *specific purpose*. Whether to learn a fact or get the big picture, always plan ahead before you dig in. Try this experiment:

1. Cover the entire list of words below with an index card.

Use a watch with a second hand as a timer, allowing yourself 15 seconds (no more) to review the list. Then re-cover it. Do that much now.



shale	tiger	rock	tree	tin	rose	grass
celery	sand	chive	oil	wheat	car	shovel
dirt	potato	iron	salamander	hose	leopard	fork
squash	cucumber	tabby	asparagus	coot	barley	mollusk
swan	snail	parrot	gold	radish	crab	pot
mole	fox	car	parsley	dolphin	lily	squid
clay	water	endive	raccoon	cocker	gun	ivy

Now write in the space provided all the vegetables you can remember. Keep the list in this book covered. It's important that you do *not* look back at it for any reason.



2. Before you look at the list again, establish a purpose. Allow yourself another 15-second exposure, but this time look for all the animal names (e.g., dog, lynx) you can find. Re-cover the list, and write down all the animal words you can recall. Remember—keep the list covered except when you're allowed 15 seconds to look at it.



Now compare your lists with our list. How did this experiment work?



You probably found that you could recall a greater number of words when you were looking for a specific kind. Practice reading with a purpose while you finish this unit.

Remember to use your scanning and skimming skills too. If your purpose is to find a specific fact, for example, *scan* the material to find it. If you plan to answer a question, you may want to scan first—until you come to a logical place where the answer might be—and then *read* the appropriate paragraph for the answer. Or, if you want to get an overall picture, then you might skim the entire article, as you practiced earlier.

Scan selection *a* for the purpose of finding out whether the article tells what percent of last year's allocation of fuel customers are being allowed this year. Then answer the two questions that follow. But don't look back at the article.

a.

This year you will not be able to have your home fuel tank refilled at will. Empty tanks cannot be refilled ahead of time without a hardship order from the emergency energy assistance office. The office will issue an emergency affidavit only in special circumstances. And, a special circumstance is not running out because you had the misfortune to use it lavishly.

Evidently, you are supposed to be allocated only 85% of the amount your home consumed last year. If you wish to gauge your conservation of heating oil, you might total the gallons of heating oil purchased between July 1 and June 30 of the next year. Then divide the number of heating-degree days accumulated in the area of the dwelling by the number of gallons of fuel oil purchased. A degree day is the difference between the average temperature on a given day and 65 degrees. A total of the degree days for a month or an entire winter is an index of the severity of the month or winter. The result is the degree days per gallon of heating oil used to heat the home last winter. The higher the degree days, the colder the winter. Since thermostats are supposed to be set lower this winter than last, the degree days per gallon this winter should be higher than those of last winter. Good luck!

3. What is the percent of last year's allocation of fuel that customers are being allowed this year? _____
4. What is the most valuable information in this article? _____
-

If you were scanning effectively, concentrating on your purpose, you should have known the answer to question 3, but probably not to question 4. Now skim selection *b* to find out what the main idea of it is. Then answer the questions that follow. Without looking back at the article.

"Economy? It's Great! I Get 10 Hens or One Pig to the Mile," *Wisconsin State Journal*, January 30, 1974.

b.

CORVALLIS, Ore. (UPI) — Arthur Anderson uses pig manure to power his automatic coffee perculator each morning.

And the Oregon State University (OSU) microbiologist says that, if he wanted to, he could drive to work each morning — his car powered by cow manure.

The scientist and three OSU students are experimenting with converting manure and other animal waste products into methane gas. Methane, most commonly known as natural gas, already heats millions of American homes.

Anderson said the conversion process has been used on small Western European farms since the 1930s. And there's no better place to experiment than Oregon State with its thousands of cows, chickens, pigs, and other livestock. But he has found that pig manure is the best — or at least the most volatile.

The conversion process is accomplished by placing the manure in a sealed container and permitting it to decompose without the presence of oxygen. The methane gas given off is then collected and used to power most anything — even automobiles, Anderson says.

Anderson also said that one normal cow could produce more than 1,000 cubic meters of methane gas yearly.

Anderson isn't ready to hook a cow onto his car's fender instead of stopping at the gasoline station, but notes an Englishman has run his car on manure and college students in California have used chicken manure to power a car.

5. What is the main idea of this article? _____
-
6. For how many years has the conversion process been in use on some European farms? _____

If you were able to answer question 6, you're not serving your purpose in the shortest possible time. You're still reading and remembering more than you need. But don't be discouraged. Reading with a purpose takes practice. Read paragraphs *c - e* and follow this same format. Read the purpose statement first, then the selection, and then the two questions. You should be able to answer the odd-numbered questions and not the even-numbered questions.

