

3

READING EXPLORER

THIRD EDITION

TEACHER'S BOOK

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National Geographic Learning,
a Cengage Company

**Reading Explorer Teacher's Book 3
Third Edition**

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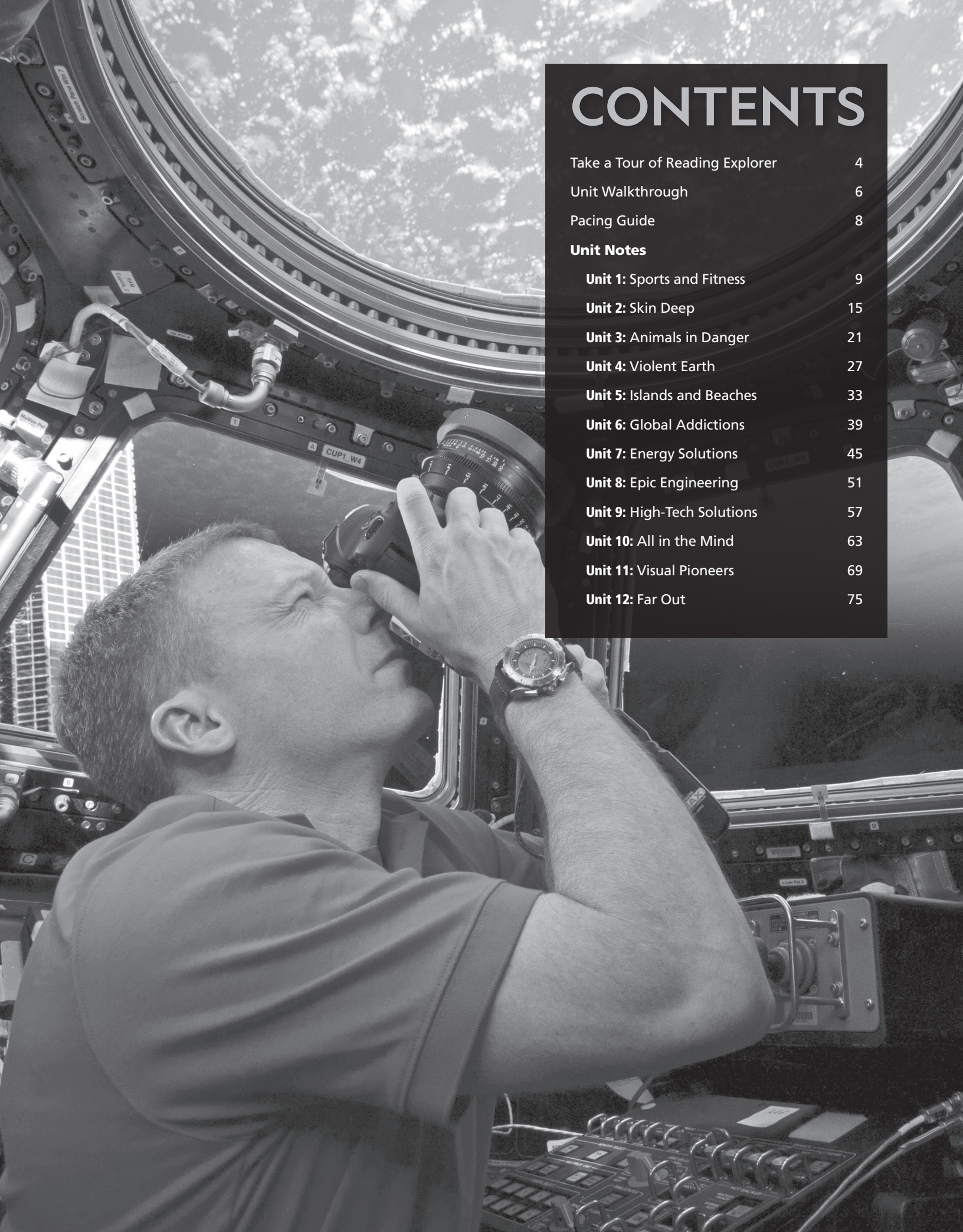
ISBN-13: 978-0-357-12466-6

