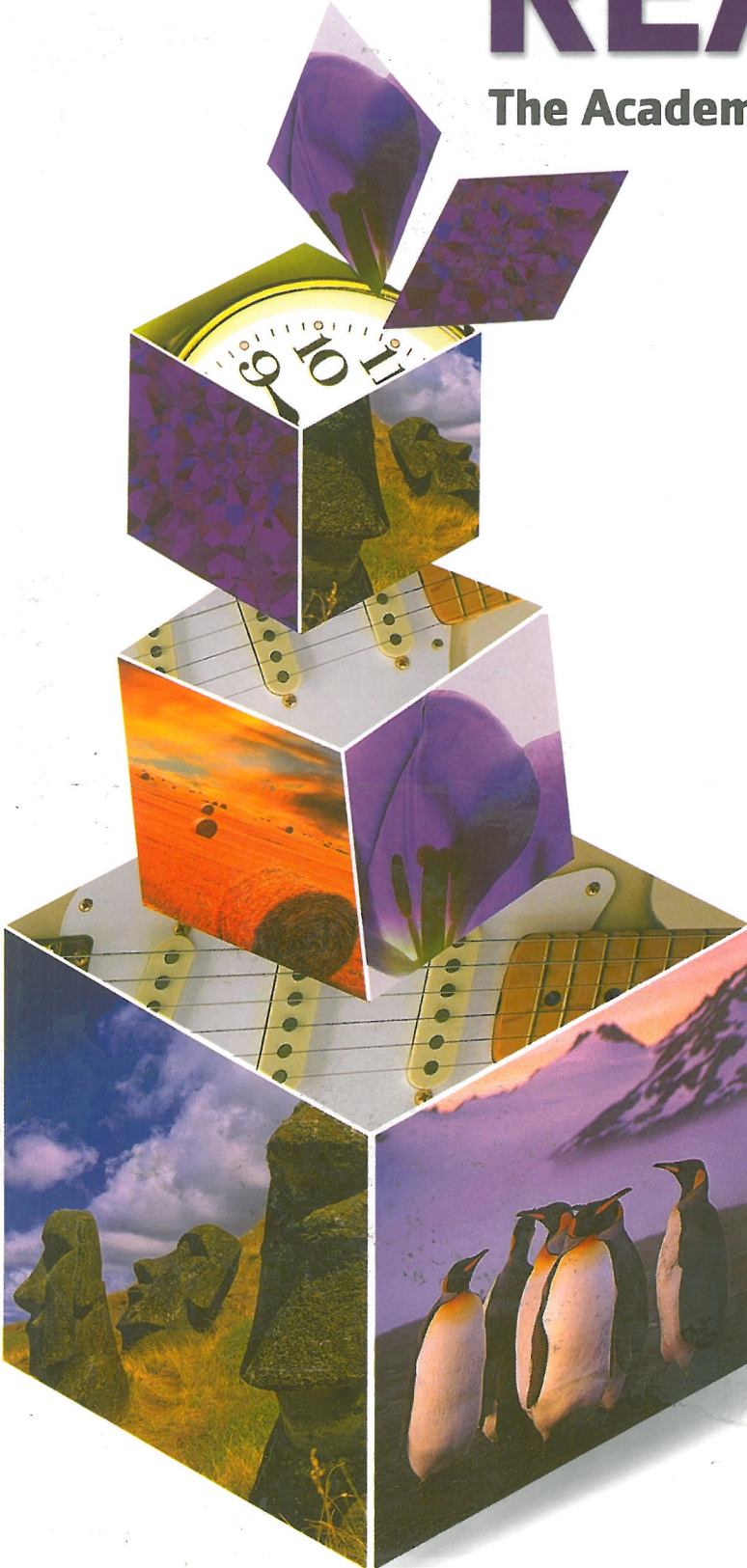


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The Academic Word List in Context

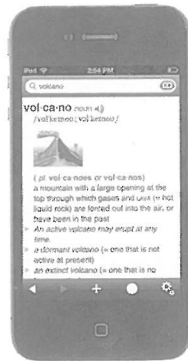
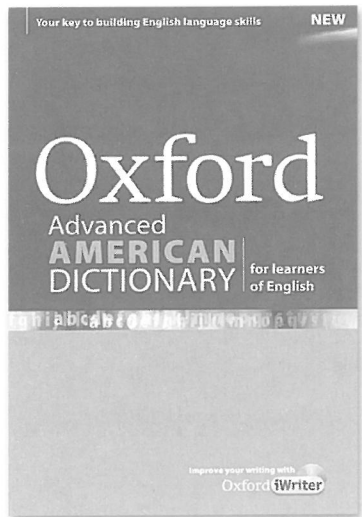


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INSIDE READING

The Academic Word List in Context



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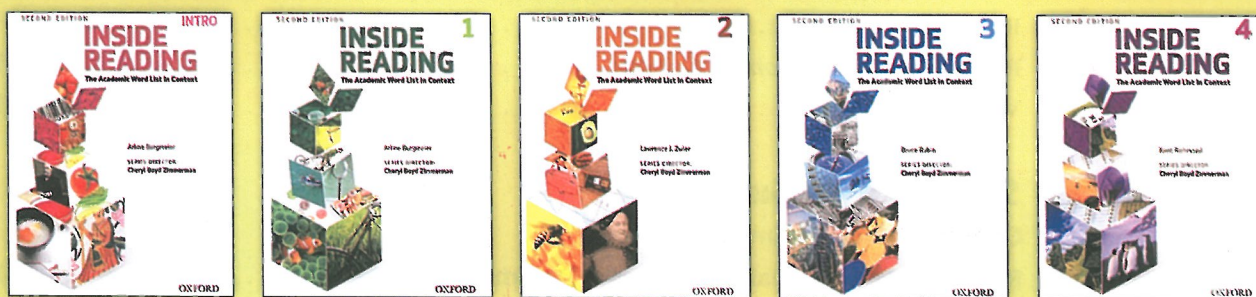
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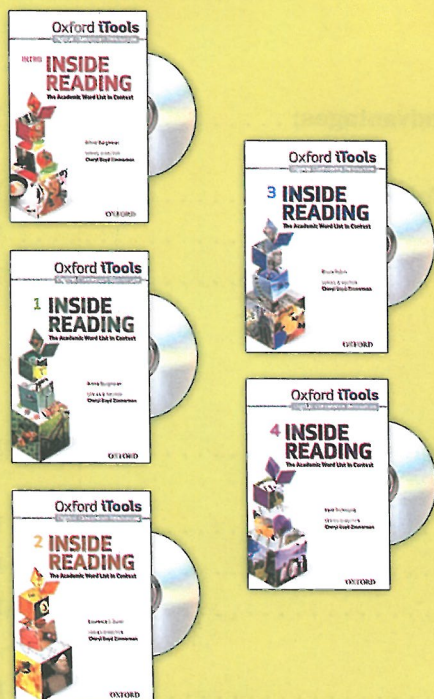
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Develop reading skills and acquire the Academic Word List with *Inside Reading Second Edition*.

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Getting Started

Each unit in *Inside Reading* features

- > Two high-interest reading texts from an academic content area
- > Reading skills relevant to the academic classroom
- > Targeted words from the **Academic Word List**

UNIT
SOCIOLOGY

7

Decisions, Decisions

In this unit, you will

- read about two different approaches to decision-making.
- > review summarizing and reporting.
- > increase your understanding of the target academic words for this unit.

READING SKILLS Evaluating Generalizations; Understanding Analogies

Self-Assessment

Think about how well you know each target word, and check (✓) the appropriate column. I have...

	never seen the word before	seen the word but am not sure what it means	seen the word and understand what it means	used the word, but am not sure if correctly	used the word confidently in either speaking or writing	used the word confidently in both speaking and writing
adapt						
conform						
consent						
deduce						
enforce						
exclude						
hypothesis						
implicate						
imply						
mode						
nonetheless						
option						
respond						
statistic						
thesis						

TARGET WORDS

AWL

- adapt
- conform
- consent
- deduce
- enforce
- exclude
- hypothesis
- implicate
- imply
- mode
- nonetheless
- option
- respond
- statistic
- thesis

Outside the Reading What do you know about sociology? Watch the video on the student website to find out more.

Oxford 3000

Identifying the unit's goals focuses students on the **reading skill** and academic topic.

Self-assessment prepares students for the vocabulary in the readings.

Pre-unit videos engage students in the topic and activate prior knowledge.

High-interest Texts

READING 1

Before You Read

Read these questions. Discuss your answers in small groups.

1. When you are treated for an illness or injury, do you feel more comfortable if the medical doctor quickly determines what you are suffering from or if the doctor takes a long time?
2. Some decisions are made quickly. Some are more deliberate. Examine the items below and decide whether a quick decision or long deliberation is better.
 - making a move in a game like chess
 - choosing a movie to see
 - deciding whether to trust a stranger
 - deciding what clothing to buy
 - choosing a college or university
 - electing a leader of a club or organization
 - deciding to accept a job
 - deciding whether someone is guilty of a crime

MORE WORDS YOU'LL NEED

diagnosis: the act of identifying the cause of an illness or other problem

hunch: a feeling or guess that something is true not based on known facts

spontaneous: describing something done suddenly without much thought or planning

the unconscious: a part of the mind that we are not directly aware of

Read

In this excerpt from Malcolm Gladwell's book *Blink: The Power of Thinking Without Thinking*, the author discusses research into the validity of hunches.

Blink

In front of you are four decks of cards—two of them red and the other two blue. Each card in those four decks either adds points to your score or subtracts them, and your job is to turn over cards from any of the decks, one at a time, in such a way that maximizes your score. What you don't know at the beginning, however, is that the red decks are a minefield.¹ The rewards are high, but when you lose on the red cards, you lose a lot of points. Actually, you can win by only taking cards from the blue decks, which offer a nice steady diet of 50-point rewards and modest penalties. The question is, how long will it take you to figure this out?

Scientists at the University of Iowa did this experiment a few years ago. They found that

after we've turned over about fifty cards, most of us start to develop a hunch about what's going on. After about eighty cards, most of us have figured out the game and can explain exactly why the two red decks are such a bad idea. That much is straightforward. We have some experiences. We think them through. We develop a **hypothesis**. We **deduce** A from B. That's the way learning works.

But the Iowa scientists did something else. They hooked each player up to a machine that measured the activity of the sweat glands below the skin in the palms of their hands. Like most of our sweat glands, those in our palms respond to stress as well as temperature. The Iowa scientists found that the players started generating stress **responses** to the red decks by

¹minefield: a situation that contains hidden dangers or difficulties.

Discussion questions activate students' knowledge and prepare them to read.

High-interest readings motivate students.

Academic Word List vocabulary is presented in context.

Reading Comprehension

A. Mark each sentence as T (true) or F (false) according to the information in Reading 1. Use the dictionary to help you understand new words.

