## 英语阅读丛台

# READING (Va) LABORATORY

#### CONTENTS

#### POWER BUILDER

1.	AN OLD-TIME BUFFALO CHASE	(	`1	)
2.	GO FLY A KITE	(	5	)
3.	SMOKEJUMPING	(	9	)
4.	BEHIND THE LOOKING GLASS	(	13	)
5.	TEDDY AND THE TRAMP	(	17	)
6.	WILLIE MAKES THE BIG TIME	(	21	)
7.	DAWSON: THE CITY OF GOLD	(	25	)
8.	DANGER BY CANDLELIGHT	(	29	)
9.	WEATHER LORE AND SUPERSTITION	(	33	)
10.	MINE YOUR BACK YARD FOR RICHES	(	37	)
11.	STR ANGE MONEY	(	41	)
12.	GETTING READY FOR SPACE TRAVEL	(	45	)
13.	HOW WORDS CRASH THE DICTIONARY	(	49	)
14.	EDWARD R. MURROW REPORTS ON BRITAIN UNDER			
	THE BOMBS	(	53	)
15.	HOW SATELLITES WILL CHANGE YOUR LIFE	(	57	)
16.	THE REAL SHERLOCK HOLMES	(	61	)
17.	THE GREAT CHICAGO FIRE	(	65	)
18.	THE NORMAN CONQUEST	(	69	)
19.	TREASURE TROVE OF OAK ISLAND	(	73	)
	MUTINIES ON AMERICAN SHIPS			
RATE BUILDER				
	1			
KEY	2	(	111	)
NO.	TES	1	112	,



### An Old-Time Buffalo Chase

by Henry C. King

Adapted from "An Old-Time Buffalo Chase" by Henry C. King, from FIELD AND STREAM TREASURY, © 1955, Henry Holt and Co.

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- By the middle of the last century, the very words "the buffalo country" had a far-off sound. It was the savage wilderness of the western grasslands, well nigh as inaccessible to the average sportsman of that day as the elephant ranges in Ceylon or the antelope veldts of South Africa.
- Among the early visitors to this wild country was a party of eight, which, on the fourth day of September, 1851, rode from its camp on the Platte River, forty miles above Fort Kearney, for a buffalo chase.
- From the bluffs on which the camp was situated, the party could see dark groups of bulls dotting the gray-green expanse of treeless valley below. Some of the animals were standing with lowered heads, in the meditative attitude peculiar to buffalo, while others were moving to and from the watering places at the river. Staring antelope, and here and there a gray wolf, also enlivened the broad landscape on which there was no human sign.
- It was not the plan of the hunters to disturb the scattered animals in the valley. From the southward, the night breeze had brought faint sounds of distant bellowing mingled with the sonorous chorus of the wolf packs that always hung upon the flanks of the great herds. One of these herds of many thousands of buffalo would be the party's objective. The air was crisp with the first breath of autumn and quivering with the brilliance of the sunshine. As the men advanced, solitary bulls galloped from rocky hollows. No buffalo herd appeared, though there wasn't any lack of animal life. Antelope herds, frightened by the sight of the hunters, yet curious, wheeled and circled about. Mustangs, white, blue, and gray, stared with heads held high, then went

off like the wind, their silvery manes and tails flashing in the sunshine.

- There was mile after mile of this; then suddenly buffalo loomed up, darkening the plain like a great cloud's shadow. The nearest were within rifle range, while far to the south and west their dim outlines melted into the blue haze. They were quietly cropping grass or lying peacefully in the sunshine. Frisking calves, their short tails cocked, played about their mothers, and great bulls pawed in the wallows; the countless multitude of noble animals was as much at ease, as unsuspicious of evil, as domestic cattle in a home pasture.
- But the hunters were discovered, and the dark masses nearest them began to move off as the party cantered forward. Then, entering the dust cloud at the tail of the herd, the huntsmen were instantly hidden from each other as the buffalo made the usual wave-like rush forward and raised a still denser dust.
- To kill a buffalo from a trained horse was no great feat. There certainly was some risk to the rider's bones. A stumble might hurl him upon a forest of sharp horns, or a sudden turn and bunching of the herd might crush him. Also, a wounded buffalo was pretty sure to face about on its forefeet, as on a pivot, and charge horse and rider. But risk is the spice of all adventure, and with a buffalo horse - as a horse trained for that kind of hunt was called - these dangers were reduced to a minimum. An untrained horse, however, coming at headlong speed upon a dark mob of great shaggy beasts and seeing it close about him through blinding dust, was instantly smitten with hopeless panic. A new horse, nine times in ten, would plunge wildly from side to side, or, despite whip and spur, would wheel frantically about with protruding eyeballs, executing a dance on his hind feet. Such had been my experience with the high-bred chestnut mare I rode that day.
- 8 But practice and kind handling had given her confidence, and, though running with pointed ears and little

snorts of half fright, she pushed her way quite bravely through the rear masses on into a twilight of dust, till I laid her alongside of a glossy-haired bull and opened fire with my revolver. The huge bull, which towered above the other buffalo, and even above the mare, seemed to take little notice of these proceedings till after several shots. With a lion-like lift of his bushy head he glared at me for a second, and then, quick as a flash, he wheeled and charged.

This had been expected, but, in spite of the mare's swift sidelong jump the black horn cut the air unpleasantly near her flank. But it was a dying effort. The bull came to a stop. For a few moments he stood, rigid as stone; then he careened and went down on his side. I dismounted, and, as I glanced at the grand creature, the elation of the chase was forgotten for the moment. This bull looked nearly double the average size. The buffalo, with its awkward hump and lowered head, is ordinarily an ungainly looking animal. However, in his wild state and at close quarters, when an infuriated bull turned on a hunter, there was a startling change in his aspect - a kind of majesty worthy of the brush of a Landseer. Without such a picture the true likeness of the American bison will not be known hereafter.

The mare was chafing. The herd to the rearward had opened out and passed us on the right and left, and giving rein, I was soon flying along with the herd again. The very earth seemed to be rocking and trembling as in an earthquake. Buffalo in tens of thousands were in motion. Now and then in the din, a quick low moan signalled that a cow had lost sight of her calf. In spite of the headlong motion, the vast numbers, the dustdarkened air, the crowding, and the noise, there seemed to be order and measure in the swift forward movement.