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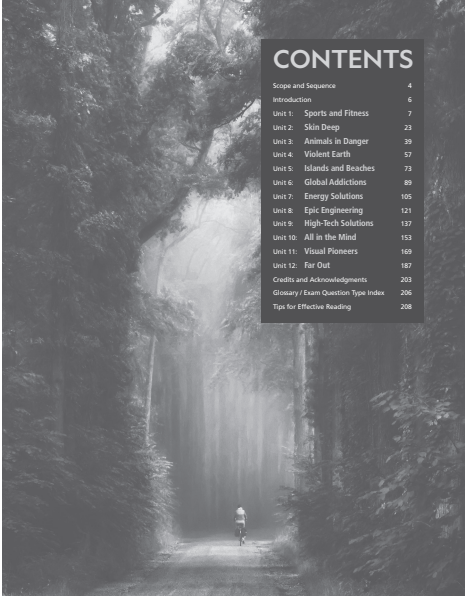
TAKE A TOUR OF READING EXPLORER

Thank you for choosing to use *Reading Explorer* 3rd Edition Level 3. Here are 7 steps to help you get familiar with the course:

1 First, look at the list of **Contents** on page 3 of the Student's Book. You'll see the book is organized into 12 units. The book can be used for a short course of 24–36 hours using just the core units or can be extended for longer courses, for example, by using the **Video** activities in class. **Split editions** are also available for shorter courses.

2 Look at the **Scope and Sequence** on pages 4–5 of the Student's Book. You'll see that each unit is based on a theme of general interest, for example, "Sports and Fitness." Within each unit are two lessons, each based around a reading passage. Each lesson covers a range of reading skills and vocabulary building activities. An **introduction** on page 6 of the Student's Book highlights the new features of the Third Edition.

3 Skim through a **Unit** of the Student's Book and compare it against the Unit Walkthrough on the following pages of this Teacher's Book. The Teacher's Book also provides teaching suggestions and background notes for each unit.



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SCOPE AND SEQUENCE

UNIT	THEME	READING	VIDEO
1	Sports and Fitness	A: The World's Game B: What Makes an Olympic Champion?	Sport Climbing
2	Skin Deep	A: What Is Beauty? B: Skin: The Body's Canvas	The Beauty of Ugly Food
3	Animals in Danger	A: Racing to Rescue Koalas B: Tracking the Snow Leopard	Protecting Pandas
4	Violent Earth	A: Sacred Summits B: Is Prediction Possible?	Earthquakes 101
5	Islands and Beaches	A: Land of Fire and Ice B: The Perfect Beach	Ha Long Bay
6	Global Addictions	A: The World's Favorite Drug B: Addicted to Distraction	World of Caffeine
7	Energy Solutions	A: Powering the Planet B: City of the Future?	Wave Power
8	Epic Engineering	A: China's Grand Canal B: Highway of Dreams	Building a Rain Forest
9	High-Tech Solutions	A: The Power of Virtual Reality B: High-Flying Helpers	Drone Delivery
10	All in the Mind	A: What's on Your Mind? B: Inside Animal Minds	Brain Power
11	Visual Pioneers	A: Van Gogh's World B: Seeing the Light	The Genius of Picasso
12	Far Out	A: Defying Gravity B: The Ultimate Trip	Mysteries of Pluto

ACADEMIC SKILLS		
READING SKILL	VOCABULARY BUILDING	CRITICAL THINKING
A: Analyzing Infographics (1) B: Scanning for Specific Information	A: Prefix uni- B: Suffix -ology	A: Evaluating Evidence B: Evaluating Reasons
A: Analyzing a Writer's Claims B: Summarizing the Main Idea of Paragraphs	A: Word root form B: Collocations with permanent	A: Evaluating Claims B: Applying Ideas
A: Determining the Meaning of Unfamiliar Words B: Annotating a Reading Passage	A: Collocations with physical B: Words acting as nouns and verbs	A: Evaluating Problems B: Evaluating, Synthesizing
A: Summarizing a Text B: Analyzing Infographics (2)	A: Prefix ex- B: Collocations with schedule	A: Analyzing Pros and Cons B: Evaluating Visual Information, Justifying an Opinion
A: Summarizing Details on a Map B: Identifying a Writer's Point of View	A: Word web spectacular B: Collocations with state	A: Evaluating Ideas B: Inferring Opinions; Evaluating Using Criteria
A: Identifying Pros and Cons (1) B: Understanding Transitions	A: Word web furthermore B: Word root vis	A: Evaluating Pros and Cons B: Applying Ideas; Evaluating Pros and Cons
A: Identifying Pros and Cons (2) B: Identifying an Author's Opinion	A: Collocations with steep B: Word forms: verb, noun, adjective	A: Evaluating Pros and Cons B: Applying Ideas; Synthesizing
A: Understanding Vocabulary: Compound Words B: Inferring Information (1)	A: Word root nov B: Collocations with dense	A: Interpreting Meaning B: Synthesizing Ideas; Applying Ideas
A: Applying Information from a Text B: Recognizing Text Coherence	A: Word root down B: Collocations with aid	A: Evaluating Pros and Cons B: Applying Ideas; Evaluating Pros and Cons
A: Identifying Text Organization B: Recognizing Lexical Cohesion (1)	A: Collocations with vast B: Word root nounce	A: Applying Concepts B: Evaluating Using Criteria; Synthesizing Ideas
A: Inferring Information (2) B: Recognizing Lexical Cohesion (2)	A: Word root sen(s) B: Word root nat	B: Evaluating Evidence; Evaluating Pros and Cons; Synthesizing
A: Understanding Vocabulary: Phrasal Verbs B: Understanding Appositives	A: Prefix -ize B: Collocations with precious	A: Evaluating Challenges B: Speculating; Synthesizing