- 1. In the experiment with the red and blue decks of cards, most people had some idea of what was happening after fifty cards.
- 2. People became suspicious of the red deck of cards even before they could explain why.
- 3. According to the reading, the unconscious brain works more slowly than the conscious brain.
- 4. Most people make all of their decisions in either one mode or the other, not both.
- 5. The decision to jump out of the way of a moving truck is probably an unconscious one.
- 6. The sayings in the last paragraph of the article all urge people to think carefully before making a decision.
- 7. The reading suggests that we underestimate the value of snap judgments.
- 8. Our brains do not work well when information is limited.

Comprehension activities help students understand the text and apply the targeted academic vocabulary.

Explicit Reading Skill Instruction

READING SKILL

Evaluating Generalizations

LEARN

Deduce, infer, conclude: these three verbs describe something our mind does constantly. We observe facts and figure out other things that must also be true. Some inferences we make are obviously true. No other conclusion is possible.

All adult birds have feathers. A gadwall is a kind of bird. So gadwalls no doubt have feathers.

Sometimes, though, our inference is based on evidence that is less *conclusive*.

Almost all species of bird can fly. Since a gadwall is a bird, it can probably fly.

We add "probably" because of the slight statistical chance that a gadwall (a duck-like bird) is a flightless bird.

Likewise, a generalization may describe something that is true in all cases or it may indicate a statistical tendency.

Explicit reading skills provide the foundation for effective, critical reading.

APPLY

Malcolm Gladwell uses these generalizations to support his conclusion that we should place more trust in first impressions. Write *T* for those statements that describe something that is true for all people and *S* for those that illustrate a statistical tendency. Write *N* if you're not sure.

- 1. After we've turned over about fifty cards, most of us start to develop a hunch about what's going on. After about eighty cards, most of us have figured out the game.
- 2. The adaptive unconscious . . . quietly processes a lot of the data we need in order to keep functioning as human beings.
- 3. . .we toggle back and forth between our conscious and unconscious modes of thinking, depending on the situation.
- 4. A person watching a silent two-second video clip of a teacher he or she has never met will reach conclusions similar to those of a student who has sat in the teacher's class for an entire semester.
- 5. We really only trust conscious decision-making.

Practice exercises enable students to implement new reading skills successfully.

REVIEW A SKILL Summarizing and Reporting (See p. 91)

Malcolm Gladwell reports on and summarizes the work of other writers and researchers. Reread the article and decide whether Gladwell is neutral toward these writers or whether he agrees with them.

Recycling of reading skills allows students to apply knowledge in new contexts.

The Academic Word List in Context

Based on a corpus of 3.4 million words, the **Academic Word List (AWL)** is the most principled and widely accepted list of academic words. Compiled by Averil Coxhead in 2000, it was informed by academic materials across the academic disciplines.

Vocabulary Activities

Noun	Verb	Adjective	Adverb
_____	_____	intrinsic	intrinsically
manipulation	manipulate	manipulative	manipulatively
projectile* projection	project	projected	_____
refinement	refine	refined	_____
stress	stress	stressful stressed	stressfully
theory	theorize	theoretical	theoretically

*The noun *project* will be treated in Unit 9.

- A.** Fill in the blanks with a target word from the chart that completes the sentence in a grammatical and meaningful way. Be sure to use the correct form.
- Although it is _____ possible for a guitar to be made of a single wood, most guitars use a variety of woods.
 - Wood is a popular material for guitars because it can be _____ in many ways, including shaping, bowing, and slicing.
 - Woods are selected for their ability to impart sound, their beauty when finished, and their ability to withstand the _____ of day-to-day playing.

Vocabulary activities focus on meaning, derivations, grammatical features, and associations.

Instruction and practice with varying types of word knowledge helps students become **independent word learners**.

The noun *issue* refers to an important topic or problem for discussion. Academic writing often involves the discussion of an *issue*.

The noun *issue* is often used with these verbs: *address, avoid, discuss, explore, raise*.

- To explore this issue, researchers conducted several experiments.*
There are several important issues that we must address.
We wanted to raise the issue, but the writer is avoiding it.

B. Read the statements and identify an issue that each one might be addressing. Write a direct question that you could use to begin a discussion of the issue.

- College tuition has been rising steadily.
Issue: how people afford college

- Several factors have contributed to a decline in violent crime.

- Raising the driving age will have several noticeable effects.

- Students should be careful when posting personal information on social websites.

Vocabulary work progresses to collocations, register, specific word usage, and learner dictionaries.

From Research to Practice

The Oxford English Corpus provides **the most relevant and accurate picture of the English language**. It is based on a collection of over two billion carefully-selected and inclusive 21st century English texts.

The reading contains three very abstract nouns: *dimension*, *entity*, and *parameter*.

Entity can refer to anything that can be identified as having a separate and independent existence.

*A corporation is a legal **entity**.*

*The Congress of the United States is a political **entity**.*

*Since the two banks merged, First Bank no longer exists as a separate **entity**.*

Dimension can refer to the physical size and measurements of something. It can also refer to different aspects of things, like the different *dimensions* of a problem or new *dimensions* of sound technology. The word *dimensional* is used to describe space as *two-dimensional* (flat) or *three-dimensional*, as in a 3-D movie.

*The **dimensions** of the room are 10 × 12 feet.*

*Smell would add a new **dimension** to virtual reality games.*

*The **dimensions** of the problems they face are huge.*

*Humans inhabit **three-dimensional** space.*

*Some people say that time is the fourth **dimension**.*

Parameter is mainly used in academic and technical discussions in fields such as statistics, computer science, mathematics, and engineering. In more common usage, it may refer to agreed-upon boundaries or limits for a particular activity.

*The committee set the **parameters** for awarding scholarships.*

*Exploring the toxicity of these odors is outside the **parameters** of this study.*



Corpus-based examples from the **Oxford English Corpus** of American English. Real-life examples help students learn authentic English.

C. Fill in the blanks with *entity*, *dimension*, or *parameter*. Use plural forms when necessary.

1. By 1856, the Whig Party no longer existed as a functioning political _____.
2. The birth of their first child added a new _____ to their lives.
3. The committee, after a lengthy discussion, agreed to work within the _____ that they had established earlier that year.
4. In "hyperdrive," the starship enters a separate _____ where the speed of light is much faster and the distances between objects much less.
5. The business was penalized for working outside the _____ set up by the government.
6. After the hurricane, the city began a cleanup and rebuilding effort of staggering _____.
7. Before the reorganization, the two departments operated as separate _____.

STUDENT SUPPORT

For additional resources visit:

www.oup.com/elt/student/insidereading

- **Reading worksheets** provide additional skill practice
- **Videos** set the stage for specific units
- **Audio recordings** of every reading text

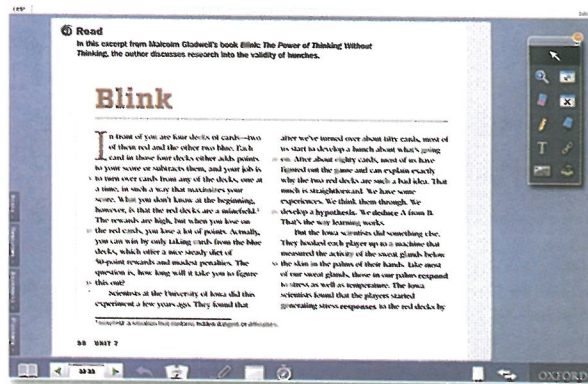


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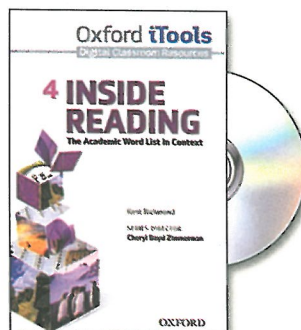
Resources for whole-class presentation

- **Audio recordings** of all reading texts with “click and listen” interactive scripts
- **Animated presentations** of reading skills for whole class presentations
- **Videos** for specific units introduce students to the reading text topic and activate prior knowledge.
- **Fun vocabulary activities** for whole-class participation



Resources for assessment and preparation

- Printable worksheets for **extra reading skill practice**
- Printable and customizable **unit, mid-term, and final tests**
- Answer Keys
- Teaching Notes
- Video transcripts



Additional resources at:

www.oup.com/elt/teacher/insidereading

UNIT

1

The Strength to Survive



In this unit, you will

- > read about the amazing physical abilities animals developed to help them survive.
- > learn how unique features of humans help them outrun animals.
- > increase your understanding of the target academic words for this unit.

READING SKILLS Skimming and Scanning; Outlining as You Read

Self-Assessment

Think about how well you know each target word, and check (✓) the appropriate column. I have...

TARGET WORDS	never seen the word before	seen the word but am not sure what it means	seen the word and understand what it means	used the word, but am not sure if correctly	used the word confidently in either speaking or writing	used the word confidently in both speaking and writing
AWL						
🔑 achieve						
🔑 area						
duration						
🔑 element						
exceed						
facilitate						
🔑 feature						
🔑 maintain						
preliminary						
🔑 release						
sole						
🔑 transfer						
undergo						
welfare						



Outside the Reading What do you know about physiology? Watch the video on the student website to find out more.

🔑 Oxford 3000™ keywords

Before You Read

Read these questions. Discuss your answers in a small group.

1. Many articles in magazines or newspapers and magazine-style television shows keep our attention by providing interesting trivia. What is trivia? Why do people find trivia so entertaining? Do you like trivia?
2. Speaking of trivia, how are you on animal names? Use the chart below to categorize the animals listed in the box based on your own knowledge. For those you don't know, skim through the reading and find information on them. Then come back and categorize them in the chart.

cheetah	roadrunner	eel	puffin
gazelle	coyote	wildebeest	thick-billed murre
antelope	swift	zebra	beetle
falcon	albatross	dovekie	
ostrich	salmon	loon	

Bird	Fish	Insect	Grazing Animal	Feline	Canine

MORE WORDS YOU'LL NEED

migrate: (for animals and birds) move from one part of the world to another according to the season

predator: an animal that kills other animals for food

prey: an animal that a predator kills for food

Metric conversions for measurements used in this unit:

1 foot = 0.3 meter

1 yard = 0.9 meter

1 mile = 1.6 kilometers

1 pound = 0.45 kilogram

1 ton = 2,000 pounds (907 kilograms)

Read

In a sense, all animals are Olympians—they have skills at which they excel. This online article from the National Wildlife Federation discusses how animals would perform in five categories of Olympic competition: sprinting, long-distance running, diving, jumping, and weightlifting.