Altogether, there was something of grandeur in the scene. Cows, calves, bulls young and old - the latter with grizzled manes yellowed with age, and horns splintered at the points from many a combat - ran together, their sides touching. A large bull fell near me and turned over with the impetus of a rolling barrel, but was up and off again in an instant. At another place, there was a break in the billowy level of their backs as the herd crossed a ravine. They plunged, with outstretched tails, from the brink to the upsloping gravel some eight feet below. The leap stopped my breath as the mare took it perforce along with the buffalo. Stampeding cattle would have left the ravine bridged with their mangled carcasses, but the living cataract of buffalo streamed out beyond without a single casualty.

From out the dusky chaos there was, here and there, a quick red flash and muffled crack, showing where others of the party were holding with the herd. The object of the chase was not mere slaughter, but a needed supply of meat for the camp. At last, pressing up to the front, I made a dash for the leader, always the largest and best-conditioned cow of the herd - buffalo, like the elephant herds of Africa, were invariably led by a female. With quick instinct the cow saw that she was singled out and, before I could extricate myself from the confusion into which the head of the herd was thrown, she had bolted off at an angle and was some seventy yards away, racing across the plain.

This start gave her a great advantage, for it was only when a fat cow - as such an animal was called in plains parlance - was so separated that the real speed of the buffalo was to be seen. The hunter, if not well mounted, was likely to see the beast draw away from him with swift, long strides and vanish beyond a rise of ground, or down some declivity impassable to him.

But the mare was of racing stock. The pride of generations was in her blood, and as she settled to her work, her slender neck corded and strained forward, foam flecks flying back from the bit. My hat flew off and sailed away. My second revolver jumped out of its holster and fell to the ground, but my eyes never left the cow as she continued to increase her speed. But the contest was unequal. The mare gained steadily till the pistol was pressed against the cow's round, glossy side. and a single shot ended the chase. The cow dropped and lay motionless, a limp, brown heap on the prairie grass.

The party had been a good deal scattered in the course of the day, but all came together at camp in due time, each with a story to tell about his part of the chase. The cook busied himself preparing choice pieces of the meat just brought in; and, squatting tailor-fashion about the campfire, the hunters dined with prairie appetites on savory, barbecued hump ribs, juicy tenderloin, and the contents of roasted marrow bones, washed down with steaming, black coffee. A rude meal, to be sure, for some palates, but never had there been set out a feast that was more enjoyed.

Then, as the stars came out, under a curling canopy of white smoke that rose from fragrant pipes, there was a session of campfire talk - that most pleasant social hour to the hunter - lasting till blankets were spread and, with the sky for a roof and the grassy earth for a bed, the men slept.

#### What are the facts?

Which of the following best supports the writer's statement?

- 1. To kill a buffalo from a trained horse was no great feat.
  - A. A new horse would plunge wildly from side to side.
  - B. With a trained horse, these dangers were reduced to a minimum.
  - C. An untrained horse, however, coming upon a dark mob of shaggy beasts, might be instantly smitten with hopeless panic.
- 2. The mare was of racing stock.
  - A. Practice and kind handling had given her confidence.
  - B. The leap stopped my breath as the mare took it perforce along with the buffalo.
  - C. The pride of generations was in her blood.

#### What proof did the writer give?

- 3. Throughout the selection, the writer tries to picture the majesty of the buffalo. Which of the following statements illustrates that "altogether, there was something of grandeur in the scene"?
  - A. The herd crossed a ravine.
  - B. A large bull fell near me and turned over with the impetus of a barrel.
  - C. The living cataract of buffalo streamed out beyond without a single casualty.

#### Did you note descriptive details?

In describing the buffalo chase, the writer pointed out many features of the locale.

- 4. Which of the following groups of animals was not on the scene?
  - A. elephant herds
  - B. antelope herds
  - C. mustangs
- 5. Which of the following geographical features were not part of the scene?
  - A. ravines and rocky hollows
  - B. majestic trees
  - C. watering places in the river

#### What were the motives?

- 6. Why were the hunters out on the buffalo chase?
  - A. for sheer excitement
  - B. to train buffalo horses
  - C. to get a supply of meat for their camp

- 7. The leader of the buffalo herd bolted off when the hunter approached because
  - A. she wanted to protect her calf
  - B. her instincts told her that she had been singled out as a target
  - C. she was infuriated

#### What is the writer's purpose?

- In paragraph 10, the writer's main purpose is to describe
  - A. the mare's chafing
  - B. how a cow lost her calf
  - C. the movement of a great number of buffalo
- 9. In paragraph 14, the writer's main purpose is to
  - A. inject humor by telling how he lost his hat and extra revolver
  - B. describe the speed and excitement of the chase
  - C. show that he was a good sportsman

#### VOCABULARY BUILDING

#### A. Context

Often you can tell the meaning of a word from its context—the complete sentence or paragraph in which the word appears.

Directions: Find a word in the selection which means:

- I. impossible to reach (1)
- 2. mixed; combined (4)
- 3. boldness; self-assurance (8)
- 4. angered; enraged (9)
- 5. excitement; high spirits (9)
- 6. stately dignity (9)
- 7. dead bodies (11)
- 8. set free; untangle (12)
- 9. language; speech (13)
- 10. overhanging shelter; covering (16)

#### **B.** Semantic Variations

Many times a word will have more than one meaning. We call these differences in meaning "semantic variations."

- II. wheeled (4)
  - A. rolled on wheels
  - B. moved in a curving course
  - C. traveled along smoothly

#### 12. loomed (5)

- A. appeared in impressively great form
- B. wove on a loom
- C. appeared indistinctly and distorted

#### 13. charge (7)

- A. supply with electricity
- B. lay blame upon
- C. rush, as to attack

#### 14. executing (7)

- A. performing
- B. putting to death
- C. transacting

#### 15. measure (10)

- A. unit of measurement
- B. rhythmical movement
- C. size

#### 16. object (12)

- A. purpose
- B. thing that can be touched
- C. thing that can be known by the mind

#### C. Syllabication

a / void / ed

sta / tioned

When ed is added to a word that ends in a t or d sound, the ed is a separate syllable. When ed is added to a word that does not end in a t or d sound, ed is not a separate syllable.