Hubbard, Freeman. "Road to Yesterday," *Railroad Magazine*, January, 1974, pp. 24, 25.

Find out about the main character.

c.

Bill was a small man with a slim bone structure, but he walked briskly erect and seemed to have boundless energy. Really, he never grew old. When he finally crossed the Great Divide on February 24th, 1969, after having achieved a whole century of active living, except for a few months, he died from an accidental fall and not because of physical or mental deterioration.

During his long creative life Bill remained alert. At age 97, in collaboration with me, he authored a book, *The Railroad Caboose*, which Donald Duke published in 1968 and is still selling. Bill was justifiably proud of it. And on the day before his death, he wrote my wife a letter in firm legible script, with literary craftsmanship — no trace of senility. She cherishes that letter. I think that if the accident had not occurred, William F. Knapke would be alive and happy today — at age 104.

7. What is the main character like? _____
8. Where were the two men located? _____

Excerpt from "Gardening in July," *Better Homes and Gardens*, July, 1973.
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Determine the general information contained in this article.

d.

One of the most important parts of outdoor gardening this time of year is proper watering. Since rainfall varies so much, even year to year in the same location, you'll have to judge the requirements of your own situation. Too little or too much moisture will cause problems. Light sprinkling every day will encourage surface rooting — and such roots are of little help to plants in hot, dry weather. Too much water, particularly in poorly drained areas, can cause roots to rot and die. In fact, plants die more quickly in a waterlogged spot than in one deficient in water.

Time of day for watering is not as critical as other considerations. Usually, early morning is the best

time. Midday watering is not so good because there's more loss through evaporation. Watering late in the day may encourage diseases, especially in muggy weather when the surface water on leaves does not evaporate before evening.

Do not attempt to water an established lawn by hand-sprinkling with a hose. This method usually results in too little water, which may be a temporary refresher but probably will do more harm than good. Use a mechanical device, such as a traveling or oscillating sprinkler that will apply a fine mist over a wide area. Let water penetrate several inches into soil. In flower and rose beds, use a fine spray sprinkler, directing the spray toward the soil. Check depth of penetration with a spade. To give shrubs and trees a thorough watering, attach a hose to a hollow rod with perforations at the end. Plunge it into the soil about a foot or two around the plant in several spots.

9. What is this article about? _____
10. Why is midday watering not so good? _____

Giles, Janice Holt. *Six Horse Hitch*. Boston: Houghton Mifflin, 1969.

Find out about when the story took place.

e.

I took out the second stage to leave Denver, March 2. We were in business again, with troop escorts, though for some time, while the stations were rebuilt and restocked, we had to carry provisions with us and had no relays for the teams.

There were still occasional raids, but by the first of April the Overland was running regularly. I had brought the eastbound stage into Cottonwood the evening of April 4. After supper I was playing poker with a bunch of the boys when the station agent came in and said, "Fort Halleck's on the wire."

My heart began pounding. I went to the operator, whose face became intent as he listened to the chattering key. Then a smile broke over his face. "Starr! The Indians have sent word that they are willing to turn the girls loose at Halleck. God, Starr, you're going to get 'em back!"

11. During what era did the scene take place? _____
12. When did the Overland begin running regularly? _____

Proceed to the Flexible reading and read the directions.

FLEXIBLE READING

Directions. When you have learned to set a purpose, you are truly a flexible reader! And that's being efficient! Speed up when you can; slow down when you have to — all according to *your* purpose. Start now and set a purpose for reading some lifesaving information in "Controlling Your Car in Emergencies." Get the important facts so you can answer 10 questions at the end. Push the joystick button when you begin and again when you finish.

Candler, Julie. "Controlling Your Car in Emergencies." Copyright © 1974 by Fawcett Publications, Inc. Appeared originally in *Woman's Day*, February, 1974, pp. 2, 82. Reprinted by permission of the author.

Time after time the reports of serious and fatal accidents include the phrase "the vehicle went out of control." When that happens, the car veers crazily in one direction, even though the frantic driver may be steering the opposite way.

By recognizing the danger signals in advance, a good driver usually can stay in command. That's why General Motors has developed an advanced driver-education course on emergency car handling and control. I recently visited their proving grounds, where Russ Beadle, a veteran GM test driver, rode with me as I handled simulated emergency situations such as a tire blowout at sixty miles per hour. Altogether, six such emergencies are covered in the course that GM gives at state driver-education and safety centers across the nation. The following tips are based on Russ Beadle's instructions and advice from other safety experts.