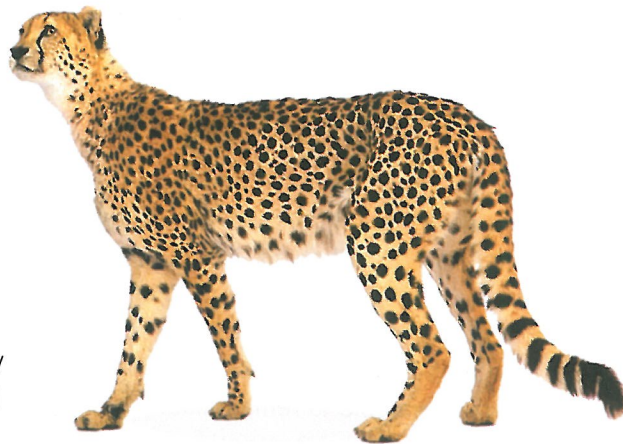
ANIMAL OLYMPICS

Athleticism, speed, strength, power, endurance: Humans celebrate these attributes in such events as the Olympic Games. In the animal kingdom, however, these qualities are necessary for the **welfare** and survival of the individual and society. Animals perform amazing feats every day, not with the purpose of winning or being named the best, but in order to eat, seek and catch prey, mate, escape predators, and endure the **elements**.

SPRINTING

The cheetah is said to be the fastest running mammal on earth, with a top sprinting speed of 70 miles per hour (mph). Why does it run so fast? To catch the fleet¹-footed gazelles and antelopes on which it feeds. In its natural habitat in the grasslands of Africa, the cheetah can outrun its fleetest prey. Like human sprinters, it cannot **maintain** its top speed for long and must take down its prey within a distance of about 300 yards. If the cheetah lived in North America, it might meet its match. The pronghorn antelope has been clocked at close to 70 mph and can run for long distances at 30 to 45 mph. Interestingly enough, these two animals run at these top speeds for different reasons: the cheetah runs in pursuit, whereas the pronghorn runs to escape.

The peregrine falcon is widely acknowledged to be the fastest moving bird, **achieving** astonishing speeds when it dives for prey. Some sources



The cheetah is the fastest animal on land.

cite a top speed of 200 mph, while others put the figure at about 120 mph. Either way, it would be hard for any other bird to escape it. On foot, the fastest bird is the ostrich, which can run about 40 mph. It outpaces the greater roadrunner, North America's fastest running bird, which tops out at about 25 mph. Coyotes, incidentally, can also outrun roadrunners, with a cruising speed of 25–30 mph and a top speed of 40 mph.

MARATHON

The Olympic Marathon, a paltry² 26 miles, doesn't come close to the marathons some animals endure. Take the Arctic tern, for instance. It migrates between the North and South Poles, covering a distance of as much as 30,000 miles each and every year. Some birds spend long **durations**, even most of their lives, in flight. Swifts, for example, have very underdeveloped legs and live almost entirely on the wing. Some seabirds, such as the sooty tern, fly for years without landing. The wandering albatross is named for its ability to fly thousands of miles on feeding trips.

¹ fleet: fast, quick, and light in movement

² paltry: small amount, mere

Fish can make long-distance migrations as well.

55 Some salmon, swimming between the ocean and the rivers in which they spawn, cover 2,000 miles. European eels are said to swim up to 3,700 miles to reach their breeding grounds in the Sargasso Sea, located in the Atlantic Ocean.

60 The great annual migration of wildebeests and zebras in the African Serengeti covers about 2,000 miles. But the longest annual migration by a mammal is the 10,000-mile circuit made by the gray whale, from the Arctic to its warm winter
65 calving **areas** and back again.

DIVING

The sperm whale is generally acknowledged to be the deepest diving mammal, but the northern bottlenose whale is not far behind. The sperm whale is known to dive a mile (5,280 feet) or
70 deeper and to stay under for **durations exceeding** two hours. The bottlenose is said to dive at least 5,000 feet and is also able to remain submerged for two hours. If the two were competing in an Olympic event, the odds would be about even.

75 There is little competition for the deepest diving bird: it is the emperor penguin, which can dive to a depth of 1,770 feet. Outside of the penguin family, the thick-billed murre may be one of the emperor's nearest competitors; it is thought to
80 dive to 600–700 feet. Dovekies (300 feet), loons (250 feet), Atlantic puffins (160 feet), and long-tailed ducks (130 feet) are all superb divers but are no match for the emperor penguin.

JUMPING

85 Some types of kangaroos can leap a distance of 30 feet. White-tailed deer, when bounding, can cover almost the same distance. But the true long-jump champion is probably the inch-long southern cricket frog, which makes leaps **exceeding** 60 times its body length.

90 As for the high jump, the red kangaroo can hurdle a ten-foot fence. North America's white-tailed deer can hurdle an obstacle eight and a half feet high. Those leapers have got nothing on the lowly spittlebug, though, which
95 jumps 115 times its body height. The deer and kangaroo would have to jump about 600 feet to compete with the spittlebug!

WEIGHTLIFTING

No animal on earth can lift as much weight as the African elephant, which can pick up
100 a one-ton weight with its trunk. Relative to body size, however, the elephant doesn't even come close to the strongest animal on earth. What is it? The rhinoceros beetle. This rather
105 strange-looking little creature can transport objects weighing 850 times its own body weight. The elephant, carrying only one fourth of its body weight, isn't even close in this contest.

At the Olympic Games, the fastest runners, highest jumpers, and most skillful divers
110 win medals and worldwide acclaim. In the animal world, no medals are awarded, and individuals don't often **achieve** fame for their accomplishments. Rather, the amazing
115 athletic feats performed by animals enable them to escape danger, catch food, impress a mate, and live another day.



The rhinoceros beetle is the strongest animal on earth.

Reading Comprehension

Mark each sentence as *T* (true) or *F* (false) according to the information in Reading 1. Use the dictionary to help you understand new words.

- ___ 1. Pronghorn antelopes are the cheetah's prey.
- ___ 2. A sperm whale can hold its breath for a duration of two hours.
- ___ 3. Peregrine falcons eat other birds.
- ___ 4. A cheetah can run a mile in less than a minute.
- ___ 5. Coyotes can run a mile in under two minutes.
- ___ 6. No animal can dive deeper than the emperor penguin.
- ___ 7. The southern cricket frog makes leaps exceeding 100 times its body length.
- ___ 8. Relative to body weight, a healthy human being can lift more than an elephant.

READING SKILL

Skimming and Scanning

How fast should you read? Here are typical words-per-minute ranges for each type of reading:

Purpose

for memorization
for learning
for comprehension/pleasure
for skimming
for scanning

Speed

very slow: under 100 words per minute
slow: 100–200 words per minute
moderate: 200–400 words per minute
fast: 400–700 words per minute
very fast: 700+ words per minute

Skimming is reading quickly to get a sense of the broad meaning of the article. You skim an article to see if the article is important to you. Naturally, comprehension can be low.

Scanning means looking for a specific piece of information without worrying about the broader meaning. You may be looking for a specific word or fact. General comprehension is also low.

Skimming and scanning work well when you know what you are looking for. You should not skim or scan a text if you need to comprehend and remember the material fully.

In small teams, search through the readings in this book to find answers to these trivia questions. The team that finds all the correct information first wins.

Team name: _____

Starting Time: _____ Finishing Time: _____ Elapsed Time (duration): _____

1. What was the first movie release to use Sensurround?

2. What is the pitch of a typical female voice?

3. What device or instrument features a bridge and a saddle?

4. What event does the National Sleep Foundation promote each year?

5. Did the NASDAQ stock exchange exceed 5,000 on March 10, 2000?

6. Which one of these is not a type of tulip: Semper Augustus, Charles II, Admiral Van Eyck, or Admiral Liefken?

7. What did the crowd think the ox weighed?

8. Without “googling” his name, identify the school that Larry Page attended.

You probably found much of the information more quickly than you thought you would. What tricks did you use to hunt down the answers?

Vocabulary Activities

Noun	Verb	Adjective	Adverb/ Conjunction
achievement	achieve	achievable	_____
duration	_____	_____	_____
element the elements	_____	elemental elementary	elementally
excess	exceed	excessive excess	exceedingly excessively in excess of
maintenance	maintain	maintained	_____
welfare	_____	_____	_____

- A.** Read these comments on animal extremes. Fill in the blanks with a target word from the chart above that completes the sentence in a grammatical and meaningful way.
1. The pronghorn antelope can _____ speeds of 30–45 miles per hour over long distances.
 2. The normal swimming speed of emperor penguins is 4–6 miles per hour, but they can _____ speeds of more than 11 miles per hour in short bursts.
 3. Emperor penguins can endure the extreme cold of Antarctica, where temperatures can reach -60°C (-76°F) for long _____.
 4. By huddling together, emperor penguins can survive the Antarctic winter’s _____ harsh conditions.

5. The bar-headed goose can reach heights in _____ of 29,000 feet as it migrates over the Himalayas to its nesting ground in Tibet.
6. Racing homing pigeons are taken to a distant location and released to race home. They _____ an average speed of about 30 miles per hour.
7. The National Wildlife Federation is concerned about the _____ of animals.
8. The arctic hare has several adaptations that help it battle _____.

B. Circle the alternative that best captures the meaning of the bold target word in each sentence.

1. During the debate, the biologist **maintained** that humans are the best runners in hot weather.
 - a. held his opinion
 - b. supported his opinion
2. The museum's collections are poorly **maintained**.
 - a. cared for
 - b. argued for
3. The students found the demonstration **exceedingly** helpful.
 - a. very
 - b. too
4. Some students complained that the amount of lab work was **excessive** and not very useful.
 - a. fast-moving
 - b. unnecessarily great
5. The otter's thick, dense fur helps it endure **the elements**.
 - a. weather
 - b. chemicals
6. To survive in cold weather, take these **elementary** precautions.
 - a. basic
 - b. essential
7. One **element** of the arctic wolf's success is its ability to consume huge amounts of meat.
 - a. small amount
 - b. part

The word *element* has many meanings, most related to the idea of something basic or fundamental.

- | | |
|------------------------------|--|
| a. a basic part of sth* | a key/necessary/essential/crucial/important <i>element</i> |
| b. the "basics" of a subject | the <i>elements</i> of bookkeeping, physics, grammar, etc. |
| c. a subgroup of people | a violent/radical/moderate/questionable <i>element</i> |
| d. a small amount | an <i>element</i> of truth/risk/surprise |
| e. the weather | exposed to/protected from/battle the <i>elements</i> |
| f. chemistry | a chemical <i>element</i> , such as gold, mercury, or oxygen |
| g. electronics | a heating/electrical <i>element</i> |

*Note: *sth* is a common dictionary abbreviation for *something*



C. Which meaning of the word *element* is expressed in each sentence? Match each sentence with a definition in the box above. Compare answers with a partner.

- ___ 1. There is an element of risk in any investment.
- ___ 2. The heating element in the oven was replaced.
- ___ 3. A key element of survival is being able to escape from predators.
- ___ 4. The course introduces students to the elements of wildlife management.
- ___ 5. The more vocal element in the group shouted down the speaker.
- ___ 6. A thick coat of fur is necessary to protect arctic animals from the elements.
- ___ 7. The heaviest naturally occurring, non-radioactive element is bismuth.