Directions: Write the following words. Draw lines between the syllables.

- 17. lowered
- 18. melted
- 19. wounded
- 20. outstretched
- 21. centered

#### D. More Syllabication

lad / der

sel / fish

win / dow

When there are two consonants between two vowels, syllable division is usually between the two consonants.

Directions: Write the following words. Draw lines between the syllables.

- 22. valley
- 23. attitude
- 24. hunters
- 25. gallop
- 26. forward

#### E. Prefixes

anteroom - a room before another room

predict - to tell before

propose - to put before

The prefixes ante, pre, and pro all have the meanings of "before," or "forward," or "ahead." But in a specific word, usually only one of the three is used.

Directions: Decide which prefix is added to each word below to give it the meaning of "before," "ahead," or "forward." Write the word with its proper prefix.

- 27. meridian
- 28. shrunk
- 29. motion
- 30. claim
- 31. requisite

#### F. Synonyms

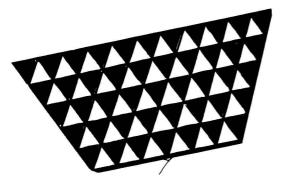
Synonyms are words with meanings that are alike.

Directions: From the last three words in each line, choose the one word that is the synonym of the first word.

- 32. tremble, steady, calm, shudder
- 33. savory, dry, tasty, flavorless
- 34. meditate, complete, think, execute
- 35. handle, use, drop, bungle

### GO FLY A KITE

by Joseph J. Cornish III



Adapted from "Go Fly a Kite" by Joseph J. Cornish III, NATURAL HISTORY MAGAZINE, April, 1957, with the permission of NATURAL HISTORY MAGAZINE.

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- One summer morning in 1900, two men were intently studying the motions of a kite which they controlled by means of four slender wires. The men were Wilbur and Orville Wright, and they were learning some of the techniques that were later to be applied to the first heavier-than-air vehicle to carry a man aloft under its own power.
- Perhaps earlier that same morning on a shore halfway around the world, an anxious South Sea fisherman was watching a somewhat different kite and waiting for a fish to take the lure hanging from the kite's tail.
- These are but two examples of the many ways in which kites have helped men in their quest for knowledge and in their struggle for survival since ancient times. Even though the kite is generally considered only a toy, it has provided men with a wealth of knowledge.
- 4 It is believed that the kite was invented in the Malay Archipelago. From that area comes the familiar Malay



kite, formed in the shape of a diamond so that it requires no tail but balances itself in the air. The Maoris of New Zealand have flown kites since before recorded history, and the kite is firmly imbedded in their lore.

- Records of kites are found very early in Chinese history. They were first used in warfare, specifically in military signaling. When messages had to be sent over dangerous country, brilliantly colored kites were used as signaling devices.
- The earliest record of the kite as a man-lifting affair comes from ancient Japan. Two golden images of fish high atop the castle of Nagoya-Gyo are said to have motivated the men who made the first flight. The golden fish attracted the greed of a certain bandit, but the baron who occupied the castle kept it heavily guarded. So, in the dead of night, the bandit seated himself in a trapeze attached to the tail of a huge kite while his cohorts maneuvered him into the air and onto the rooftop. Once there, he stole many of the golden scales from the fish, then descended and escaped undetected.
- The use of the kite spread gradually from the Far East to the Western world, and others soon took advantage of this opportunity to reach into the heavens. Among the first to use the kite scientifically were Dr. Alexander Wilson and Thomas Melville of the University of Glasgow in Scotland. In 1749 they hoisted thermometers aloft on six kites, with fuses attached to each kite so that the instruments could be dropped from different altitudes. Their experiment first recorded temperatures above the surface of the earth.
- Three years later Benjamin Franklin made his historic experiment, demonstrating that lightning is a form of electricity. Constructing a small kite from a silken handkerchief and using a thin wire for a line, Franklin flew the kite into the fury of a thunderstorm. The wire allowed a discharge from the clouds to flash down and spark to the earth through a key suspended at the end of the line.
- The kite, not the gasoline engine, also made possible the world's first horseless carriage. An Englishman, George Pocock, in 1827 developed a four-wheeled buggy which was towed along by two kites with lines about 1,500 to 1,800 feet long. The kite-carriage, or "charvolant," made trips between Bristol and Marlborough at speeds as high as twenty miles an hour.
- The idea of using a kite to haul lines to inaccessible spots was put to practical use in the United States in 1849. A group of engineers was considering methods to span the Niagara River with a bridge just below Niagara Falls. One of them offered a prize of ten dollars to the first boy who could fly a kite with a stout string across the rocky, ice-choked river. After several unsuccessful attempts, a lad named Homan Walsh won the

money. His kite, therefore, was instrumental in building a bridge that linked the United States and Canada.

About fifty years after Pocock's experiments, manlifting kites began to appear all over the world. Lawrence Hargrave was among the first to begin working in earnest. He made many attempts at flight, mostly with the birdlike, flapping-wing ornithopters, and he is credited with inventing the box kite in 1885. But it was in 1893 that he built three large kites and attached them at intervals to a long line. The combined weight of his body plus this rig came to 208 pounds, but he managed to raise himself sixteen feet above the ground.

Men had floated aloft in balloons, glided on fabric wings, and risen on kites. All that remained was to sever the slender string that bound them to the earth. For this, the world looked to the Wright brothers.

As children, the Wright brothers were avid kite fliers. Later, they pondered over methods of flying and controlling a vehicle in the air. A clue came to Wilbur while selling a tire tube to a customer in the small bicycle shop the Wrights owned. As he absently twisted the carton in which the tube came, he noticed its similarity to a box kite. He reasoned that if the box could be twisted, so might the kite, and in this manner some control might be exercised over it in flight.

Within a month, the brothers had built a kite with wings five feet long. It was equipped with four lines which they used to warp the kite in the air. This device was flown in Dayton. The next year they flew a larger tethered glider at Kill Devil Hill near Kitty Hawk, North Carolina. These tests were made in the year 1900. Their epic flight some three years later was possible mainly because they had succeeded in controlling an aircraft in the air, a feat not previously mastered.