3A

BEFORE YOU READ

PREVIEWING A. How much do you know about koalas? Read each sentence (1–3) and circle the answer.

1. A koala's diet consists mainly of **tree nuts** / **tree leaves**.
2. Baby koalas live for several months **with their father** / **in their mother's pouch**.¹
3. There used to be 10 million koalas in the wild. Today, there are about **80,000** / **800,000** koalas left in the wild.

PREDICTING B. Read the title and headings in the passage. Why do you think koalas are at risk? List some possible reasons. Check your ideas as you read the passage.

1. A pouch is a pocket-like place.

RACING TO RESCUE KOALAS

It's two in the morning, and a koala is caught on a fence, like a prisoner trying to escape. A phone rings in the home of Megan Aitken in a suburb of Brisbane, on the east coast of Australia. Aitken runs a volunteer organization devoted to rescuing wild koalas. Before she is told the location, she has already thrown her clothes over her pajamas, ready to head out.

When Aitken arrives on the scene, two other volunteers—Jane Davies and Sandra Peachey—are already there. They discover that the koala's fur is caught in the barbed wire.¹ Nearby, they notice tall eucalyptus trees. "He was obviously trying to get to the trees on the other side," Aitken says.

Aitken puts on heavy gloves. Despite their cute appearance, koalas can be ferocious when resisting capture. If they feel threatened, they bite, and Aitken has the scars to prove it. The volunteers get to work. Davies throws a blanket over the animal, while Peachey opens the lid of a cage. Aitken firmly grasps the koala through the blanket, frees it from the fence, and drops it in the cage.

Next, they check the animal's physical condition. If the koala is sick or injured, it may need to be taken to an animal hospital. If the koala is healthy—like this one—it is normally released where it is found. Koalas tend to live in a small area, and often eat from the same trees over and over.

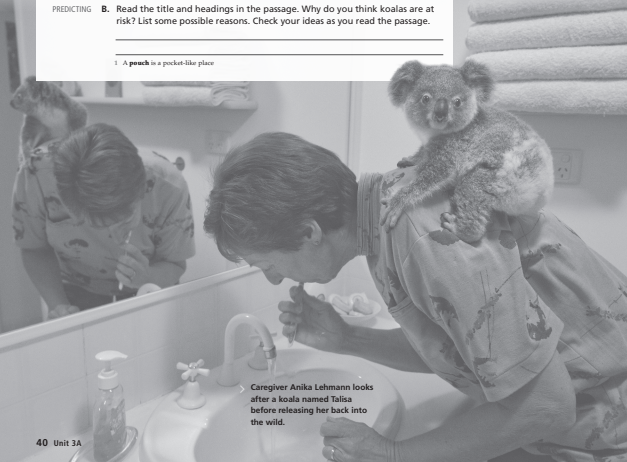
Right now, however, Aitken and the rescued koala are in a suburb with almost no trees. "This is the whole problem," Aitken says. "There are so few places left for the koala." In the end, Aitken takes the animal to a small park nearby and releases him. "Good luck, little one," she says.

Koalas at Risk

"Koalas are getting caught in fences and dying," explains Deirdre de Villiers, a koala researcher in Queensland, Australia. Others are being killed by dogs or struck by vehicles, she says. Some even die "simply because a homeowner cut down several eucalyptus trees in his backyard."