D. Use information from Reading 1 to answer these questions in your notebook. Use the word or expression in parentheses in your answer.

1. How deep can the emperor penguin dive? (*depths exceeding*)
It can reach depths exceeding 1700 feet.
2. What speed can pronghorn antelope travel over long distances? (*maintain*)
3. How fast can a peregrine falcon fly? (*achieve*)
4. What special ability do wildebeests, terns, and salmon have? (*long durations*)

E. Read this trivia about other record-setting animals. Restate each sentence using the word or phrase in parentheses. Be prepared to read aloud or discuss your sentences in a small group.

1. Blue whales can weigh over 170 tons. (*in excess of*)
Blues whales can weigh in excess of 170 tons.
2. The sounds made by blue whales can reach beyond 150 decibels. (*exceed*)
3. To survive, a squirrel must remember where it has individually hidden thousands of nuts. (*welfare depends on*)
4. Dall's porpoise, the fastest sea mammal, can travel up to 56 miles per hour. (*achieve speeds*)
5. The marmot, a large rodent, can hibernate for up to nine months a year. (*durations*)

Before You Read

Read these questions. Discuss your answers in a small group.

1. Is physical fitness important for success in the modern world?
2. In Reading 1 we learned about animals that can outdo humans in many athletic categories. In what general athletic category or categories do you think humans would excel?

MORE WORDS YOU’LL NEED

- biomechanics:** the biological mechanisms that allow animals to move
- center of gravity:** the point in a body or mass where the weight is most concentrated
- counterweight:** a weight that helps balance an object that would be too heavy on one side
- torso:** the upper body except for the head and arms; also called the trunk



Read

This science magazine article discusses how humans run, and the advantage that this ability has given us.

Were Humans Born to Run?

Compared to cheetahs, whose bursts of speed reach 70 miles per hour, or migrating wildebeests that roam over 2,000 miles a year, we humans must seem lead-footed homebodies. As big as we are, we cannot seem to catch a cat or a mouse or even a chicken unless we can corner it or trick it.

But has our natural envy of a few fleet-footed species or our clumsiness in catching nimble escape artists caused us to underestimate ourselves? University of Utah biologist Dennis Bramble and Harvard University paleoanthropologist¹ Daniel Lieberman think so. In fact, they **maintain** that decades of research indicates that humans are very good runners indeed—perhaps the best in the world—when the distance gets long and the weather gets hot.

HOT TO TROT

To understand how they can make this claim, let’s consider what humans can do. The very

best long-distance runners can run five-minute miles for several hours. These efforts are amazing **achievements**, but even the casual jogger can often keep up an eight to ten minute a mile pace for several miles. Only a few animals of similar weight—large dogs, hyenas, wolves, and wildebeests—are capable of **maintaining** such speeds, and actually prefer to trot a bit slower. Even a thousand-pound horse will not cover long distances any faster than a good recreational jogger.

And in hot weather, humans may hold a decided advantage. One of the most incredible feats of human endurance is the annual Badwater-to-Mt. Whitney run in the United States. The race begins in Death Valley, California, at an elevation 285 feet below sea level, in July, the hottest month of the summer. The runners run 135 miles, crossing several mountain ranges with a cumulative elevation gain of 13,000 feet, and finish at an elevation of 8,360 feet at the Whitney Portal trailhead, about halfway up the 14,440-foot mountain. Each year approximately 75 men and women enter the race with 60–80% finishing within 60 hours and with the winning time usually well under 30 hours. Despite temperatures reaching

¹ *paleoanthropologist*: one who studies the biological history of human beings

130°F,² there have been no fatalities so far.

These men and women can probably outrun
50 any animal on the planet.



A volunteer hands a runner food during the annual Badwater-to-Mt. Whitney run.

What makes it possible for these people to **undergo** such an ordeal? It turns out that humans are beautifully designed to run long distances in hot weather. Long-distance running
55 requires the ability to keep from overheating, and we humans have several advantages in this regard. First, we **release** heat by sweating through millions of sweat glands³ rather than through panting. And because we have no fur,
60 our sweat evaporates quickly. Our upright posture also helps immensely by exposing less **area** to direct sunlight and more surface **area** to the cooling effect of the wind we create as we run. We excel at keeping cool, while most other
65 animals simply cannot shed heat fast enough to run long distances.

But cooling is not enough to explain our speed over long distances. A second advantage is our long stride. When Professor Bramble
70 filmed his student David Carrier running alongside a horse moving at an easy gallop, he noticed that Carrier took fewer strides than the horse, indicating that Carrier's strides covered more distance than the horse's. Bramble was
75 surprised by this and began considering what **elements** of human biomechanics make this possible. Working with Daniel Lieberman at Harvard, he realized that humans, like horses and rabbits, can run without their heads

80 bobbing up and down due to a piece of anatomy, the *nuchal ligament*, which links the head to the spine. This tendon-like⁴ band is not involved in walking, suggesting that it is an important anatomical **feature** for a species that
85 at one time needed to run, not walk, to find its dinner.

A SPRING IN OUR STEP

In fact, walking, it turns out, is a distinctively different motion than running. When walking, the heel hits the ground first, the leg
90 straightens, and the body lurches forward a bit. As the weight **transfers** to the ball of the foot, the arch stiffens and then pushes the body forward, with the other foot moving forward to keep the stride going. With running, the legs
95 become large springs. You land more heavily on the arch of the foot and bend your knee, which causes the body's center of gravity to lower. The force from this hard landing is captured by the tendons of the foot and leg,
100 particularly the calf⁵ muscles, and you spring forward as the tendons recoil. According to Bramble, these huge, springy tendons are not necessary for walking.

Huge, springy tendons explain where the
105 energy comes from, but how do humans **maintain** their balance and keep from falling over? All other two-legged animals that run fast, such as kangaroos and roadrunners, have large tails that serve as a counterweight to keep the
110 animal balanced. Humans are obviously tailless, so how do they do it? Motion studies of runners on treadmills offer clues. Instead of a tail, we have a very large muscle, the *gluteus maximus*, that connects our hips to our lower back. This
115 muscle does not do much when we walk, but it works very hard when we run. Its role, it seems, is to act like a brake on our torso to keep it from lurching too far forward when our foot hits the ground.

120 Other anatomical **features** that **facilitate** running are our long necks and our shoulders. We are able to twist our shoulders without moving our head, allowing us to pump our arms

² 130°F: 130 degrees Fahrenheit, equal to 54 degrees Celsius (54°C)

³ *gland*: cells in the body that produce a specific substance

⁴ *tendon*: a tough fiber that connects muscle to bone and other muscles

⁵ *calf*: the back of the lower leg

as another steady mechanism that helps
125 counterbalance our head and keep it upright.

There is no doubt, then, that humans are able to run, but why? Today most people are sedentary and run **solely** for pleasure or sport. Could it be that in our prehistoric past long-
130 distance running was necessary for survival? Sprinting fast allows an animal to drag down prey or escape a predator, but why would an ability to sustain a long run through hot weather be necessary? To hunt, perhaps? But
135 didn't prehistoric humans hunt by sneaking up on animals and spearing or clubbing them? That certainly seems more efficient than chasing an animal for miles until it drops from heat exhaustion. Or is our ability to run a
140 byproduct⁶ of some other ability? It seems running muscles also help us stand up quickly and climb things, and certainly our springiness helps us fight more effectively.

Any conclusions we draw at this point are

⁶ *byproduct*: something that happens as a result of something else

145 **preliminary**. But knowing that we can run long distances may point us in the right direction for further study. It gives us clues as to how prehistoric humans lived. Perhaps adult hunters
150 needed to travel long distances to track a herd and return before dark. Humans do not see well at night and by running could extend their hunting range without constantly breaking camp and uprooting a family or village. Perhaps they
155 needed to move quickly in order to reach prey killed by other animals and join in on the feast. Getting quickly to distant food sources before animal rivals could reach them is one clear advantage of our running ability.

The debate undoubtedly will continue,
160 with those who dislike sweaty activity naturally skeptical of any prehistory that forced us to move out of the shade. But those eighty or so people who attempt the Badwater-to-Mt. Whitney run and the hundreds of thousands
165 who run 26.2-mile marathons each year make it difficult to deny the obvious—some humans, if not all, are definitely born to run.

Reading Comprehension

Mark each sentence as *T* (true) or *F* (false) according to the information in Reading 2. Use the dictionary to help you understand new words.

- ___ 1. Humans have a unique way of running not found in other species.
- ___ 2. The reading encourages the reader to get more exercise.
- ___ 3. The reading sees running as a byproduct of walking.
- ___ 4. The experts agree on the reasons prehistoric humans were such good distance runners.
- ___ 5. The reading implies that most animals have trouble seeing clearly while they run.

LEARN

A good way to make sure you catch and understand the main points of a text is to *outline* them as you read. An outline is a diagram of the structure of the text.

APPLY

A. A simple outline shows the basic structure of the text. Complete this simple outline of Reading 1 on pages 3–4.

Introduction (Main idea: Some animals are capable of outstanding athletic performances.)

I. *Sprinting* _____

II. _____

III. *Diving* _____

IV. _____

V. _____

Closing Remarks

B. An outline can also have subheadings. Complete this more detailed outline of Reading 1 on pages 3–4. Be careful: the method of categorizing animals and animal achievements changes throughout the article.

I. SPRINTING

A. *Mammals* _____

B. _____

II. MARATHON

A. _____

B. _____

C. _____

III. DIVING

A. _____

B. _____

IV. JUMPING

A. _____

B. _____

V. WEIGHTLIFTING

A. _____

B. _____

- C.** When a formal outline is unnecessary or too difficult, you can take quick notes using bullet points and indentation. Look at how one student took notes for a short section of Reading 2 on pages 9–11. Then make a quick outline of the key points of the whole text in your notebook.

ways humans lose heat

- *millions of sweat glands release heat*
- *no fur. Sweat evaporates quickly.*
- *upright posture*
 - *less area exposed to the sun*
 - *more area exposed to cooling wind*

Vocabulary Activities

Noun	Verb	Adjective	Adverb
area	_____	_____	_____
facilitation facilitator facility	facilitate	facilitating	_____
feature	feature	featured featureless	_____
preliminaries	_____	preliminary	_____
release	release	released	_____
_____	_____	sole	solely
transfer	transfer	transferable	_____
_____	undergo	_____	_____

- A.** Read this information on other human abilities. Fill in the blanks with a target word from this unit (in the chart above or the chart on page 6) that completes the sentence in a grammatical and meaningful way. Words may be used more than once.