Of course, all kites did not carry people; some of them were used in experiments of far-reaching consequence. For instance, on December 12, 1901, Guglielmo Marconi, the inventor of the wireless telegraph, hoisted a wire attached to a kite at St. John's, Newfoundland, and with this antenna received the first wireless signal to be sent across the Atlantic Ocean. And in 1907, the renowned Dr. Alexander Graham Bell conducted experiments with a mammoth, man-lifting kite at his summer home in Nova Scotia. Even by today's standards, his flying machine was of immense proportions. One of Bell's kites had a span of well over fifty feet and stood over twelve feet high. The kite consisted of a multitude of tiny triangular wings, each about ten inches on a side. The little triangles were arranged as the sides of regular pyramidal shapes, and Bell therefore called the entire assemblage a tetrahedal kite.

The most notable flight of this tremendous kite took place on December 6, 1907, when Lieutenant Thomas E. Selfridge of the U.S. Army was carried aloft to a height of about 150 feet and remained up for seven minutes.

Besides carrying men aloft, kites were enabling men to look at the earth through the eyes of cameras. In 1906, George Lawrence took one of the world's largest pictures from a kite. Immediately after the San Francisco earthquake, he grouped seventeen huge kites to form a train which lifted a camera that was longer than some automobiles. It took fifteen men to handle it on the ground. The picture it made measured about thirty square feet. With this camera, Lawrence took a giant-sized picture of the San Francisco fire.

Perhaps it was man's yearning to fly that made kiteflying a universally popular sport with both young and old. The Chinese in particular have developed it as a toy. They make kites in the form of animals, kites shaped like fish and birds, and, of course, kites shaped like dragons. The Chinese even have a special Kite Day.

Pitting one kite against another is a popular sport in many countries. The object of the contest is usually to see which kite flier can cut the cord of his opponent's kite. In the United States, sharp pieces of glass or razor blades are attached to the kites themselves. These fighting kites are highly maneuverable, and a practiced operator can make them dart all over the sky. To hit and cut an opponent's rapidly moving kite string requires considerable skill.

In China and Iraq, a slightly different technique is employed. Instead of attaching sharp objects to the kite, the kite string itself does the cutting. The part of the string near the kite is coated with glue and finely crushed glass. In battle, the strings of the two kites are sawed together until one kite is cut loose.

With all its unusual shapes and forms and with its strange and varied past, the kite is often thought of today as an oddity or, at best, an interesting toy. Actually the kite still serves men in many useful ways. Kites have been designed to serve practical purposes in such fields as photography, advertising, sports, and meteorology.

Until fairly recent years, the United States Weather Bureau made extensive use of the kite as a tool to probe the whims of the weather. In other countries the kite has also proved useful for exploring the atmosphere. In Viborg at the extreme northern tip of Denmark, a permanent station for the flying of kites was established through the cooperation of Denmark, Sweden, and France.

The United States Mcrchant Marine has used kites to fly life lines to stranded vessels. The United States Navy has also flown kites. In World War II, it experimented with a plan to fly kites over ships to protect them from enemy aircraft. The kites, darting back and forth on the shifting winds, supported steel wires which would form an effective aerial umbrella over the ships.

Many a downed American aviator owes his life to a kite. As a part of the standard survival equipment in many airplanes, a small collapsible box kite enables the castaway to carry his radio antenna high enough to summon help.

Throughout its history as both toy and tool, the kite itself has undergone remarkable changes in design. In recent years, completely controllable kites have been designed and constructed. These extraordinary kites are so maneuverable that the person controlling one can sign his name in the air with it. Perhaps these are the kites to end all kites.

#### Where did it occur?

Kites from many countries are described in this selection. A few of the countries mentioned are listed in Column II. For each event given in Column I, write the letter of the country with which it was associated in the article.

I

- 1. Their experiment first recorded temperatures above the surface of the earth. (7)
- 2. The kite-carriage, or "charvolant," made trips at speeds up to twenty miles an hour. (9)
- 3. Guglielmo Marconi, the inventor of the wireless telegraph, hoisted a wire attached to a kite. (15)
- 4. They even have a special Kite Day. (18)
- 5. They used kites to fly life lines to stranded vessels. (23)

#### What does it mean?

Examine each phrase. Select the phrase which best gives the meaning the writer intended.

- 6. "A wealth of knowledge" (3) means
  - A. money-making knowledge
  - B. a great store of knowledge
  - C. too much knowledge
- 7. "In the dead of night" (6) means
  - A. when night had passed
  - B. for a great part of the night
  - C. the period of greatest darkness
- 8. "The kites to end all kites" (25) means
  - A. no more kites will be invented
  - B. it will be difficult to design more extraordinary kites than these
  - C. these kites may be attached to other kites

#### Can you see the order of events?

- 9. The writer has given the history of the kite from its invention before recorded history through modern times. From the following statements, select the one that is out of the proper time order. Write the letter of the statement.
  - A. The man's cohorts maneuvered him into the air, and he flew to the rooftop.
  - B. The United States Merchant Marine has used kites to fly life lines to stranded vessels.
  - C. They hoisted thermometers aloft on six kites.
  - D. Kites were enabling men to look at the earth through the eyes of cameras.

#### VOCABULARY BUILDING

#### A. Context

II A. China

B. United States

D. Newfoundland

C. Scotland

E. England

Often you can determine the meaning of a word from its context – the complete sentence or paragraph in which the word appears.

Directions: Find a word in the selection which means:

- L. bait (2)
- 2. raised; lifted up (7)
- 3. hung by an attachment to something above (8)
- 4. difficult to reach (10)
- 5. guidance (13)
- 6. twist (14)
- 7. wire for receiving signals (15)
- 8. widespread (22)
- 9. in the air (23)
- 10. made to fold compactly (24)

#### B. Semantic Variations

A word may have more than one meaning. We call these differences in meaning "semantic variations."

- 11. diamond (4)
  - A. shape with four slanting sides
  - B. precious gem
  - C. field for playing baseball
- 12. affair (6)
  - A. social gathering
  - B. thing or contraption
  - C. business
- 13. scales (6)
  - A. weighing machine
  - B. ladders
  - C. flaky, platelike layers
- 14. span (10)
  - A. full reach of anything
  - B. short space of time
  - C. stretch over
- 15. epic (14)
  - A. important in history
  - B. poetic
  - C. heroic
- 16. pitting (19)
  - A. marking with small scars
  - **B.** throwing into a hole
  - C. putting into competition

#### C. Suffixes

The suffixes ous, less, ive, and able are used to make adjectives out of nouns and verbs. Usually only one of these endings can be added to a specific word.