For 13 years, de Villiers has been studying koalas and the reasons for their disappearance. She is also working on ways to make suburban areas more koala-friendly. De Villiers believes that koalas and humans can live together, if certain changes are made. She recommends reducing speed limits on streets and creating more green areas for koalas to live in. Even more important is the need to preserve eucalyptus trees.

1. Barbed wire has sharp pieces of metal attached to it; it is often used to make fences.



Caregiver Anika Lehmann looks after a koala named Talia before releasing her back into the wild.

40 Unit 3A

Unit 3A 41

4 Turn to one of the **Reading Passages** (e.g., Student's Book 3 page 41). The passages are adapted from authentic National Geographic sources, which are listed in the Credits at the back of the Student's Book. Each passage is also available as an audio recording in the **DVD/Audio CD Package** and on the **Classroom Presentation Tool**, providing a useful model for pronunciation. Useful, high-frequency words, aligned with the CEFR, are highlighted in each reading passage.

5 Check out the **Video clips** on the **DVD/Audio CD Package**. The clips can be used with the **Video** section at the end of each Student's Book unit, and also with the video comprehension activities in the **Online Workbook**.

6 The following **support components** are available for each level of the series:

- **Online Workbook** featuring the 12 video clips from the Student's Book and a variety of interactive, self-grading activities.
- **Classroom Presentation Tool** with answer keys for the Student's Book activities and extra practice questions for target vocabulary.
- **Student's eBook** as a digital version of the Student's Book.
- An **Assessment Suite** containing ExamView® question banks is available for teachers who want to create customized tests or give students additional language practice.

7 A **Website** is also available at ELTNGL.com/readingexplorerseries. It contains audio recordings of the 24 reading passages, 12 video clips from each unit, video scripts of each video, a list of key vocabulary for that particular level, class worksheets, graphic organizers, ExamView® question banks, and the Teacher's Book.

INSTRUCTIONS ▲
Watch the video. Complete the summary.



communicate take care of behavior smaller extinct large

As most people are aware, the lion is a _____ cat. Lions can weigh several hundred pounds and grow to be over 10 feet long. But lions have many other interesting qualities.

For one thing, a lion's roar is very loud. Lions roar for different reasons; for example, to _____ with other lions and to keep other lions away from their territory. Another aspect of lion _____ is that they live in groups called prides. Prides usually consist of one male and several females. Prides work together to find food and _____ their offspring.

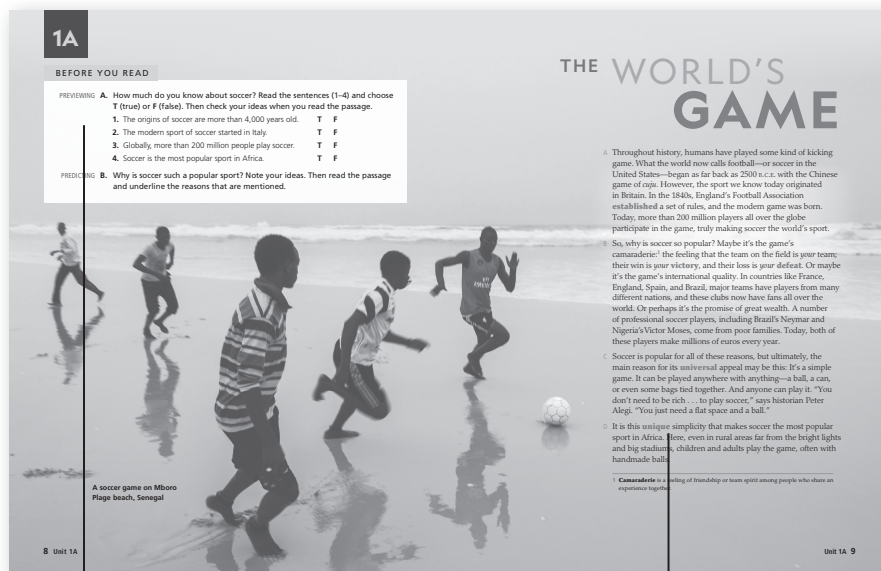
In the past, there were several lion species, but today, most are _____. Only two types remain, the African lion and the Asiatic lion. Sadly, today's lion population is getting _____ due to a combination of illness, hunting, and human impact on their habitats.