Make your car controllable

Check your car the next time you drive it. Worn shock absorbers can make control more difficult, so if your car pitches on turns, or the front end bobs down on braking, the shocks should be checked. An excessively hard ride may be the signal that you need new springs, which absorb road shock and distribute it in the car frame and body. If there's a shimmy and shake, you can improve ride and steering inexpensively by having all four wheels balanced. Does the car steer hard? Have power-steering fluid checked. If it pulls to one side when you brake, front wheels may need aligning. Tires that are over- or under-inflated or excessively worn can affect handling seriously. So check tires carefully at the next gas-up. If the car has been in an accident, the frame should be checked. A frame bent out of alignment, even a little, can cause instability. Every fifteen thousand miles or so don't forget to have a mechanic check the most important part of all: the brakes.

If you're in the market for a new car, consider one of the anti-lock brake devices available on some of the larger vehicles manufactured by Ford and General

Motors. They're factory-installed options, priced at around \$200.

Don't be a loser

Your chances of keeping steering control can be increased by several preventive measures. First, on your steering wheel's imaginary clock, keep your hands at about 10 and 2. That's the best position for making a quick turn in an evasive maneuver. Second, keep your seat and shoulder belts fastened. Otherwise the forces created when a car whips out of control at high speeds can throw you out of the driver's seat in a split second.

Third, resist the urge to jam on the brake. Any race driver can confirm that you get in more trouble with the brake than with the accelerator. As long as your foot remains on the brake pedal, all four wheels stop turning. It's what safety experts refer to as wheel lockup. Unless the wheels are rolling, a car cannot be steered. Try it some Sunday on a big empty parking lot when the pavement is slick. Jam on the brakes at about twenty to thirty miles per hour. Then jerk the steering wheel to the right and left. You'll find that the locked wheels merely slide ahead. Any time front or rear wheels only are locked or when all four are locked by panic braking, especially at high speeds or on slick roads, you're in danger of losing steering control.

Evading an obstacle

The situation. You're driving over the crest of a hill and spot a stalled car just ahead in your lane. You're doing about maximum allowed speed on a freeway with light traffic in the lanes to left and right.

Don't jam on the brakes. That's the worst thing you can do, as proven in auto-safety research tests now under way at Calspan (former Cornell Aeronautical Laboratory). The tests are purposely designed so that the volunteer drivers will not have enough time to stop before hitting a plastic barrel that is catapulted unexpectedly in front of them. Yet most of the drivers tend to jam on the brakes, lose control and strike the barrel. "Some are afraid their

cars will turn over, which isn't true," says a Calspan researcher. "The average driver is using only about 25 to 30 percent of the maneuvering capability built into today's cars."

Do look for an opening to the right or left. Then have confidence in the evasive capability and stability of your car and steer around the obstacle. If you're an alert driver, you've been checking traffic around you every few seconds. You know immediately in which direction it's safer to steer. But because there may be a car in the rear blind spot to your right or left, accelerate a little to get around the obstacle. "The sudden turn will slow you down a fraction of a second. Also, the driver in your blind spot might be going a few miles per hour faster and hit you," explains Walter W. Gray. As director of driver and traffic safety education at Indiana State University, he trains his state's instructors.

Controlled braking

The situation. This time you're on a two-lane highway as you pass over the crest of a hill and unexpectedly encounter a stalled car in the lane ahead. There's an oncoming car in the opposite lane and no road shoulder for escape to the right.

Don't jam on the brake, lock up all four wheels and lose steering control.

Do use stab braking. Squeeze the brake pedal gently, let up the instant you sense wheel lockup, squeeze the brake, let up — until you've stopped.

Off-the-road recovery

The situation. Driving on a highway at the speed limit, you inadvertently drop two right wheels off the road edge. There's a stalled car in the shoulder a few hundred feet ahead, so you must return to the road quickly.

Don't gradually turn the steering wheel to the left. A road edge four to six inches higher than the shoulder may keep your right front wheel rubbing against the road edge. Though you keep turning the steering wheel farther around to the left, the front wheel doesn't turn. Then if you give the steering wheel a strong tug, the tire may suddenly climb the dropoff. But by now, without realizing it, you may have turned the steering wheel so far that the car can veer into a lane of oncoming traffic.

Do slow down, keeping your foot off the brake pedal. From the straddle position over the road edge, make a positive quarter or half turn toward the road. At the moment the tire contacts the pavement edge, make a quick countersteering turn back to the straight-ahead steering position. The momentum of the car will carry it up on the road and will stay inside the traffic lane.