Humans are impressive distance haulers, but to carry a load uphill successfully, your stride must (1) _____ some changes. On flat surfaces, your calf muscles greatly (2) _____ fast walking, providing forward push. You (3) _____ momentum from one stride to the next by rocking forward as your back foot (4) _____ from the ground. On a steep hill, this method quickly tires you out. To (5) _____ a steady pace, lift one leg and plant it a short distance uphill. Straighten it while leaning slightly forward. Raise your back leg, but don't swing it forward until your front leg is straight.

This method may sound slow, but your uphill speed and endurance will improve noticeably.

One (6) _____ where humans excel is throwing. In the (7) _____ stage of a throw, the arm moves up and back to capture energy in the muscles of the shoulder, back, and legs. The torso moves slightly ahead to build more energy. The arm then springs forward and (8) _____ energy to the object. Just before the (9) _____, the wrist and fingers snap forward to add velocity. The best athletes can throw objects at speeds (10) _____ 100 mph.

B. Which meaning of the word *feature* is expressed in each sentence? Match each sentence on the left with a definition on the right. Compare answers with a partner.

- | | |
|--|-------------------------------------|
| ___ 1. The feature lasted nearly three hours. | a. an important part |
| ___ 2. Her research featured strongly in the report. | b. parts of a face (usually plural) |
| ___ 3. The car features a GPS navigation system. | c. a movie |
| ___ 4. His rugged features helped him land many parts. | d. a special program or article |
| ___ 5. The wandering albatross's most obvious feature is a wingspan of about 3.5 meters. | e. to include sth special |
| ___ 6. They will run several features on endangered animals next week. | f. to play an important part |

C. The word *facilitate* means to make something easier to do. What tools or practices facilitate these things?

1. trade between countries

A knowledge of local business practices can facilitate trade between countries.

2. learning a language

3. childhood development

4. keeping in contact with friends

5. the healing of a muscle injury

Collocations Chart			
Verb	Adjective	Noun	Noun Compound
_____	<i>elementary</i>	school, knowledge, laws, approach, mistakes, stage	_____
_____	<i>elemental</i>	truth, changes, force, aspect, characteristics, part, meaning	_____
<i>exceed</i>	_____	expectations, authority, limits	_____
_____	<i>excessive</i>	force, amount, noise, use, talking, demands	_____
_____	<i>sole</i>	survivor, purpose, heir, authority, objective	_____
_____	<i>preliminary</i>	report, findings, remarks, research, results, inquiry, approval	_____
promote, improve	social, personal, child	(the) <i>welfare</i> (of sth)	state, benefits, services, agency
<i>undergo</i>	_____	change, operation, test, ordeal, transformation, examination, review, evaluation	_____

D. The chart above shows common collocations, or word partners, for selected target vocabulary. Using the chart, complete these sentences with the correct form of an appropriate word.

1. The actress is devoted to promoting the _____ of animals.
2. Last year, the company's policies _____ an intensive review.
3. The _____ purpose of the review was to find ways to cut costs.
4. The manager _____ his authority when he fired the worker.
5. _____ findings show the cause of the accident was human error.
6. The bridge collapsed under the pressure of _____ weight.
7. He wanted to play basketball, but he had to face an _____ truth: he would never be tall enough to play professionally.
8. Her love of animals began in _____ school, when her class visited the zoo.

- E.** Build sentences using a random generator: Your teacher or partner calls out a random two-digit number to identify two words from the lists below. You then use those words to write a grammatical and meaningful sentence.

Teacher: "2-1." [The two words are "area" (2) and "exceed" (1).]

Possible sentence: "The area of the room exceeds 400 square feet."

- | | |
|----------------|----------------|
| 0. achieve | 0. preliminary |
| 1. achievement | 1. exceed |
| 2. area | 2. excessive |
| 3. endure | 3. exceedingly |
| 4. endurance | 4. maintain |
| 5. element | 5. release |
| 6. elementary | 6. welfare |
| 7. facilitate | 7. duration |
| 8. sole | 8. transfer |
| 9. solely | 9. undergo |

Writing and Discussion Topics

Write about or discuss the following topics.

1. Many animals have amazing abilities that would make unlikely Olympic events. Research one of these animals and write a paragraph describing what special skill or ability the animal has.

Archer fish (spitting)

eagle (eyesight)

squirrels (memory)

blue whale (largest appetite)

elephants (hearing)

tiger moths (navigating)

2. Exercise has its supporters and detractors. Two famous writers have very different attitudes toward exercise. Read the two quotes and explain which author's attitude is closer to your own.

"It is exercise alone that supports the spirits and keeps the mind in vigor."

—*Marcus Tullius Cicero, Roman statesman and philosopher*
(106–43 bc)

"Exercise is a modern superstition invented by people who ate too much and had nothing to think about. Athletics don't make anybody either long-lived or useful."

—*George Santayana, Spanish-American philosopher and novelist*
(1863–1952)

3. Performance-enhancing drugs, some quite dangerous, are now a part of modern sports, and many sports heroes have been accused of using these substances. What should happen to an athlete caught using these substances?

UNIT

2

Attention, Please



In this unit, you will

- > read about the effectiveness of multitasking.
- > read about the importance of sleep.
- > review outlining as you read.
- > increase your understanding of the target academic words for this unit.

READING SKILLS Finding the Main Idea; Isolating Causes and Effects

Self-Assessment

Think about how well you know each target word, and check (✓) the appropriate column. I have...

TARGET WORDS	never seen the word before	seen the word but am not sure what it means	seen the word and understand what it means	used the word, but am not sure if correctly	used the word confidently in either speaking or writing	used the word confidently in both speaking and writing
AWL						
benefit						
complex						
consistent						
evident						
identify						
instruct						
issue						
lecture						
mediate						
negate						
normal						
psychology						
require						
research						
whereas						



Outside the Reading What do you know about multitasking? Watch the video on the student website to find out more.

Oxford 3000™ keywords

Before You Read

Read these questions. Discuss your answers in a small group.

1. Can you concentrate on two things at the exact same time? Try this: Think about the taste of ice cream while you add the numbers 71 and 56.
2. Picture in your mind the faces of two people you know. Can you see them at the same time, or do you switch back and forth?
3. Are you more productive when you work on a single project or when you work on several projects at the same time?

MORE WORDS YOU'LL NEED

motor skill: a physical skill that requires the use of muscles and bones

neural: something related to nerve cells (neurons) in the brain or the body's nervous system.

stimulus/stimuli (pl.): something that causes activity, development, or interest

 **Read**

This online article is about a behavior that seems to be increasing in our digital world.

“May I Have 30% of Your Attention, Please?”

Today it is possible to be productive, keep in constant contact with associates, and have fun at the same time. At least that is what ads for the latest digital gizmos¹ claim. While writing an email to your boss or finishing a paper for your economics class, you can check for live updates on a tennis match halfway around the world or load songs into your portable media device. The boss expects you to prepare a sales report for tomorrow's meeting. No problem. You can do it and read a movie review at the same time. Or can you?

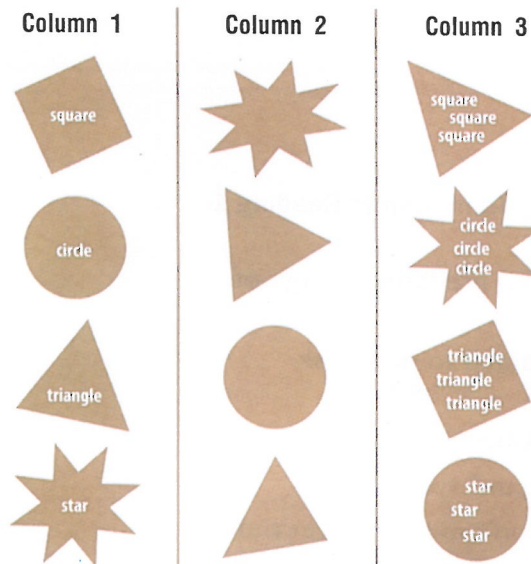
Multitasking, the popular term for this behavior, originally referred to the process by which computers appear to accomplish two or more tasks simultaneously. If computers can multitask

with a single microprocessor, then certainly the much bigger human brain can train itself to do the same and enjoy the **benefits** of increased productivity. We humans are quite adept² at letting our minds wander while performing a routine motor skill. We can do the dinner dishes while thinking about our next vacation, or chew gum while reading a newspaper. But **psychologists** ask this question: Do multitasking humans operate effectively and efficiently when they really need to concentrate?

The **evidence** suggests that the answer is no. One problem is interference, or what **psychologists** call the “Stroop effect.” Back in the 1930s, the **psychologist**

¹ *gizmo*: gadget or small device
² *adept*: very good at

John Ridley Stroop showed there is a danger of error when the brain receives unexpected information while carrying out a routine task. To see what he found, try this experiment on yourself:



As quickly as possible, say the name of each shape in Column 1 out loud. Then, do the same for Column 2. Then, do the same for Column 3.

If you are a good reader, most likely you completed the first column effortlessly, went a bit slower in the second column, and hesitated some, or even made an error, in the third column. Because you are much quicker at reading words out loud than naming shapes, you had difficulty ignoring the incorrect information that you read. Of course, this drill is a bit unnatural and designed to be confusing, but it shows that multitaskers are vulnerable to error and hesitation if they get interference from the wrong set of stimuli while switching between tasks. Imagine the damage a multitasking driver or air traffic controller could do if incorrect information intruded at the wrong time.

Research also suggests that switching between tasks significantly delays completion. If the two tasks are very routine and not too much alike—say, humming along to a new tune while diapering a squirming baby—the brain does not need to switch between the tasks because the two require different input channels. The humming requires listening and singing, whereas the

diapering requires sight and the use of arm and hand muscles. But when a similar kind of attention is needed, the pace slows as the brain must switch back and forth between the two tasks.

In a study reported in the *Journal of Experimental Psychology*, Rubenstein, Meyer, and Evans measured the amount of time lost when people switch between tasks such as solving math problems and identifying shapes. They discovered that as the tasks become less familiar, the area of the brain that mediates task switching and assigns mental resources takes longer to operate. Because each task requires a different set of rules, it seems the brain needs time to activate the appropriate set. With complex tasks, the switching delays add up, making multitasking less efficient than concentrating on one task at a time. Other researchers report that the brain shows less, not more, neural activity when simultaneously attempting two complex tasks, even when a different area of the brain is used for each task. And less brain activity comes at a price. In one study, subjects were instructed to write a report and check their email. The multitaskers took one and a half times longer than those who completed one task before starting another.

This more leisurely work pace will no doubt appeal to many. But the problems with multitasking go beyond the issue of time management. If switching takes time—perhaps a half-second or more—that could be long enough to distract a driver who is fiddling with³ a cell phone or scrolling through a complicated digital display on a car dashboard. Constant switching is also mentally stressful and may lead to a diminished capacity to remember facts and learn new skills. The brain simply may not get the time it needs to build and maintain neural connections and access memory.