Directions: Decide which of these suffixes should be added to each word below. Add the suffix, and write the new word.

- 17. remark
- 18. horse
- 19. control
- 20. danger
- 21. effect
- 22. maneuver
- 23. note
- 24. consider

#### D. Prefixes

The prefixes em and in are used to mean "in." Sometimes the prefix in means "not."

Directions: Each word below has the prefix in or em. If the prefix means "in," write In; if it means "not," write Not.

- 25. inborn
- 26. inaccessible
- 27. inappropriate
- 28. embedded

#### E. Base Words

consider consideration

inconsiderate

The word consider is a base word upon which other words are built. Many longer, unfamiliar words are built from base words you already know.

Directions: In each line all the words are built on the same base word. Write the base word.

29. unsuccessful	successful	successive
30. disassemble	assembly	assemblage
31. undetected	detective	detected
32. uncelebrated	celebrations	celebrity

#### F. Roots

In the word ornithopters, ornitho is taken from Greek and means "bird"; pter is also from the Greek pteron which means "wing."

Directions: Match each word in Column I with its meaning in Column II and write the letter of the meaning.

33. ornithology

34. helicopter
 35. ornithopter

 $\mathbf{II}$ 

- A. bird-like aircraft designed to move by the flapping of wings
- B. knowledge of birds
- C. an aircraft lifted and kept in the air by horizontal propellers

## Smokejumping

by Dale White and Larry Florek

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I The plane scouted the circumference of the live fire below, rocking and soaring in the strong updraft and the blinding gusts of smoke. It circled and came in again as a bulky suited figure, swollen with chute packs, helmet, and face mask, set a boot securely on the step below the open doorway. Signaling for the motor to be cut, the jumper stepped off above a sea of tall timber. It was 3:57 p.m., July 12, 1940, over the Martin Creek fire, deep in the Nez Perce National Forest in Idaho.

As the lines of his chute fouled behind his head, the jumper, plummeting downward, fought desperately to untangle them. By the time his chute had bloomed, he was already plowing through a maze of high young branches. The silk crowned a treetop, and taut lines wrenched the jumper in close to the trunk. Even before he had stopped swinging, the man had pulled a rope from his pants-leg pocket, secured it, and snaked quickly down its hundred-foot length to the ground.

In completing the first organized fire jump in the United States, Rufus Robinson had set the routine for thousands of jumps to come. Unconcerned with the historic importance of his action, he gathered up the fire-fighting tools dropped to him, and contacted Earl Cooley, who had made the second jump.

On the ground, without the bulky suits, these two instantly became unglamorous. They were smokechasers now, faced with controlling a hot, hungry blaze in the back country. There would be no rest until the fire was shallow-trenched in, and the hot spots dissipated — until the flames finally died out.

Newspaper headlines played up these jumps, and Forest Service officials preened themselves justifiably on their ingenuity. Yet neither recognized that Rufus Robinson's jump marked a day long in coming.

In 1939 many firefighters and their equipment had been landed onto cramped back-country strips. But the time that elapsed from the first report of a smoke until the attack was under way still gave the edge to fire, not control. Forest officials on fire patrol had spotted many insignificant smokes that later grew to bullying troublemakers, all because they could not be checked immediately.

The solution to this problem, in the minds of some of the officials, was to drop smokechasers down at the fire edge to snuff out the bratty beginners. The country any fliers saw below them on their wilderness flights said "No" emphatically to this idea. Still, the answer was there



— precision jumping at high altitudes into dense timberland or rugged back country. The two essentials of equipment were there—planes and parachutes. There was no shortage of courage and determination. Seemingly, all that was lacking was technique and particularized gear for the jumpers.

Finally the Forest Service officials faced up to it. During the fire season of 1939, they decided to devote the period from October 5 to November 15 to experimenting in the delivery of fighters to fires via airplane and parachute. The location selected for the experiment was an airport near the Winthrop ranger station in the Chelan National Forest in Washington.

Considering the scope and difficulties of the experiment, a surprising number of good results and conclusions were obtained without a single injury. It was decided that jumpers could land safely in most greentimber areas of the western national forests, since the trees most common to the Chelan – subalpine lodgepole, mixed and north slope Douglas fir, western larch, ponderosa pine, and hardwoods – were to be found throughout the Rocky Mountain west. Successful jumps could be made to mountain meadows, open ridges, and steep, open slopes if the boulders were not too close together. With remarkable understatement, the project chief's report said, "Snag areas, areas of down timber, lodgepole deadenings, extremely steep slopes, deep canyons, and areas of rock cliffs or ledges should be avoided."

10 Surprisingly enough, the densest stands of timber provided the easiest landings and the least shock for the



jumpers. Landings in thickets of young trees and in reproduction areas were termed "feather-bed landings" because the thickets checked the fall of the jumper.

I Problems appeared more often where the chutes were concerned. Retrieving the canopy from the crown of a tree was slow work, involving lineman's climbers and infinite patience. It was obvious that, to make precision landings, the jumper would have to be able to steer the parachute to compensate for wind push or lag, or to combat treacherous gusts.

Well pleased with the results of the experiments, the Forest Service recommended that actual smokejumping operations be undertaken in 1940. The report assured the higher-ups in Washington, D. C., that "there was no evidence of fear or panicky state of mind even in the first-time jumpers."

13 Few types of flying were more exacting than dropping men by parachute onto mountain terrain. When the fire was down in the bottom of a deep canyon, the pilot had to constantly watch the wing tip closest to the timber or rock, check the air currents, plot the way out in case a sudden downdraft caught him, and twist his head every few seconds to watch every signal of the spotter who had chosen the landing spot for the jumpers.

The pilot had to be ready a split second after the "down" sign from the spotter to cut the engines and keep the plane on an even keel while jumpers bailed out one after another, changing the load factor each time a man left the plane.

Since the men were spotted before jumping to offset or compensate for measurable wind drift, the ability to turn and use a small amount of forward speed permitted the jumpers to make headway at right angles to the wind, to turn into and minimize the force of a strong wind carrying them over their mark, or to go with the gust and stretch a glide so that a dying wind would not let them fall short.