Show Answers Submit

UNIT WALKTHROUGH

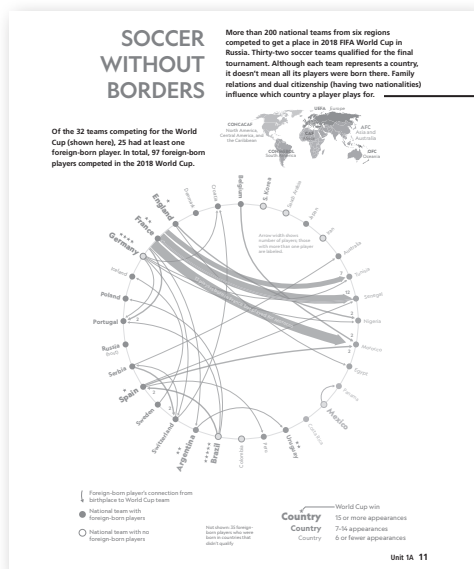


Warm Up discussion questions raise learners' interest in the unit theme and activate prior knowledge.



Before You Read tasks introduce key terms that learners will encounter in the reading passage, and develop previewing skills such as skimming and making predictions.

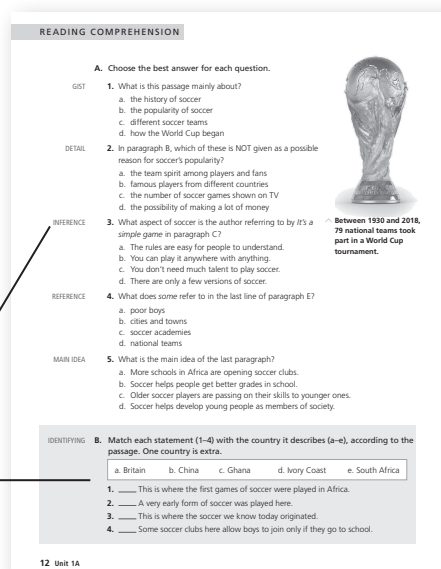
Each **Reading Passage** is adapted from an authentic National Geographic source. **Target vocabulary** is carefully selected in line with CEFR leveling.



Infographics, maps, and charts support the reading passages and develop learners' visual literacy.

Reading Comprehension activities include various types of multiple choice questions (e.g., main idea, detail, reference).

This section also features **exam-style question types** commonly encountered in standardized tests such as IELTS and TOEFL®. An index of question types is at the back of the Student's Book.



READING SKILL

Analyzing Infographics (1)

An infographic is a visual representation of information. It condenses a large amount of information into a combination of images, words, and numbers. Look for information in keys and captions, and other clues, such as the use of colors and lines, to help you understand how the parts of the infographic relate to each other.

ANALYZING INFOGRAPHICS

A. What information can you get from the "Soccer Without Borders" infographic? Check (✓) all that are true.

- ☐ a. how many teams with foreign-born players took part in the 2018 World Cup
- ☐ b. the number of foreign-born players in each team
- ☐ c. how far foreign-born players traveled to get to the World Cup

B. How does the infographic present its information? Match each feature (1-5) with the information it shows (a-e).

1. width of arrows	• a. World Cup wins
2. direction of arrows	• b. World Cup appearances
3. size of country names	• c. regional confederation
4. color of country names	• d. number of foreign-born players from one country
5. the stars above country names	• e. player's country of birth to the country they play for

ANALYZING INFOGRAPHICS

C. Choose T (true) or F (false) for each statement about the infographic.

1. France has won the most World Cups.	T	F
2. South Korea has appeared in the World Cup finals more than six times.	T	F
3. Colombia had no foreign-born players in 2018.	T	F
4. Three players born in England played for Nigeria.	T	F

CRITICAL THINKING Evaluating Reasons

In paragraph A the writer states that soccer is "truly... the world's sport." What evidence is given to support the claim? Find and copy two examples from the reading passage.

Unit 14 13

Reading Skill sections provide learners with the tools they need to become effective and critical readers. Core reading skills are recycled and reinforced throughout the book.

Critical Thinking sections challenge learners to analyze, evaluate, and reflect on what they've read, and form their own opinions.

Vocabulary Practice sections focus on the target vocabulary items from the reading passage.

This section also provides **expanded vocabulary practice** focusing on collocations, word usage, and word families.

VOCABULARY PRACTICE

COMPLETION A. Complete the information. Choose the correct words.