All these negatives do not mean that you should never “whistle while you work” or sneak a peak at a ballgame while studying

³ fiddle with: make small adjustments to something restlessly or nervously

110 chemistry. But what about the boss who says
“I need that website up by Friday and can you
take my calls while I’m out” or the digital showoff
who sits through a university **lecture** while
text-messaging on a tiny cell phone screen and
115 nodding to the beat of music piped into barely

visible earphones? Remind them of this:
The multitasking machinery of our digital
world was most likely developed by very
single-minded people focused intently on
120 a single task.

Reading Comprehension

Mark each sentence as *T* (true) or *F* (false) according to the information in Reading 1.
Use the dictionary to help you understand new words.

- ___ 1. Some of the research on which this article was based predates the age of digital technology.
- ___ 2. The writer believes that the human brain can be trained to multitask effectively like a computer.
- ___ 3. Processing two sets of stimuli simultaneously diminishes the chance for error.
- ___ 4. Multitasking is possible when the tasks are routine and very simple.
- ___ 5. Multitasking can have detrimental effects on a person’s memory over time.
- ___ 6. When multitaskers perform poorly, it is purely due to switching delays.
- ___ 7. Trying to do two complicated jobs at the same time leads to an increase in brain activity.
- ___ 8. The people who developed the digital tools we use today probably had to multitask in order to do so.

READING SKILL

Finding the Main Idea—Reading Past the “Pivot”

LEARN

Writers can begin an article using several strategies. A news story might state the point of an article early, as in this example:

A study reported in the *Journal of Experimental Psychology* reveals that multitasking can actually waste time, especially when one of the tasks is complicated. These findings are particularly relevant in an age when switching between tasks is greatly facilitated by digital technology.

Other articles might begin by providing background and context before getting to the main point or the real news featured in the article. They might even first present an idea that is counter to the true main point of the article. The transition or shift to the main idea is often indicated by a pivot word like *but*, *yet*, *however*, or *nevertheless*, as in this paragraph:

“Let’s talk about this while we do the dishes.” In the idiom of the digital world, we might call this an invitation to “multitask.” The shared assumption? Dishwashing is so routine that even a serious discussion is possible while we finish the chore. However, what happens when we try to do two tasks that require more intense concentration? Do we save time? Psychologists are beginning to have doubts.

When looking for the main point of an essay, keep an eye out for these pivot words. Don't assume that the main idea of the article will always be stated in the first lines or even the first paragraph of the article.

APPLY

A. Circle the pivot word in this paragraph. Underline the main idea.

Experimental psychology has a large body of work exploring how humans perform on repetitive or individual tasks requiring both cognitive and motor skills. Yet humans in daily life are often required to manage two or more tasks simultaneously. Our interest concerns how the human brain manages multiple tasks simultaneously and factors that inhibit the successful completion of these tasks.

B. Look again at Reading 1 and find a pivot. What information comes before the pivot? What information comes after the pivot? What point is the author making? Write your answers in your notebook. Compare answers with a partner.

Vocabulary Activities

Noun	Verb	Adjective	Adverb/ Conjunction
benefit beneficiary	benefit	beneficial	beneficially
complexity complex	_____	complex	_____
evidence	_____	evident	evidently
identity identification	identify	identified identifiable	identifiably
instruction instructor	instruct	instructive instructional	instructionally
issue	issue	_____	_____
lecture	lecture	_____	_____
mediation	mediate	mediated	_____
negative negativity	negate	negative	negatively
psychology psychologist	_____	psychological	psychologically
requirement	require	required	_____
research researcher	research	_____	_____
_____	_____	_____	whereas

A. Read these comments on multitasking. Fill in the blank with a target word from the chart on page 21 that completes the sentence in a grammatical and meaningful way.

1. Many in the working world today complain that multitasking is a _____ for anyone who wants to get ahead.
2. Despite _____ that multitasking wastes time, a great number of workers say they are expected to work on many tasks at once.
3. _____ suggests that the human brain cannot match a computer's ability to switch back and forth between tasks.
4. An outside party was brought in to _____ the dispute.
5. _____ are interested in studying what the human brain is doing while multitasking.
6. Multitasking can be _____ when tasks are routine and relaxing.
7. One _____ effect of multitasking is a diminished ability to perform each task.
8. Researchers have found that learning new things has _____ benefits for older people, such as improving their brain function and their outlook on life.

The noun *issue* refers to an important topic or problem for discussion. Academic writing often involves the discussion of an *issue*.

The noun *issue* is often used with these verbs: *address, avoid, discuss, explore, raise*.

*To explore this **issue**, researchers conducted several experiments.*

*There are several important **issues** that we must address.*

*We wanted to raise the **issue**, but the writer is avoiding it.*



B. Read the statements and identify an issue that each one might be addressing. Write a direct question that you could use to begin a discussion of the issue.

1. College tuition has been rising steadily.

Issue: how people afford college

What should we do about rising college tuition? or Why is college tuition rising?

2. Several factors have contributed to a decline in violent crime.

3. Raising the driving age will have several noticeable effects.

4. Students should be careful when posting personal information on social websites.

5. Parents need to monitor the violent content of video games more closely.

6. Disputes between workers and managers can damage businesses.

The conjunction *whereas* signals a contrast, but it lacks the strong pivot feel of *but*, *yet*, *however*, and *nevertheless*, especially when it occurs in the middle of the sentence.

*Humming requires listening and singing, **whereas** cooking requires sight and the use of arm and hand muscles.*

At the beginning of a sentence, *whereas* is more likely to signal a change in direction, or pivot point, in the main clause that follows. The word *while* behaves similarly.

***Whereas** humming requires listening and singing, cooking requires sight and the use of arm and hand muscles. It involves both the motor and visual regions of the brain.*



C. Here is an excerpt from Reading 2. Fill in the blanks with *whereas*, *but*, or nothing (\emptyset). Experiment with different possibilities. When you finish, compare sentences with a partner. How does the use of *whereas* or *but* affect the meaning?

Consistently failing to get enough sleep is the biological equivalent of consistently spending more money than you make. Napping can help reduce a sleep debt, (1) _____ there are also long-term benefits to maintaining consistent, predictable sleep patterns. (2) _____ naps do improve cognitive functioning after periods of sleep deprivation, (3) _____ they do little to repair the negative mood that results from sleep loss.

Find the excerpt in paragraph 4 of Reading 2. How does it compare with your answers?

Before You Read

Read these questions. Discuss your answers in a small group.

1. What is your typical sleeping schedule? Do you regularly take naps?
2. How much sleep do you need? Would you be more effective if you got more sleep?
3. The reading uses the term “sleep debt.” What do you think it might mean?

MORE WORDS YOU’LL NEED

hormones: chemicals that are produced in the body and travel through the blood to send messages to different parts of the body

metabolism: the process by which living things change food into energy and materials for growth

REVIEW A SKILL Outlining as You Read (See p. 12)

In Unit 1, you studied methods of outlining. As you read, use the bullet point and indentation method to make a quick outline of the reading.

Read

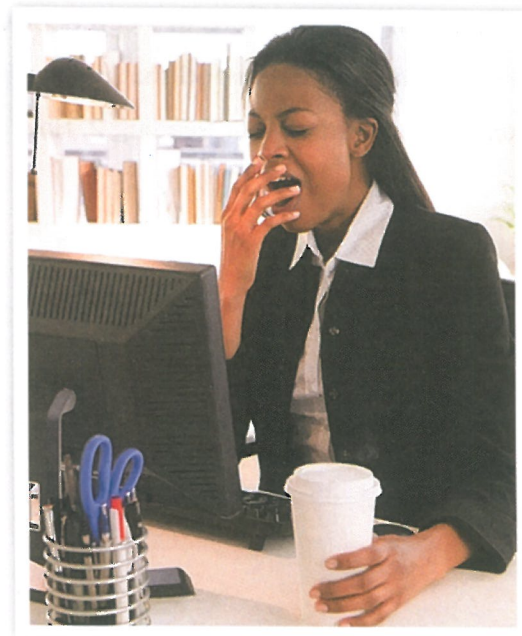
This article from the website of the American Psychological Association explains how more sleep would make most people happier, healthier, and safer.

You’re Getting Very Sleepy

FINDINGS

Many people are surprised to learn that **researchers** have discovered a single treatment that has many **benefits**. It improves memory, increases concentration, strengthens the immune system, and decreases accidents. Sound too good to be true? It gets even better. The treatment is completely free, even for people with no health insurance. It also has no side effects. Finally, most people consider the treatment highly enjoyable. Would you try it?

You probably should. For most people, this treatment **consists** of getting an extra 60–90 minutes of sleep each night. Both **psychologists** and psychiatrists have maintained for years that Americans have overlooked one of the most significant public health problems—chronic¹ sleep deprivation. That is, few Americans regularly obtain the seven or more



Few Americans regularly obtain the sleep they require each night.

hours of sleep they **require** each night. The
20 consequences of chronic sleep deprivation can
be truly disastrous. Laboratory experiments
provide **evidence** that failing to get enough sleep
dramatically impairs memory and concentration. It
increases levels of stress hormones and disrupts
25 the body's **normal** metabolism. **Research** outside
the laboratory further suggests that long-term
sleep deprivation leads to greater susceptibility to
motor vehicle accidents.

Research shows that many people are carrying a
30 heavy "sleep debt" built up from weeks, months,
or even years of inadequate sleep. In experiments
on sleep debt, **researchers** pay healthy volunteers
to stay in bed for at least 14 hours a day for a
week or more. Most people given this opportunity
35 sleep about 12 hours a day for several days,
sometimes longer. Then they settle into sleeping
seven to nine hours per night. As William Dement
put it, "this means ... that millions of us are living
a less than optimal life and performing at a less
40 than optimal level, impaired by an amount of
sleep debt that we're not even aware we carry."

But is carrying a sleep debt really so harmful?
Careful experiments by **psychologist** David
Dinges and others show that the answer is yes.
45 Dinges and colleagues recruit healthy young
volunteers who live continuously in Dinges's sleep
laboratory for 10–20 days. Dinges randomly
assigns them to receive different amounts and
patterns of sleep over time. He controls access
50 to stimulants, such as caffeine, and constantly
monitors the amount of sleep they get. Dinges
has learned that people with fewer than eight
hours' sleep per night show pronounced cognitive
and physiological deficits. These deficits include
55 memory impairments, a diminished ability to
make decisions, and dramatic lapses in attention.
As sleep deprivation continues, these deficits
grow worse. **Consistently** failing to get enough
sleep is the biological equivalent of **consistently**
60 spending more money than you make. Napping
can help reduce a sleep debt, but there are also
long-term **benefits** to maintaining **consistent**,
predictable sleep patterns. **Whereas** naps do
improve cognitive functioning after periods of

65 sleep deprivation, they do little to repair the
negative mood that results from sleep loss.