To state that a jumper must be necessarily the cool, calculating, nerveless type is to disregard the true nature of any of these young men. One of them, a veteran of all three years' jumping, put it this way:

"When you're called out for that first fire jump, it's thank-God-for-the-routine that keeps you going through the motions. After you come out on top of that last training jump — the one into the timber — you know you're the slickest, smartest smokechaser that ever lit in a lodge-pole. But when that first real fire jump comes along — you certainly get on edge.

"You've never paid a nod of attention to the pilot or the aircraft's engines before, but now you're all ears and eyes, straining for the miss or cough that isn't there. The pilot has that map with the X on it in front of him. He knows just what section, range, and township that fire is chewing on, but it all looks like timber, rock, and trouble to you.

"You get suited up, joking with the other jumpers who are feeling the same as you and would rather be dead than show it. It's at least a hundred degrees inside the plane, and you'd almost be willing to jump to get a breath of cool air. Then the jumpmaster comes along and checks you over. Okayed, you sit down on the bench and start looking out the window or through the open door for that smoke.

20 "Pretty soon there's the fire, about sixteen hundred feet down on a rugged slope – a lot of smoke and orange tongues flicking through it. You can count the blisters you'll have by morning from shoveling a fire trench.

"All you have to do now is bail out, snag that twentyeight-foot-long silk canopy on a high pine tree, shinny to the ground on that rope tucked in your leg pocket, battle the blaze for a day or two, and then pick up your chute and tools and start walking out of the woods to the trail where — you hope — the packer will give you a lift. That's

"Right now your stomach feels queer, and your mouth is getting dry. Then you think about these bad mountain downdrafts hurtling the aircraft into the timber below when the pilot gets over the jumping spot and cuts the motor. As you think this, the first drift chute goes out, so it's time to put on that football helmet with the face mask. The jumpmaster is intent on spotting the drift chute to get wind direction and velocity.

"'Hook up,' he signals as the plane circles back to get all lined up, so you get that static line from the chute snapped on the overhead cable. He gives you the nod, so you put your right foot outside on the step and see that your gear is clear of the sides of the door.

your gear is clear of the sides of the door.

"Wet your lips,' he yells at you, knowing what's going on inside your mouth. The pilot retards the throttle; you get the slap on the shoulder from the jumpmaster, and then you step off.

5 "There's that sudden jerk, just like a calf being snubbed up short for branding. When the canopy blossoms above, it's the most beautiful thing in the world. A glance downside wipes the grin off your face. It's about a thousand feet down to timber. With the drift, you're liable to overshoot the fire unless you start guiding your parachute. . . You're below the tops now, getting a few slaps from the limbs. There's a little jerk, and the canopy folds around the treetop. You're hanging pretty, and you mutter a prayer of thanks.

"The aircraft comes in again. You hear the motors throttled back. The plane loses altitude for a low sweep right over the treetops above you, leaving behind a sky blooming with cargo chutes bringing down your firefighting equipment. The pilot will buzz around until you signal the okay. The rest is routine."

#### Follow the time order.

- Which of the following is the correct sequence in controlling a forest fire?
  - A. flames die out; fire shallow-trenched in; fires broken up
  - B. fires broken up; fire shallow-trenched in; flames die out
  - C. fire shallow-trenched in; fires broken up; flames die out
- 2. Which of the following is the correct sequence of the pilot's actions in dropping men by parachute into mountainous country?
  - A. watch wing tip; watch spotter; check air currents
  - B. check air currents; watch spotter; watch wing tip
  - C. watch wing tip; check air currents; watch spotter

#### What are the implications from known facts?

- 3. From the facts stated in paragraphs 22, 23, 24, how would you describe the work of the jumpmaster?
  - A. He is in charge of deciding when and where a jump will be made.
  - B. His only responsibility is to get wind direction and velocity.
  - C. His main task is to remind the men to wet their lips.
- 4. Which one of the following can be inferred from the facts stated in paragraph 3?
  - A. Rufus Robinson made the first organized fire jump.
  - B. Many thousands of fire jumps have been patterned after Rufus Robinson's jump.
  - C. Earl Cooley made the second fire jump.

#### What did the writer imply?

- 5. What is implied in the first sentence in paragraph 25?
  - A. The jumper is recalling his cowboy experience.
  - B. Parachute jumping is dangerous.
  - C. The parachute has opened.
- 6. What did the writers imply in the second sentence in paragraph 25?
  - A. The open parachute will take the jumper safely to earth.
  - B. The open parachute must be handled carefully.
  - C. The open parachute is brightly colored like a flower.

#### How exact was your reading?

- 7. Which is the first paragraph to describe the danger of leaving unchecked a column of smoke rising in a forest area?
  - **A.** 3
  - **B**. 6
  - C. 7

- 8. The duty of the spotter was to
  - A. select places for the smokechasers to land
  - B. detect the areas where smoke could be seen
  - C. plot the way out for an aircraft caught in a downdraft
- 9. Fire equipment was dropped by cargo chutes
  - A. before the smokechasers parachuted to the fire
  - B. after the smokechasers parachuted to the fire
  - C. at the same time the smokechasers parachuted to the fire

#### VOCABULARY BUILDING

#### A. Context

Often you can determine the meaning of a word from its context – the complete sentence or paragraph in which the word appears.

Directions: Find a word in the selection which means:

- I. inspected; surveyed (1)
- 2. plunging; rushing (2)
- 3. became entangled (2)
- 4. fastened (2)
- 5. got in touch with; reached (3)
- 6. broken up; disintegrated (4)
- 7. passed away; slipped by (6)
- 8. recovering; getting back (11)
- 9. make up; adjust (11)
- 10. reduce to the smallest amount; weaken (15)

#### B. Semantic Variations

A word may have more than one meaning. We call these differences in meaning "semantic variations."

- 11. cut (1)
  - A. harvested
  - B. stopped
  - C. intersected
- 12. back (4)
  - A. remote
  - B. overdue
  - C. belonging to the past
- 13. crown (11)
  - A. reward
  - B. top
  - C. royal headdress
- 14. nature (16)
  - A. reality
  - B. wild condition
  - C. character

- 15. blossoms (25)
  - A. opens
  - B. flourishes
  - C. develops
- 16. sweep (26)
  - A. continuous pass
  - B. stretch
  - C. brushing movement

#### C. Prefixes

perforate – to make holes through prefix – fixed in front of

Per is a prefix meaning "through," and pre is a prefix meaning "before" or "in advance." These prefixes are often confused in reading.