Controlling a skid

The situation. You're on a slippery curve. Suddenly the car's rear end starts sliding into a skid.

Don't brake or accelerate. You're probably in a power skid because you've already given the car a little too much gas for the treacherous conditions. The rear wheels are beginning to spin. When they aren't rolling, the vehicle won't "corner" around the curve. The spinning rear wheels can suddenly skid the car's rear end 180 degrees. You may end up off the road, facing in the opposite direction from which you were heading. Any braking only makes such a skid worse.

Do ease your foot off the accelerator. Straighten out the car by turning the steering wheel in the direction the rear wheels are skidding and continue to steer until the vehicle is under control.

Controlling a blowout

The situation. You're driving a freeway when a front or rear tire blows out.

Don't panic and jam on the brake or make sharp steering movements. The car will wobble and swerve, but it's easy to handle with the correct emergency technique.

Do grip the steering wheel firmly so that it won't be yanked out of your hands and steer the vehicle to maintain your lane position. Let up on the accelerator. When you've slowed down enough, brake lightly and get well off onto the shoulder.

Curve control

The situation. You're steering around a curve when you feel the car's weight shifting severely due to the pull of centrifugal force. You realize that you're going too fast.

Don't hit the brake, stopping the wheels from rolling and possibly veering your car out of control.

Do ease your foot off the accelerator and steer into the turn to use your car's maneuvering capability. Most cars can take about three times the centrifugal force or pull that the average driver experiences in a turn at modest speed. The modern passenger car is very unlikely to flip over, unless it hits something like a curb during a violent skid. Watch for the sign advising the recommended speed limit on every curve, then brake to that speed before you enter the turn.

You can see GM's course in action through a nineteen-minute 16mm color film titled *Emergency Driving Procedure*, reviewing its basics. For a free loan of the film to schools, clubs and private groups, General Motors invites you to write GM Film Library, Dept. WD, 1-101 General Motors Building, Detroit, Michigan 48202.

Another educational film on emergency car handling is available free through Liberty Mutual Insurance Company, Dept. WD, 10 Rockefeller Plaza, New York, N.Y. 10020. It's a fourteen-minute, 16mm color film, *Let's Pass as Friends — Emergency Reaction Driving*.

Press the joystick button to **STOP** the timer.

1. According to the article, by recognizing danger signals in advance a good driver can
 - a. get ready to hit the brakes
 - b. stay in control
 - c. avoid all possible accidents
 - d. hit the ditch with dignity
2. What is the best thing to do if there is a shimmy or shake in your car?
 - a. get new springs
 - b. install new shocks
 - c. align the front wheels
 - d. have the wheels balanced
3. Brakes should be checked about every
 - a. three months
 - b. fifteen months
 - c. 3500 miles
 - d. 15,000 miles
4. You should resist the urge to jam on the brakes because
 - a. this action may cause a tire to blow out
 - b. the sudden stop will throw you into the steering wheel
 - c. that causes the wheels to lock and prevents steering
 - d. it is usually best to accelerate out of a danger
5. If you come upon an obstacle suddenly, the preferred action is to
 - a. apply the brakes
 - b. be sure not to swerve your automobile
 - c. look for an opening and accelerate slightly
 - d. prepare to hit it straight-on at a reduced speed
6. If it is not possible to steer around an obstacle, then go ahead and
 - a. use stab braking
 - b. hit your brakes full force
 - c. try to hit it squarely, not sideways
 - d. turn off your engine and cover your face for protection
7. What should you do if you drop both right wheels onto a shoulder four to six inches below the road level?
 - a. quickly get all four wheels onto the shoulder and come to a stop
 - b. slow quickly, and gradually edge your car back on the pavement
 - c. accelerate slightly, make a positive one-half turn toward the left, and then a quick countersteer to the right as the wheels make contact with the road
 - d. slow down, make a positive one-half turn toward the left, then a quick countersteer to the right as the wheels make contact with the road
8. What should you do when the car's rear end begins to skid?
 - a. stab your brakes lightly to slow down
 - b. ride the skid out without attempting to maneuver
 - c. ease off the accelerator and turn in the opposite direction of the skid
 - d. ease off the accelerator and turn in the direction of the skid
9. If a tire blows out on a freeway, you should
 - a. maintain speed until the car stops swerving
 - b. grip the steering wheel firmly, slow down, and keep in your lane
 - c. stab the brakes and pull off on the shoulder immediately
 - d. avoid braking, but pull onto the shoulder immediately

10. What should you do if your car's weight shifts severely when rounding a curve at high speed?
- maintain your speed and attend to your steering
 - brake lightly and steer away from the turn
 - decelerate and steer into the turn
 - brake before you hit the sharpest part of the curve and then accelerate

SUCCESS LOG FLEXIBLE READING	
READING SPEED	_____ WPM
COMPREHENSION SCORE (20 points per correct answer)	_____ %

PRESS **START** TO CONTINUE.