In 2015, the Women's World Cup final attracted the biggest TV audience for a soccer game in U.S. history. But women's soccer wasn't always so popular. The big step forward came in 1991 when FIFA 'recruited' / established the Women's World Cup. In the final of that tournament, striker Michelle Anne Alex led the United States to 'victory' / unity over Norway. Four years later, Norway 'defeated' / established Germany in the final. Then, in 1996, 'competitors' / unity from eight countries played in the first-ever women's soccer event at the Olympics. Since then, women's soccer has gone from strength to strength. Partly this is due to the popularity of world-class players like Marta from Brazil, Japan's Homare Sawa, and Ada Hegerberg from Norway. Top players with a 'recruit' / passion for the sport are 'universal' / responsible for helping make women's soccer hugely popular today.

DEFINITIONS B. Complete the sentences. Choose the correct options.

- If you recruit someone to an organization, you want them to
 - a. join
 - b. organize
- Something that is unique is
 - a. not as good as others
 - b. the only one of its kind
- If something is universal, it relates to
 - a. few people
 - b. all people
- When there is unity, people
 - a. act together
 - b. go separate ways

WORD LINK C. The prefix *uni-* in words such as *unity* means "one" or "single." Complete the sentences with the correct word from the box.

uniform unite unique universal

- In U.S. baseball, many teams have a home _____ that is mostly white.
- A successful sports team can _____ a city or country.
- Gaelic football is a sport _____ to Ireland.
- Researchers believe the desire to play and be entertained is _____.

Unit 14 14



- How does a person become an Olympic champion—someone capable of winning the gold? In reality, a combination of biological, environmental, and psychological factors, as well as training and practice, all go into making a super athlete.
- Perhaps the most important factor involved in becoming an elite athlete is genetic. Most Olympic competitors are equipped with certain physical characteristics that differentiate them from the average person. Take an elite athlete's muscles, for example. In most human skeletal muscles (the ones that make your body move), there are fast-twitch fibers* and slow-twitch fibers. Fast-twitch fibers help us move quickly. Olympic weightlifters, for example, have a large number of fast-twitch fibers in their muscles—many more than the average person. These allow them to lift hundreds of kilos from the ground and over their heads in seconds. Surprisingly, a large, muscular body is not the main requirement to do well in this sport. It is more important to have a large number of fast-twitch fibers in the muscles.
- The legs of an elite marathon runner, on the other hand, might contain up to 90 percent slow-twitch muscle fibers. These generate energy efficiently and enable an athlete to control fatigue and keep moving for a longer period of time. When we exercise long or hard, it's common to experience tiredness, muscle pain, and difficulty breathing. These feelings are caused when the muscles produce high amounts of a substance called lactate and can't remove it quickly enough. Athletes with many slow-twitch muscle fibers seem to be able to clear the lactate from their muscles faster as they move. Thus, the average runner might start to feel discomfort halfway into a race. A trained Olympic athlete, however, might not feel pain until much later in the competition.
- For some Olympic competitors, size is important. Most male champion swimmers are 180 cm or taller, allowing them to reach longer and swim faster. For both male and female gymnasts, though, a smaller size and body weight mean they can move with greater ease, and are less likely to suffer damage when landing on the floor from a height of up to 4.5 meters.
- Some athletes' abilities are naturally enhanced by their environment. Those raised at high altitudes in countries such as Kenya, Ethiopia, and Morocco have blood that is rich in
- must train to reach and maintain their goals. Weightlifters and gymnasts perfect their skills by repeating the same motions again and again until they become automatic. Greg Louganis, winner of four Olympic diving gold medals, says divers must train the same way to be successful. "You have less than three seconds from takeoff until you hit the water, so you have to be perfect. You have to repeat the dives hundreds, maybe thousands, of times." Training this way requires an athlete to be not only physically fit but psychologically healthy as well. "They have to be," says Sean McCann, a sports psychologist at the Olympic Training Center in the United States. "Otherwise, they couldn't handle the training loads we put on them. [Athletes] have to be good at setting goals, generating energy when they need it, and managing anxiety."
- How do athletes adjust to such intense pressure? Louganis explains how he learned to control his anxiety during a competition: "Most divers think too much. ...," he says. "They're too much in their heads. What worked for me was humor. I remember thinking about what my mother would say if she saw me do a bad dive. She'd probably just compliment me on the beautiful splash."

A **second reading** in each unit expands learners' knowledge of the unit theme and further builds vocabulary. Reading B is also followed by Reading Comprehension, Reading Skill, and Vocabulary Practice sections.