Directions: Each of the following pairs of words begins with the letters *pre* or *per*. Write the word from each pair that begins with *pre* or *per* used as a prefix. The definitions should help you decide.

- 17. (permit, perky) to let go through
- 18. (preened, precede) to go before
- 19. (perch, perceive) to learn through the senses
- 20. (percolate, period) to pass through
- 21. (preconceive, pretty) to form an idea in advance

#### D. Word Endings

baby — babies give — giving refer — referring

- 1. When you add es or ed to words ending in y, you usually change y to i.
- 2. When you add ing to words ending in e, you usually drop the e.

3. Words of two syllables ending in a single vowel and a single consonant double the final consonant only if the word is accented on the last syllable, and the accent remains on the same syllable after the suffix beginning with a vowel is added.

Directions: In each of the following pairs of words one of the foregoing rules was used to form the second from the first. Write the number of the rule that was used in each case. If any pair of words forms an exception to any of these rules, write in Exception.

- 22. surprise surprising
- 23. difficulty difficulties
- 24. control controlling
- 25. begin beginners
- 26. retrieve retrieving
- 27. specify specified28. complete completing

#### E. Synonyms

Synonyms are words with similar meanings.

Directions: The first word in each line comes from the selection you have just read. One of the other three words in each line is a synonym. The others are not. Write the synonyms.

- 29. routine, usual, quick, unusual
- 30. instantly, sometime, forthwith, difficulty
- 31. precision, accuracy, height, looseness
- 32. devote, alienate, disarrange, dedicate
- 33. infinite, limited, understanding, unlimited
- 34. velocity, force, valance, speed
- 35. canopy, filling, covering, sheathing



## Behind the Looking Glass

by Frances Rogers and Alice Beard

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- I The first mirror was a pool of still water, and for untold centuries there was no other mirror to take its place.
- When, in their search for material with which to make weapons, men discovered metal and, in later centuries, learned to fashion it into battle-axes, swords, and shields, they also learned that by polishing the metal it could be made to shine. To some degree a pool of still water, a shining shield gave back reflections. From this point, it was a short step to the making of small mirrors of polished metal.
- Egyptian, Roman, and Grecian metal mirrors were elaborately decorated and, in general form, not unlike hand mirrors of today. There were also wall mirrors, but all were of polished metal.
- 4 Even when a tentative attempt was made, as it was in an early period in Sidon, to make mirrors of

- glass, the idea of metal as the best material for the purpose was so deeply ingrained that the craftsman used black glass, in imitation of metal, and backed it with foil to increase its opacity.
- 5 Still, all mirrors were not black. A looking glass could be blue, green, red, or amber, but in no mirror of those times could you see your complexion as it actually was, because the secret of making glass as colorless as air had not yet been discovered!
- Hundreds of years later, when a comparatively colorless glass was made in Venice, small sheets of it—like those used for window panes—were cut from disks made by the spinning process. When this glass was backed with a covering of lead or tin, a mirror—reflecting at least some truth as to color—resulted, but not so much could be said for the truth in respect to the form of its reflections.
- During all the early periods of their development, mirrors were rare and expensive. Only the very rich could afford them; doubtless many a man and woman lived, grew, and died without knowing, except by hearsay, whether he or she was beautiful or ugly.
- France had glass factories, but only in Venice was the secret of mirror-foiling known.
- In spite of their costliness, by 1507 there was such a demand for mirrors that the industry in Italy grew to enormous proportions. A corporation was formed to protect the secret process of mirror-foiling. The secret was guarded by terrorism, and in this way Italy succeeded in keeping her monopoly for well over a hundred years.
- Meanwhile, France grew ever more determined to make her own looking glasses, and notwithstanding the vigilant watch and ward of Venice over her secret, the mysterious process found its way to France. Even at that, the French glass factories languished and nearly failed more than once, because the French people bought Venetian mirrors instead of the home product. To prevent this, a law was passed prohibiting the importation of Italian looking glasses into France, whereupon mirror-smuggling developed.
- The first turn in the tide came when France discovered how to make plate glass. Previous to this invention, all flat glass was cut from cylinders or disks of blown glass, but now the metal was poured directly from the pot onto an iron table and flattened with an iron roller.
- 12 France, now in possession of the foiling secret and the new method of casting glass, proceeded to combine the two. For the first time in history, glass was made quite free from bubbles and flat as a pool of untroubled water; and when backed with foil, the plate glass made such a mirror as never before had existed.
- Louis XIV was King of France at the time. He was greatly interested in the glass factories and determined that they should succeed. The French people must buy lavishly, and who but the King should set the fashion? He ordered that mirrors be built into his royal

coach and set in panels down the length of the now-famous Hall of Mirrors at the Palace of Versailles.

14 In an account, written more than seventy years ago, of the work carried on by the plate-glass and mirrorfoiling house, the St. Gobian Glass Works, M. Auguste Cochin gave the following description: "The furnaces are opened, the glowing pots are seized and raised into the air by mechanical means; they pass like hanging globes of fire along the beam, then stop, and are lowered over the immense cast-iron table, placed with its roller before the open mouth of the annealing oven. The signal is given, the pot leans over, and the beautiful opal liquid, brilliant, transparent, and unctuous, falls and spreads over the table. At a second signal the roller passes over the red-hot glass; a workman, with his eyes fixed on the fiery substance, skims off the apparent defects with a bold and skillful hand; then the roller falls and passes off, and twenty workmen provided with long shovels quickly push the glass into the oven, where it is annealed and cooled slowly."

The account also tells of the final steps of applying mercury to plate glass after it has been polished and cleaned:

"On an inclined table surrounded by gutters, a carefully cleaned sheet of tin is spread, on which the mercury is poured. Under a light and rapid hand, the glass is pushed straight forward and drives before it the surplus of the metal; and the mercury, shut in between the tin and the glass, spreads out, adheres, and amalgamates in a few minutes. But the glass has to dry for nearly eight days under heavy weights, which completes the fixing of the tin foil."