READING PROGRESS GRAPH

UNIT 8

Directions

READING EFFICIENCY INDEX _____

- Refer to the three Unit 8 Success Log Boxes and enter in the computer your three reading rates and three comprehension scores, as the screen directs.
- Record your Unit 8 REI above *and* on the REI Record page in the back of your Workbook.
- Press **START** to load the Reading Progress Graph. While the graph loads, read "Getting What You Go After—for a Lifetime" below.

GETTING WHAT YOU GO AFTER—FOR A LIFETIME

By now you're probably reading twice as fast—at least in some selections—as you did at the beginning. Does your graph show this? And, equally important, you have confidence in your own ability to learn to read faster, more effectively.

You've been thinking about goal setting in reading for a purpose. Learning how much help a purpose can be—to help you gain momentum, and to get what you want from your reading.

Now, however, is the time to do some broader personal goal setting. Discover all the ways your growing speed reading skills can make your life and work easier, more interesting, more profitable, and more fun.

To maintain the gains you've made, or to fine-tune your skills further, or even to make further increases in speed, you know it takes *practice*. This practice will keep you in "mental shape"—like being in physical shape to participate in a sport. Work enthusiastically and you'll be surprised at how much *more* progress you can make. To protect your gains—and limit your losses—read the following section, "Maintaining Your ATARI Speed Reading Skills."

- Enter your Pretest and Units 1-8 REI's when the screen prompts you to do so. (Obtain these from the REI Record page in your Workbook.) Then press **RETURN**.
- Press **START** to view your graph.

MAINTAINING YOUR ATARI SPEED READING SKILLS

You've invested a lot of time and work in learning how to read faster and more efficiently. You've formed new reading habits and developed new skills. You have learned how to work hard and have benefited from your successful results. These "gains" are yours to keep.

Maintain them by using these new skills in your daily reading. Continue to be a flexible reader, one who reads with a purpose and uses skills according to that purpose. Remember that reading fast and efficiently is like playing a sport: Good performance requires practice. And, the more practice, the better you become.

While frequent use of your new reading skills is the best way to maintain them, you may, at some point want to "resharpen" and fine-tune them to give your speed a boost. Review, perhaps in three or six months, material in your Workbook, for example, a Warm-up, Phrase-reading, or Techniques exercise. Also, use the Pacing and Timing program included in ATARI Speed Reading on Cassette 5. It will time and pace you with the audible tones on materials *other* than your ATARI Workbook. Readers have expressed that they would like help in pacing themselves on personal, recreational, and work-related materials. This cassette will help you check yourself, and encourage you to maintain your speed and comprehension achieved in the ATARI course. Directions for using Cassette 5 are included on the tape and also listed below for convenience.

Begin using your new reading skills now. Set a goal for yourself: Try to maintain your gains and limit your losses. Keep this goal in mind and keep your ATARI Speed Reading materials handy. Use them in the future as a review and refresher. In the meantime, enjoy—personally and professionally—your new abilities as a rapid and efficient reader.

STEPS FOR USING CASSETTE 5

1. To load Cassette 5 follow the directions in the STARTING UP section.
2. Select reading material in which each page has a consistent amount of print.
3. Determine the average number of words per page for three pages. When you count, include each space between words. Seven spaces equals one word.
4. Enter the average number of words per page. Press **RETURN** .
5. Select a beginning tones-per-minute rate, and push the joystick button to start and stop the timer.
6. When you finish reading, enter the number of pages you read and press **RETURN** . Your rate in words per minute will be displayed.

PRACTICE RESULTS

READING SPEED	DATE COMPLETED
_____ WPM	_____

ANSWER KEY

CHECK YOUR ANSWERS HERE

Find answers not given in this key by reviewing materials more slowly.