VIDEO

SPORT CLIMBING

A climber tackles a steep rock face in France's Verdon Gorge.

BEFORE YOU WATCH

DEFINITIONS A. Read the information. The words in **bold** appear in the video. Match each word or phrase with its definition.

Sport climbing is a form of rock climbing. Whereas traditional rock climbers use removable hooks, or **anchors**, as they climb, sport climbers rely on using permanent anchors fixed to the rock. A popular place for sport climbing is Yosemite National Park in California, where climbers **push the limits** to set new routes and reach new heights. Less experienced sport climbers train on indoor climbing walls in a **gym** before going out onto a **rock face**. Now a popular global activity, sport climbing has also become an Olympic event, starting with the 2020 Summer Olympics in Tokyo.

1. anchor	• a. to try to do something better than before
2. push the limits	• b. an indoor place where people exercise
3. gym	• c. a vertical surface area on a cliff or mountain
4. rock face	• d. a device used in climbing for attaching a climber to a surface

Video 21

Each unit concludes with a **video** related to the unit theme, supported by previewing and viewing activities.

WHILE YOU WATCH

QUEST A. Watch the video. Which of the following is/are true about the Verdon Gorge, according to the video? Choose the best answer(s).

- It has been a popular climbing destination for over a hundred years.
- It is an important place in the history of rock climbing.
- It has been called the Yosemite Valley of Europe.

COMPLETION B. Watch the video again. Complete the timeline of events in the history of Verdon. One item is extra.

a. large cracks	b. overhanging rocks	c. rock faces	d. training grounds
-----------------	----------------------	---------------	---------------------

1960s Verdon Gorge is thought to be impossible to climb.

1970s Climbers start climbing Verdon using a few _____ in the rock.

early 1980s New technology enables climbers to move out onto flat _____.

mid-1980s A challenging new route is created using _____.

CRITICAL THINKING Evaluating Reasons Discuss answers to the questions with a partner.

Consider sport climbing or another extreme sport. Why do you think people enjoy doing it? What are the main challenges and rewards?

What kind of personality traits do you think a rock climber needs? Why?

VOCABULARY REVIEW

Do you remember the meanings of these words? Check (✓) the ones you know. Look back at the unit and review any words you're not sure of.

Reading A

☐ competitor	☐ defeat	☐ establish*	☐ passion	☐ recruit
☐ responsible	☐ unique*	☐ unity	☐ universal	☐ victory

Reading B

☐ adjust*	☐ automatic*	☐ champion	☐ differentiate*	☐ elite
☐ enhance*	☐ generate*	☐ genetic	☐ psychological*	☐ require*

* Academic Word List

22 Video

Critical Thinking encourages learners to connect the video's content with what they have learned in the rest of the unit.

Vocabulary Review sections give learners the chance to check their understanding of the unit's target vocabulary. Extra practice activities can be found on the Classroom Presentation Tool.

PACING GUIDE

One unit of *Reading Explorer* typically takes between 2.5–3 hours to complete. All 12 units require approximately 30–36 hours.

By setting aside portions of each unit as homework, or by using extension activities and ancillaries, the length of a *Reading Explorer* course can be adapted to suit a wide range of course durations. Here are some examples:

Recommended Course

- Total course length = **36 hours** (1 unit = 3 hours)
- 12-week course = 3 hours of instruction per week
- 24-week course = 1.5 hours of instruction per week
- This option assumes that the teacher covers all Student's Book content in class. Supplementary activities are given as homework.

Short Course

- Total course length = **24 hours** (1 unit = 2 hours)
- 12-week course = 2 hours of instruction per week
- 24-week course = 1 hour of instruction per week
- This option assumes that the teacher does not use the Student's Book video activities in class. Other sections of the Student's Book (e.g., Vocabulary Practice) are given as homework.

Longer Course

- Total course length = **48 hours** (1 unit = 4 hours)
- 12-week course = 4 hours of instruction per week
- 24-week course = 2 hours of instruction per week
- This option assumes that the teacher covers all Student's Book content in class. Lessons are often extended using supplementary worksheets from the *Reading Explorer* website.

Extended Course

- Total course length = **60 hours** (1 unit = 5 hours)
- 12-week course = 5 hours of instruction per week
- 24-week course = 2.5 hours of instruction per week
- This option assumes that the teacher covers all Student's Book content in class. Supplementary worksheets are used in each lesson. ExamView® quizzes are used regularly to monitor students' progress.