7 The fumes from the mercury used in this process were found to be poisonous and many workmen died, victims to mirrors of their own making. Nevertheless, this process was used until 1840, when nitrate of silver replaced mercury.

18 The silver solution is poured from a pitcher onto chemically cleaned glass. After drying, the silver is protected by a coating of shellac and a coat of special weatherproof paint.

One of the curious things about mirrors is that every once in a while the demand for them comes upon the world like an epidemic. Suddenly there is a rage for mirrors, and society seems to go mad about them. In the seventeenth century, people wore mirrors at their girdles, in their hats, or set like jewels in their rings; society glittered like stars in the firmament.

20 During the Victorian era, America suffered one of these epidemics of mirror-demand which Europe had known at previous dates. This time, not little mirrors but big ones became the fashion. In residential districts of eastern cities there sprang up the ubiquitous brownstone house. These prim, noncommittal dwellings were built row upon row, almost without variation. In each, the space between the two front windows in the parlor was filled by a long mirror.

21 Naturally the demand for plate glass mirrors grew under such circumstances, but America was not yet ready to supply them; the "French mirror" in the brownstone front had to be imported. It was not until about 1880 that our fine mirrors became a native product.

It has always been difficult for people to be matterof-fact about a mirror. Fairytale, myth, legend, and
superstition have ever lurked in its mysterious depths.
We have felt that a looking glass had the power to
reveal secrets and, so far, we have been right. What
we did not know, at first, was the kind of secrets it would
eventually help to disclose. Today, mirrors play an important part in our observation of things too minute or
too far off to be seen by the naked eye. Without their
mirrors, the microscope and telescope would be crippled
and inefficient instruments.

23 But even before they were called upon to aid our vision of distant or of very small objects, mirrors taught us to observe ourselves. A looking glass directed attention not only to the outward seeming, but to the character – the ego behind the face reflected in the glass.

24 Introspection, it is claimed, arrived in force with the mirror and radically affected man's point of view regarding himself.

The superstition that the breaking of a mirror is a sign of death or bad luck arose from the belief that the image in the glass was indeed the soul of the person reflected. This belief still survives among Australian aborigines. To break a man's mirror which contains his soul, is equivalent to murder.

At the present time, it is once again the foiling of the mirror that is the subject of experiment and new invention. Aluminum, chromium, or gold are put into a vacuum tank and heated by a tungsten wire. They "flash" into a vapor which fills the whole tank with metallic gas, and a film, one-millionth of an inch thick, is deposited on whatever is inside the tank. On smooth glass the metal makes a perfect film, especially suitable for astronomical mirrors.

The 100-inch telescope mirror at the Mount Wilson Observatory in California was originally coated with silver. Silver, however, tarnishes easily, and it was necessary to replace the foiling twice yearly. By way of experiment, the new invention of aluminum coating was tried out on a smaller telescope disk belonging to the same observatory. It was found that the reflecting power of the 60-inch mirror was almost doubled because of the new film, and now equalled that of the 100-inch mirror. The silver was straightway removed from the large disk, and the new reflecting surface applied.

28 The aluminum film retains its high polish much longer than does silver, and it can be repolished, whereas silver can not.

Of late, the vogue of the mirror is once more in ascendancy. Its power to create vistas and seemingly enlarge space in our cubbyhole apartments is extensively used by modern interior decorators.

#### Can you follow the time order?

- Indicate the correct time sequence by writing the letters in the order of their occurrence.
  - A. Small mirrors were made of polished metal.
  - B. The first mirror was a pool of still water.
  - C. A shining shield gave back reflections.
- 2. Indicate the correct time order of the following statements just as you did for question 1.
  - A. Colored glass was used for making mirrors.
  - B. Glass mirrors were made in France.
  - C. In Venice, mirrors were made of colorless glass.

#### Judge the writer's purpose.

- Rapidly reread paragraphs 10 through 13. The authors' purpose in writing this part of the selection is to show that
  - A. the French preferred Venetian mirrors
  - B. Louis XIV was an extravagant King of France
  - C. a mirror-making industry grew up in France
- 4. The purpose in writing paragraph 27 was to explain the following about the telescopic mirror at Mount Wilson Observatory.
  - A. The silver-reflecting surface of the mirror was replaced by aluminum.
  - B. The mirror is coated with silver.
  - C. Silver tarnishes easily and has to be replaced twice yearly.

#### What conclusions did you draw?

- 5. Mirrors are used in modern apartments to create a
  - A. cover for unsightly walls
  - B. feeling of increased size
  - C. practical viewing situation
- 6. From rereading paragraph 26, which of the following conclusions do you arrive at concerning astronomical mirrors?
  - A. They require only a very thin metallic film.
  - B. They are "flash-coated" with tungsten.
  - C. They need a heavy foil backing on smooth glass.
- 7. Mirrors are necessary parts of
  - A. stereoscopes
  - B. microscopes
  - C. stethoscopes

#### Read between the lines.

- One indirect result of the mirror's becoming common was that
  - A. their use as jewelry increased
  - B. their use as decoration increased
  - C. man's study of himself increased

- 9. Fine mirrors have been produced in the United States
  - A. since 1880
  - B. between 1855 and 1880
  - C. before 1855

#### VOCABULARY BUILDING

#### A. Context

Often you can determine the meaning of a word from its context – the complete sentence or paragraph in which the word appears.

Directions: Find a word in the selection which means:

- 1. images (2)
- 2. trial (4)
- 3. operation (6)
- 4. size; dimensions (9)
- 5. ever awake; alert (10)
- 6. in great abundance (13)
- 7. matter; material (14)
- 8. sloping (16)
- 9. vapors (17)
- 10. hidden; existed unsuspected (22)

#### **B.** Semantic Variations

A word may have more than one meaning. We call these differences in meaning "semantic variations."

- 11. fashion (2)
  - A. shape
  - B. accommodate
  - C. contrive
- 12. degree (2)
  - A. academic title
  - B. extent; amount
  - C. stage of dignity
- 13. pitcher (18)
  - A. ball player
  - B. kind of plant
  - C. container
- 14. rage (19)
  - A. violent anger
  - B. widespread enthusiasm
  - C. great force
- 15. force (24)
  - A. great intensity of effect
  - B. great physical strength
  - C. body of men