PRE-TEST

1. c 2. a 3. b 4. b 5. a 6. d 7. c 8. d 9. c 10. b

UNIT 1

PACED

1. c 2. b 3. d 4. a 5. d 6. a 7. c 8. b 9. d 10. b

TIMED

1. c 2. a 3. d 4. b 5. c 6. d 7. a 8. c 9. a 10. b

TECHNIQUES

- | | | |
|-------------------------|---------------------------------|---|
| 1. animals | 15. containers | 29. camping equipment |
| 2. states | 16. parts of a gun | 30. reptiles |
| 3. flowers | 17. objects on which to recline | 31. parts of a flower |
| 4. trees | 18. writing objects | 32. overlayer clothes |
| 5. felines | 19. lawn tools | 33. emotions |
| 6. tools | 20. reflecting surfaces | 34. activities with little physical involvement |
| 7. Great Lakes | 21. direction indicators | 35. elements of a bullfight |
| 8. tack | 22. camera equipment | 36. terms associated with a hospital |
| 9. vegetables | 23. protective objects | 37. philosophers |
| 10. first aid supplies | 24. objects for the neck | 38. components of a government |
| 11. fasteners | 25. vehicles | 39. small cars |
| 12. kitchen utensils | 26. house appliances | 40. New England states |
| 13. clothes | 27. birds | 41. western states |
| 14. lengths of material | 28. bicycle parts | 42. green vegetables |

FLEXIBLE

1. c 2. a 3. b 4. b 5. d 6. d 7. b 8. d 9. b 10. a

UNIT 2

PACED

1. b 2. a 3. b 4. d 5. d 6. b 7. c 8. a 9. c 10. d

TIMED

1. d 2. b 3. b 4. c 5. d 6. a 7. b 8. c 9. a 10. d

FLEXIBLE

1. b 2. a 3. d 4. b 5. d

UNIT 3**PACED**

1. a 2. c 3. b 4. c 5. d 6. d 7. b 8. c 9. a 10. c

TIMED

11. d 12. d 13. b 14. a 15. b 16. a 17. d 18. c 19. d 20. a.

FLEXIBLE

1. d 2. a 3. b 4. b 5. d

UNIT 4**PACED**

1. c 2. b 3. a 4. b 5. d 6. d 7. c 8. a 9. d 10. d

TIMED

1. c 2. d 3. a 4. b 5. c 6. a 7. a 8. c 9. c 10. d

TECHNIQUES

3. d. drifting, island, New Mexico, casting, shoreline, countdown lure, lure, sunk, I, not familiar, lake's bottom, bass, clue, lure settled, line, tightened, hit, fast to a bass, burst forth, eight-pounder, three, bass, this size, active fighters, best, filleting.
- e. plane, never found, tragedy, 1964, 1971, missing planes, never, found, shock, pilot's family, waiting, uncertainty, waning hope, anguish, emotional factors, financial considerations, estates cannot be settled, presumption of death, problems, insurance, family finances, find missing aircraft.
- f. summers, mid-fifties, flying, plane, Labrador, wilderness, Indians, traveled, prospectors, trappers, search, minerals, furs, woodsman, evaluate, timber potential, military, bush pilots, me, exploring, waters, major project, labor of love.
- g. innate trait, American character, assumption, all it takes, drive a car, driver, wheel, key, button, every driver, some idea, workings, 1000, no idea, under, hood, worry, maintenance, mechanic, automobile industry, want it more, automatic, better, sells, driver education courses, spreading, hopeful sign, teaching basics, longer life, car, driver.
- h. first, second world wars, pigeons, messages, Europe, Birds, decorations, Allied forces, dropped, pigeons, with agents, used, reliable, communication, first, pigeon returned, 1940, descended, night, nine miles, in concealment, finally released, back, that afternoon, vital information, this service, Dickin Medal.

- i. everyone else, laughing, why, you, only one nervous, taking a test, you aren't, only one, look around, she's, giggling, sign, nervousness, people, impulsive, when frightened, loud-pitched voices, boisterous students, nervous, pounding, hearts, fingering, pencils, uncomfortable, feel, smoke, self-conscious, resharpening, pencils, postponing, test.

Most students are nervous about taking tests and show it in a variety of ways.

- j. Jaguars, reinforce their relationships, tactile gestures, Head rubbing, social licking, close relationship, mothers, cubs, continues, two years, that time, cubs, fend, themselves, dependence, Indians, Peru, believe, chiefs, shamans, transformed, jaguars, after death, Jivaros, food, dead chief, two years, live independently, mature jaguar.

Jaguar cubs' maternal dependence is reinforced by tactile gestures.

- k. 1862, under 2,000 banks, issuing currency, circulated, discount, reflected confidence, individual bank, this point, no national currency, devaluation, not exist, your savings, lost everything, bank closed, lost, when, bills, sold, discount, best way, keep, value, assets, gold coins, own possession.

The hazards of saving money in 1862.