Many people argue that they get by just fine
on very little sleep. However, **research** shows
that few people can truly function well on
70 less than eight hours' sleep per night. Dinges
estimates that, over the long haul, perhaps
one person in a thousand can function
effectively on six or fewer hours of sleep per
night. Many people with chronic sleep debts
75 end up napping during the day or fighting off
sleepiness in the afternoon. Moreover, people
who chronically fail to get enough sleep may
be cutting their lives short. A lack of sleep
taxes the immune system and may even lead
80 to disease and premature aging. To make this
worse, most people who are sleep deprived
do not even realize it. If you get sleepy during
long meetings or long drives, chances are you
are chronically sleep deprived.

SIGNIFICANCE

85 The National Highway Traffic Safety
Administration estimates that drowsy or
fatigued driving leads to more than 100,000
motor vehicle crashes per year. Even small
disruptions in sleep can wreak havoc on²
90 safety and performance. In a nationwide
study between 1986 and 1995, **psychologist**
Stanley Coren studied the effects of the
single hour of lost sleep that many Americans
experience when they start daylight saving
95 time³. The result? A 17% increase in traffic
deaths on Mondays following the time
change (compared with the Mondays before).
Psychologists such as Gregory Hicks have
observed similar findings. They observed
100 an increase in traffic fatalities in the week
following the change to daylight saving time. It
is harder to estimate the toll sleep deprivation
takes on people's health, happiness, and
productivity. But according to the National
105 Sleep Foundation, the annual loss in worker
productivity due to sleeplessness is about
\$18 billion.

¹ *chronic*: constant

² *wreak havoc on*: cause damage to

³ *daylight saving time*: the period of the year when the clock is turned one hour ahead to allow an extra hour of daylight

PRACTICAL APPLICATION

In light of⁴ the dramatic public health consequences of sleep deprivation and unhealthy sleep patterns, the National Sleep Foundation (NSF) established National Sleep Awareness Week. In cooperation with partner organizations, this event is promoted each year during the week when people set their clocks forward for daylight

115 saving time. In 2003, the NSF reported that about 600 sleep centers in North America sponsored **instructional** activities in local communities during National Sleep Awareness Week. Many U.S. states now educate drivers 120 not only about the dangers of driving while intoxicated but also about the dangers of “driving while drowsy.”

⁴ in light of: informed by, due to

Reading Comprehension

Mark each sentence as *T* (true) or *F* (false) according to the information in Reading 2. Use the dictionary to help you understand new words.

- ___ 1. In David Dinges’s experiment, the subjects stayed in bed for more than 14 hours a day.
- ___ 2. Research suggests that most people need more than seven to nine hours of sleep.
- ___ 3. It is the rare individual who can function effectively on fewer than six hours of sleep per night.
- ___ 4. If we are seriously deprived of sleep, a nap may help us think more clearly.
- ___ 5. Sleep deprivation affects not only a person’s cognitive ability but also his or her mood.
- ___ 6. An enhanced immune system is one benefit of sleep deprivation.
- ___ 7. Studies have shown that people drink more when they are sleep deprived.
- ___ 8. Sleep deprivation is having an effect on the U.S. economy.

READING SKILL

Isolating Causes and Effects

LEARN

Reading 2 uses the nouns *benefits* and *consequences* to signal that the reading is looking at the positive and negative effects of sleeping habits.

*There are long-term **benefits** to maintaining consistent, predictable sleep patterns.*

*The **consequences** of this chronic sleep deprivation can be truly disastrous.*

Writers can also use verbs to discuss effects more directly and describe specific positive or negative effects. Study the verbs in activity A for examples.

APPLY

A. Reading 2 discusses the effects of two conditions: getting adequate sleep and chronic sleep deprivation. Without referring to the reading, mark the phrases AS (effects of adequate sleep) or CD (effects of chronic deprivation). Then review the reading to check your answers.

- | | |
|-----------------------------------|------------------------------------|
| ___ improves memory | ___ disrupts the body's metabolism |
| ___ increases concentration | ___ improves cognitive functioning |
| ___ strengthens the immune system | ___ cuts their lives short |
| ___ decreases accidents | ___ taxes the immune system |
| ___ impairs memory | ___ wreaks havoc on human safety |

The verb *lead to* links a cause to its later effects. The verb *show* also describes an effect. The subject of the sentence is the *victim* or *beneficiary* of the effect.

Cause

Effect

Long-term sleep deprivation *leads to* ...greater susceptibility to accidents
...premature aging
...disease
...more motor vehicle crashes

People who get fewer than eight hours of sleep per night (victim) *show* ...pronounced cognitive and physiological deficits
...a diminished ability to make decisions
...dramatic lapses in attention

B. Fill in the blanks with *lead to* or *show*.

1. Chronic sleep deprivation can _____ pronounced cognitive and physiological deficits.
2. People who get less than eight hours of sleep per night _____ a greater susceptibility to motor vehicle accidents.
3. People who get adequate sleep _____ improved cognitive functioning.
4. Not getting enough sleep can _____ dramatic lapses in attention.
5. Getting adequate sleep _____ improved memory.
6. According to laboratory experiments, people who are sleep deprived _____ increased levels of stress hormones.

C. Referring to the reading and the preceding tables, write a brief paragraph that summarizes the dangers of sleep deprivation. The paragraph has been started for you.

Sleep deprivation can be dangerous. For example, _____

Vocabulary Activities

Noun	Verb	Adjective	Adverb/ Conjunction
consistency inconsistency	_____*	consistent inconsistent	consistently inconsistently
normal normality abnormality	normalize	normal abnormal	normally abnormally

* The verb *consist of* is treated in Unit 9.

A learner's dictionary, such as the Oxford Advanced Learner's Dictionary, typically has information not found in a regular dictionary. Look up the words *evidence*, *research*, and *study*, for example. Find the [C] and [U] marks in the definitions. These are dictionary code for *countable* or *uncountable* nouns.

Countable nouns can be plural (can be counted). Uncountable nouns cannot be plural (cannot be counted). The words *evidence* and *research* are uncountable. They cannot be plural and cannot be counted.

Research shows that many people are carrying a heavy "sleep debt."

The noun *study*, like many nouns, can be countable in one sense and uncountable in another.

Studies show that many people are carrying a heavy "sleep debt."

The effect of sleep deprivation on highway safety deserves more study.

A. Read this information on sleep deprivation. Circle **C** (countable) or **U** (uncountable) for each underlined noun.

The National Sleep Foundation provides information (C / U) on the health consequences (C / U) of sleep deprivation. It offers practical suggestions (C / U) on how to get more sleep and advice (C / U) on how to take advantage of the benefits (C / U) that sleep provides. The organization believes that greater knowledge (C / U) and understanding (C / U) of sleep and sleep disorders will increase public health (C / U) and safety (C / U). To this end, it promotes the study (C / U) of sleep and sleep disorders.

The word *normal*—meaning “typical, as expected, ordinary”—can be a noun or adjective.

Here are some useful phrases:

return to <i>normal</i>	<i>normal</i> behavior
back to <i>normal</i>	<i>normal</i> conditions
below/above <i>normal</i>	<i>normal</i> development

The adjective *consistent* means “without much variation” or “without contradiction.”

*The athlete is a **consistent** player.* (The athlete is dependable and predictable.)

*The witness's answers were **inconsistent**.* (The witness's answers changed or were contradictory.)

*Our results are **consistent** with other studies.* (We had similar or identical results.)

Here are some useful phrases:

<i>consistent</i> answers	<i>consistent</i> quality
<i>consistent</i> findings	<i>consistent</i> results
<i>consistent</i> pattern	<i>consistent</i> rules



B. Read this description of a crime. Then discuss the questions that follow in a small group.

The sole employee of a small dress shop claimed that an armed robber stole all the cash while the owner was out running an errand. A few minutes before the owner returned, a witness sitting at a nearby café noticed a young man in a blue jacket leave the store and walk calmly but quickly away. The witness said he behaved normally, and there was nothing remarkable about his appearance.

The police then questioned the employee and collected these statements:

- I was cleaning the mirrors near the dressing rooms when the robber grabbed me from behind.
 - He had a knife. I wanted to scream, but he had his hand over my mouth the whole time.
 - He told me to take the money from the cash register and hand it to him.
 - I gave him the money. He put it in a plastic bag and stuffed it in his jacket.
 - He pushed me down and ran out before I could get a good look at him.
 - The suspect's face was never toward me. I think he was very tall.
 - I could not tell what color jacket the suspect was wearing.
 - I know it was not a blue jacket.
 - I didn't call the police because I wanted to wait for the owner.
1. Do you find the employee's statements logically consistent with each other or are they inconsistent?
 2. Is there anything unusual or abnormal in the employee's behavior?
 3. Are the employee's statements consistent with what the witness said?
 4. Do you think the man in the blue jacket committed the crime? Why or why not?

C. Fill in the blanks with a target vocabulary word from the box. Use the plural form where necessary.

advice	fact	research	suggestion
consequence	information	study	understanding
evidence	instruction		

1. The _____ suggest that multitasking is only successful under limited circumstances.
2. The pamphlet offers several _____ for people who have difficulty sleeping.
3. In the experiment, the subjects were asked to follow _____ that were designed to be confusing and hard to follow.
4. One good piece of _____ is to avoid caffeine before bedtime.
5. Multitasking can lead to errors if an incorrect piece of _____ intrudes at the wrong time.
6. _____ show that multitasking can delay the completion of tasks requiring concentration.
7. There is little _____ that multitasking leads to greater productivity unless the tasks are routine and use different input channels.
8. Recent _____ has raised some doubts about the efficiency of multitasking.
9. Psychologists now have greater _____ of how the brain handles task switching than they did 15 years ago.
10. In some fields, multitasking can definitely have negative _____.

D. The verb *identify* means to name or recognize something. To *identify with* someone means that you understand their feelings, thoughts, or values. Moviemakers want their audience to identify with the characters on screen. Check (✓) the characters you think are easy for people to identify with.

- ___ 1. a rebellious farm boy, bored with helping his aunt and uncle, who wants to fly spacecraft
- ___ 2. a smuggler who works for whichever side in a war pays him well
- ___ 3. a mother of three children who has fallen behind in her bills
- ___ 4. an awkward high-school kid who is honest and intelligent but has trouble making friends
- ___ 5. a taxi driver without much ambition who is taken hostage

- 6. a pair of charming men who sneak into wedding receptions to meet interesting and important people
- 7. a successful 32-year-old woman who wants to start a family but is very busy with her career
- 8. career criminals who want to steal something priceless and very well-guarded

In a small group, discuss your choices. Why are some of these characters easy to identify with?

Why are the others not? What would need to happen in the story to make the audience identify with them?