- 5. l. Migrating animals must have a very precise "internal compass."
- m. The unusualness of twins may help explain their important role in mythology and culture.
- n. Mallards have a great ability to adapt to changing conditions.
- o. A group of dolphins saved a distressed sea lion from killer whales.
- p. The nature of the Commander Islands and how they were discovered.
- q. The coral towers supported a rich community of life.
- r. Cock pheasants are rugged and aggressive in their social relationships.
- s. The conflicts involved in developing the Sawtooth Range may be resolved soon.
- t. Using a computer the Dutch have found a new way to battle air pollution.
- u. The crocodile is a very highly developed modern reptile.

FLEXIBLE

1. b 2. d 3. b 4. c 5. a

UNIT 5

PACED

1. c 2. d 3. b 4. c 5. b

TIMED

6. d 7. d 8. a 9. b 10. c

TECHNIQUES

- | | |
|--|--|
| a. The advantages of skimming different types of reading material. | e. A new method of tire disposal alleviates environmental problems. |
| b. Why the walking catfish poses a threat to the environment. | f. Splitting wood could be an outlet for physical energy and psychological tensions. |
| c. Each generation has its fads which the next generation has trouble understanding. | g. A good honest attempt to sell your house first by yourself may be worthwhile. |
| d. Banding birds has led to interesting discoveries about their migration | h. Food labeling regulations have been made more stringent and more useful. |

FLEXIBLE

1. b 2. a 3. b 4. c 5. a

UNIT 6

PACED

1. c 2. c 3. b 4. d 5. d 6. d 7. d 8. a 9. d 10. c

TIMED

1. a 2. d 3. b 4. a 5. a 6. b 7. b 8. d 9. a 10. a

TECHNIQUES

1.
 - c. On their surface bureaucracies are impersonal and rational. But the words "bureaucracy" and "bureaucratic" have come to connote an inefficient, rule-bound, maze-like system that obstructs rather than facilitates obtaining services.
 - d. We had survived the gantlet — and the brew was our reward.
 - e. They are interested in improving their vocabulary and have found these techniques helpful.
 - f. Families today, as in yesteryear, are the primary care system for their members, from the newborn to the elderly.
 - g. No topic sentence.
2.
 - h.
 1. yes — 10 million
 2. no
 3. most are born with it
 4. men
 5. no — they often aren't aware of their affliction
 6. light
 7. nothing
 8. no — rarely
 - i.
 9. F
 10. F
 11. F
 12. T
 13. F
 14. T
 15. F
 16. T
 17. T
 18. F
 19. F
 20. F
 21. T
 22. F
 23. F
 24. T
 - j.
 25. T
 26. F
 27. F
 28. F
 29. T
 30. T
 31. F
 32. F
 33. T
 34. T
 35. T
 36. F

- k. 37. No
- 38. Camping
- 39. No
- 40. Suffocate, injure himself, or get lost
- 41. No
- 42. Anthropomorphism
- 43. Other pets
- 44. No
- 45. Only at request of owner
- l. 46. 1 million dollars
- 47. Yes
- 48. Liability and comprehensive
- 49. No
- 50. Yes
- 51. False
- 52. False
- 53. Yes
- 54. False

FLEXIBLE

1. b 2. c 3. a 4. d 5. b

UNIT 7

PACED

1. b 2. d 3. c 4. d 5. a 6. b 7. b 8. b 9. a 10. d

TIMED

1. a 2. c 3. c 4. d 5. d 6. b 7. a 8. d 9. c 10. c

TECHNIQUES

- 1. Tea:
 - I. Black
 - A. Most popular in U.S.
 - B. Taste — rich and robust
 - C. Fermented — when oxidized, leaves turn bright copper
 - 1. Assam
 - 2. Darjeeling
 - 3. Earl Grey
 - 4. English Breakfast
 - 5. Lapsang Souchong
 - II. Green
 - A. Taste — distinctive
 - B. Color — light
 - C. Leaves — softened by steaming and heating
 - D. Kinds
 - 1. Basket Fired
 - 2. Gunpowder

- III. Oolong
 - A. Compromise between black and green
 - B. Color — light
 - C. Partially fermented — leaves turn green-brown
 - D. Kinds
 - 1. Formosa Oolong
 - 2. Jasmine
 - 3. Peppermint
- IV. Teas Blended
 - A. Flowers
 - B. Fruit peels
 - C. Sugar
 - D. Spices
- V. Instant Teas
 - A. Plain
 - B. Plain with sugar and lemon
 - C. Plain with non-caloric sweetener

How to Write a Business Letter:

- I. Know what you want
 - A. List your major points
 - B. To respond, refer to other person's letter
 - C. Answer promptly
- II. Plung right in
 - A. Call person by name
 - B. State purpose in first paragraph
 - C. Refer to dates of previous letters
- III. Write a pleasing letter
 - A. Be positive
 - B. Be nice
 - C. Be natural (read your letter outloud to check it)
 - D. Don't be cute or flippant
 - E. Use a sense of humor
 - F. Be specific
 - G. Use mainly nouns and verbs and fewer adjectives, write in the active voice
- IV. Give it the best you've got
 - A. Make letter look good.
 - 1. Type it
 - 2. Be neat
 - 3. Use paragraphs
 - B. Keep letter short
 - C. Make letter perfect
 - D. Be clear
 - E. Use good grammar
 - F. Don't put on airs
 - G. Don't exaggerate
 - H. Distinguish opinions from fact
 - I. Be honest
 - J. Edit well
- V. Sum up
 - A. Say what you want
 - B. Close simply

How to Write Clearly:

- I. Three Requirements
 - A. Want to write
 - B. Work hard
 - C. Follow guidelines
- II. Basic Guidelines
 - A. Outline material
 1. Use 3 x 5 cards
 2. Make piles according to points
 3. Arrange piles in sequence
 4. Arrange points within each pile
 - B. Start where readers are
 1. How much do they know?
 2. Explain material — don't act smarter
 - C. Avoid jargon
 - D. Use familiar combinations of words and correct grammar
 - E. Use first degree, precise words, for example, face; not visage
 - F. Stick to the point
 - G. Be brief
 1. Present points in order
 2. Don't discuss what readers know already
 3. Avoid having excess evidence
 4. Avoid "windy" phrases
 5. Write in active voice
 6. Avoid negative words where possible
 7. Stop, when the points are covered

2. Refrigerators & Freezers:

- I. Factors to consider when buying
 - A. Family size — up or down
 - B. Capacity needs — where is freezer space needed
 - C. Space for unit
 - D. Fit of unit
- II. Available styles
 - A. One door
 1. Small freezer
 2. Manual defrost
 - B. Two or more doors
 1. Kinds of freezers
 - a. horizontal — top or bottom
 - b. vertical
 - c. separate
 2. Features
 - a. longer storage of frozen foods
 - b. frequently used compartments
- III. Advantages of New Models
 - A. Greater safety
 - B. Tighter seals
 - C. More storage in less space

Granola:

- I. Characteristics
 - A. Crunchy
 - B. Good taste
 - C. Tatable
 - D. Good topper
 - E. Crisp pie shell
- II. Ingredients
 - A. Grains
 - B. Seeds
 - C. Nuts
 - D. Dried fruits

Food Shortage

- I. Reasons for complete disappearance
 - A. Minor crop failure
 - B. Transportation tie-up
- II. Current low supplies
 - A. Corn
 - B. Potatoes
 - C. Peas
 - D. Dried Beans
 - E. Canned Peaches
 - F. Pears
 - G. Cherries
 - H. Cheese
 - I. Butter
- III. Causes for current low supplies
 - A. Exportation program
 - B. Consumer stock piling

Uses for Weeds:

- I. Food
 - A. Amaranth
 - B. European food plants
- II. Cover
 - A. Nesting
 - B. Escape
 - C. Place to catch insects in summer
 - D. Place to eat seeds in winter
- III. Beauty
 - A. Dayflower
 - B. Jewelweed
 - C. Milkweed
 - D. Henbit

FLEXIBLE

1. a 2. b 3. d 4. a 5. a 6. d 7. d 8. b 9. a 10. c

UNIT 8

PACED

1. c 2. c 3. d 4. b 5. b

TIMED

6. a 7. c 8. c 9. b 10. b

FLEXIBLE

1. b 2. d 3. d 4. c 5. c 6. a 7. d 8. d 9. b 10. c

READING EFFICIENCY INDEX RECORD

UNITS 1-8

As you complete each of Units 1-8, record your REI in the appropriate spaces. This summary will provide a handy reference when you need to enter each REI in the computer. You may obtain all your information from this one page, instead of having to refer to each separate unit. Keep it up to date!

	REI	DATE COMPLETED
Pretest	_____ WPM	_____
Unit 1	_____ WPM	_____
Unit 2	_____ WPM	_____
Unit 3	_____ WPM	_____
Unit 4	_____ WPM	_____
Unit 5	_____ WPM	_____
Unit 6	_____ WPM	_____
Unit 7	_____ WPM	_____
Unit 8	_____ WPM	_____



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