Sentence Pattern Chart		
Target word	Pattern	Sample sentence
<i>consistent</i>	to be consistent with sth	His research on sleep is <i>consistent</i> with other studies.
<i>evident</i>	to be evident that...	It is now <i>evident</i> that multitasking has its limits.
<i>evidence</i>	there is evidence that... the evidence shows that...	There is little <i>evidence</i> that multitasking is more efficient. The <i>evidence</i> shows that multitasking can be inefficient.
<i>require</i>	to require sth to be required to do sth to require sth to do sth	Most adults <i>require</i> eight or more hours of sleep. They are <i>required</i> to perform several tasks at once. The boss <i>requires</i> us to do several jobs simultaneously.
<i>benefit</i>	to benefit from sth	Most adults could <i>benefit</i> from some more sleep.
<i>beneficial</i>	to be beneficial to do sth	It is <i>beneficial</i> to sleep.

E. With a partner, use these words to make a single sentence. Refer to the chart above for sentence patterns.

1. evident / constant / beneficial

It is evident that constant exposure to TV violence is not beneficial to a child's development.

2. benefit from / psychological
3. consistent with / research
4. required / maintain
5. evidence / negatively
6. evident / beneficial

Collocations Chart			
Verb	Adjective	Noun	Verb
derive, gain, receive, obtain, provide, offer	short-term, long-term, substantial, real	<i>benefits</i>	_____
provide, cite, gather, look for	strong, direct, indirect, convincing, compelling	<i>evidence that... evidence for sth evidence against sth</i>	_____
_____	_____	<i>evidence research</i>	suggests, shows, reveals, confirms, demonstrates that....
carry out, conduct, do	in-depth, extensive, ground-breaking, basic, original, ongoing	<i>research on/into sth</i>	_____
_____	<i>negative</i>	effect, attitude, mood, response, comment, consequence	_____
meet, satisfy, fulfill, comply with, impose, waive, relax	strict, demanding, mandatory, basic, minimum	<i>requirements</i> (for sth or in order to do sth)	_____

F. The chart above shows some common collocations, or word partners, for selected target vocabulary. Refer to the chart as you write sentences that contain the given words and at least one collocation in your notebook.

1. strong / suggest / negative

There is strong evidence suggesting that sleep deprivation has many negative effects.

2. fulfill / strict / in order to qualify for
3. provide / long-term
4. gather / compelling / against the claim that multitasking
5. carry out / on the negative / of chronic sleep deprivation

Writing and Discussion Topics

Write about or discuss the following topics.

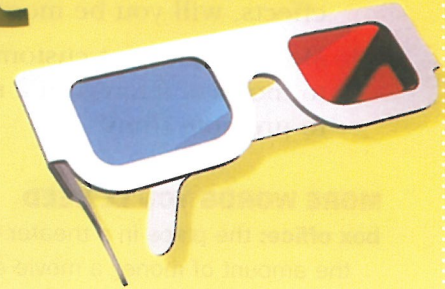
1. An enterprising, ambitious student has a plan. This student hopes to get through college more quickly by sleeping only four hours a night and listening to tapes of lectures while studying for other classes. What do you think of this plan?
2. In what situations is multitasking an effective strategy for you?
When is it ineffective?
3. Are people today expected to carry on too many activities at once?
Or is multitasking simply a fact of life that all people must deal with?
4. "Eat right, exercise, and get plenty of rest." This common sense plan for achieving health is difficult to argue with, but many people struggle to follow this advice. Why is this advice so hard to follow?

UNIT

3

3

Movie Magic



In this unit, you will

- read about pioneering special effects, some successful and some not.
- learn about Ray Harryhausen's contributions to the movie industry.
- > review pivot words.
- > increase your understanding of the target academic words for this unit.

READING SKILLS Annotating and Highlighting; Uses of the Present Tense

Self-Assessment

Think about how well you know each target word, and check (✓) the appropriate column. I have...

TARGET WORDS	never seen the word before	seen the word but am not sure what it means	seen the word and understand what it means	used the word, but am not sure if correctly	used the word confidently in either speaking or writing	used the word confidently in both speaking and writing
AWL						
adjust						
bond						
component						
eventual						
final						
forthcoming						
highlight						
margin						
retain						
scheme						
seek						
subordinate						
thereby						
vehicle						
vision						

Before You Read

Read these questions. Discuss your answers in small groups.

1. The top 20 most popular movies of all time featured the latest in special effects. Are special effects the most important component in attracting a big audience?
2. Do you usually go to the theater to watch movies or do you watch them at home on DVDs or TV? Why? If you know that movie has a lot of special effects, will you be more likely to see it in a theater?
3. Movies, to attract customers, often use advertising and promotional gimmicks to increase interest in a movie. What are some gimmicks that have been used to promote films?

MORE WORDS YOU'LL NEED

box office: the place in a theater where the tickets are sold. The term is often associated with the amount of money a movie earns

flop: fail (v); something that fails completely (n)

novelty: new and different

READING SKILL

Annotating and Highlighting

LEARN

In Unit 1, you practiced outlining as a way of making notes about reading material. Two quicker methods for making notes involve writing directly on the book page. (Of course, this is only possible if the book is your own. You should never do this with library books or other books that don't belong to you.)

ANNOTATING

Annotating means making notes in the margins of a reading. These brief notes identify key points or call out material that you may wish to reference later.

HIGHLIGHTING

Highlighting means using a colored marker to draw attention to specific words, facts, or points in a reading. There are two ways to highlight text.

INDEXING: Highlight key words and phrases to help find points and details later. It aids skimming and scanning. This approach is demonstrated in the second paragraph of Reading 1.

SUMMARIZING: Highlight longer phrases to create a summary of the material. This approach is demonstrated in the third paragraph of Reading 1.

APPLY

As you read the first three paragraphs of Reading 1, notice the annotation and highlighting that have been done for you. Add more if you want. Then finish reading the article and do your own annotation and highlighting, using both the indexing and summarizing approaches.

Read

This magazine article discusses some of the best and worst special effects in cinematic history.

From Gimmicks to FX

Feature-length movies are expensive to make and must compete with other forms of entertainment—television, video games, sporting events, concerts—to attract and **retain** the large audiences they need to turn a profit. For this reason, moviemakers
5 endlessly **seek** new ways to bring audiences into theaters. Movies added sound and color in the late 1920s, widescreen formats in the early 1950s, and more recently, advanced computer-generated-imaging to dazzle¹ us with increasingly elaborate special effects. Many of these special effects (FX) started out as “gimmicks” but proved to be
10 genuine advances that are now essential **components** of most big-budget movies. Other gimmicks have found their appeal more short-lived.

One of the oddest gimmicks was the effort to add odors to the movie-going experience. If sound and **visual** images are possible, then
15 why not smell? As silly as it sounds, there were several serious attempts to enhance films with distinct aromas. In 1959, a film called *Behind the Great Wall* sent 50 odors through the air-conditioning system of a theater. For the 1960 film *Scent of a Mystery*, producer Mike Todd, Jr. (1929–2002) introduced “Smell-O-Vision,” a process designed to release
20 carefully timed scents, such as pipe smoke or food, to each seat. Rather than launch Smell-O-Vision as the next evolution in entertainment, the film flopped. Mr. Todd lost all his investment, and after that both he and Smell-O-Vision were out of the movie business.

Another group of less expensive gimmicks came from a small-time
25 movie producer and director who actually did make money. To attract audiences to his low-budget horror films, William Castle (1914–1977) tried various **schemes** to convince people that his movies were scary. For *Macabre* (1963), he offered free \$1,000 life insurance policies in case the viewer died of fright. For his film *The Tingler*, he equipped
30 selected seats with the “Percepto,” a device that gave an electronic jolt to patrons at crucial points in the film. This jolt would cause the patron to scream, **thereby** adding to the tension in the theater. Castle is perhaps best remembered for “Illusion-O,” a device he used in the movie *Thirteen Ghosts*. He supplied each customer with handheld

¹ dazzle: amaze

Some movie gimmicks
don't last
Gimmick: add odors

“Smell-O-Vision” —flopped

William Castle—less
expensive gimmicks

“Percepto”—shocks in seat

“Illusion-O”—ghost glasses

35 “ghost glasses” that would allow the user to see the ghosts and remove
them if they became “too frightening.” Since everyone would most
likely want to see the ghosts, the device seems pointless. Why not just
show the ghosts? But the gimmick was intended to be fun and increase
anticipation that the ghosts were going to be a lot scarier than they
40 actually were. In practice, most of Castle’s gimmicks were only
marginally successful and often got more giggles than screams—an
inflatable² skeleton floating above the audience during *House on
Haunted Hill* (1959) became a target for thrown candy boxes and soda
cups—but his movies were entertaining and made money. In fact,
45 *Thirteen Ghosts* received a big-budget remake in 2001. This time,
though, only the actors got to wear the ghost glasses.

Advertising for the 1975 movie *Earthquake* **highlighted**
Sensurround Sound, promising sound that was powerful enough to
“crack ribs.” The effect of a low-pitched earthquake rumble was
50 achieved by placing up to ten large subwoofer³ speakers around the
theater wired to a powerful amplifier. When cued by signals in the
film, the speakers emitted a powerful vibration that was felt more than
heard. Unlike Smell-O-Vision and Castle’s inexpensive tricks, the
problem with Sensurround was that it was too successful. Since more
55 and more theaters were multiplexes⁴, the vibrations bothered patrons
in adjacent theaters watching different films. Complaints by patrons
and reports of damage to theaters convinced most theater owners that
Sensurround was not worth the trouble. Only three more films—
Midway (1976), *Rollercoaster* (1977), and *Battlestar Galactica* (1978)
60 featured the effect.

The most famous special effect is the movie in 3-D. Studios had
experimented with three-dimensional photography as far back as 1922,
but the first hit 3-D movie was *House of Wax* in 1953. This **visual**
effect is achieved by sending a slightly different image to each eye. For
65 this to occur, the moviegoer had to wear special glasses that eliminated
the image that the other eye was seeing. This technique was successful
enough that from 1953 to 1955 studios released dozens of 3-D movies.
However, the process was not free from technical glitches (patrons
complained of eyestrain), and **eventually** the novelty wore off. For the
70 next 40 years, 3-D movies became less common, with the technology
mainly associated with nonfiction IMAX⁵ releases.

It is tempting to look at a box-office loser like Smell-O-Vision and
mutter, “What were they thinking?” But the other short-lived gimmicks
were actually associated with box office successes. And in recent years,
75 with better technology, 3-D has enjoyed a resurgence. One 3-D film
grossed nearly \$2.8 billion (U.S.) worldwide in 2009, and that success
almost guarantees that more 3-D movies will be **forthcoming**. And be
ready for the next gimmick. It may be so terrifying that moviegoers are
advised, “Check with your doctor before seeing this film.” ■

² *inflatable*: designed to be filled with air or gas before use

³ *subwoofer*: a speaker that emits a very low-pitched sound

⁴ *multiplex*: a movie complex that contains many individual theaters

⁵ *IMAX*: a film format used for films shown on very large screens

Inflatable skeleton in
theater

Movies made money