SPORTS AND FITNESS



UNIT INTRODUCTION

This unit focuses on the benefits and challenges of being an athlete. In “The World’s Game,” students read about the popularity of soccer throughout the world and consider how it can help contribute to a better society. In “What Makes an Olympic Champion?” students read about the physiological and psychological factors common to elite athletes. In “Sport Climbing,” students will watch a video about a form of rock climbing, which is now an Olympic event. Students will also read about women’s soccer and Diana Nyad’s swim from Cuba to Florida.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *FIFA (women’s) World Cup, African soccer, Paralympic Games, Olympic Games, twitch muscle fibers, high-altitude training, sports psychology, sport climbing*

WARM UP

Answer Key

Possible answer(s):

1. Student’s own answers. **2.** I think the fittest athletes are the ones who work out all of their muscle groups and train for endurance, such as runners and swimmers.

TEACHING NOTES

Note that the Warm Up introduces the main idea of the unit and helps activate the students’ background knowledge on the topic(s).

Sports is one of the most popular activities around the world, but only a small percentage of

athletes will end up taking it to the highest level of competition.

- Read aloud the Unit Title as students look at the photo. Make the connection between sports and fitness and how the athlete in the photo looks physically.
- Read aloud the caption and explain the words *visually impaired*, *wind tunnel*, and *Paralympic Games*.
- Discuss what the skier in the photograph is doing to prepare for the sport. Ask: *What other ways do athletes prepare for their sports?*
- Have students discuss the questions with a partner and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *competitor, defeat, establish, passion, recruit, responsible, unique, unity, universal, victory*

Reading Passage Summary: Soccer is known as “the world’s game,” and according to *The World Football Report*, it’s the most popular sport in the world. Not only is it a great spectacle to watch, it can also be used as a means of overcoming social problems by bringing people together to celebrate. In Africa, many soccer academies today recruit boys from poorer cities and towns, which helps to overcome problems such as poverty and discrimination. At a practical level, soccer also promotes national unity and is instrumental in helping ensure that many young people continue to attend school.

Answer Key

Before You Read

A. 1. T; 2. F (Britain); 3. T; 4. T

B. Possible answer(s): camaraderie, international appeal, promise of wealth, simplicity, keeping children out of trouble

Reading Comprehension

A. 1. b; 2. c; 3. b; 4. a (line 10); 5. d

B. 1. e; 2. b; 3. a; 4. c

Reading Skill

A. a, b

B. 1. d; 2. e; 3. b; 4. c; 5. a

C. 1. F (Brazil has); 2. T; 3. T; 4. F (two players)

Critical Thinking

Possible answer(s): Soccer clubs now have fans all over the world. Many soccer players come from poor families. It’s a simple game. Anyone can play it. It unifies people.

Vocabulary Practice

A. 1. established; 2. victory; 3. defeated; 4. competitors; 5. passion; 6. responsible

B. 1. a; 2. b; 3. b; 4. a

C. 1. uniform; 2. unite; 3. unique; 4. universal

TEACHING NOTES

Before You Read



A. Previewing: Have students brainstorm what they know about the game of soccer in general. Then have students work individually to answer the questions. Explain that they may not know the answers at this point, but will find them in the passage.

B. Predicting: Ask students to think of reasons for soccer’s popularity and note them down, then read the passage and underline any reasons that match their predictions. Ask the class about things they predicted that do not seem to be covered in the reading.

Reading Comprehension



A. Multiple Choice: As this is the first check on reading comprehension for this book, draw students’ attention to the labels in the left column next to the questions. In accordance with standardized language tests that students will take in the future, each question has an objective that is identified. Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 1: Although page 10 focuses on soccer in Africa, the main idea of the passage is the popularity of the game. The title “The World’s Game” and the heading on page 10, “A Love for Soccer,” tell us that the passage is about its popularity around the world.
- Question 2: “Camaraderie” is mentioned as team spirit, so option “a” is mentioned in the paragraph.
- Question 5: Although the paragraph implies that young people get better grades in school, the bigger picture is that soccer helps young people in many ways outside of school, too. Young

people become more responsible members of society, so the correct answer is option “d.”

B. Identifying: Have students complete the activity individually, then check their answers in pairs. Ask them to locate the information in the text.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph on **Analyzing Infographics (1)**. Level 3 *Reading Explorer* teaches students two different ways of analyzing infographics. Explain that infographics contain a large amount of information, but are designed to display the information in a clear visual way. Point out the infographic on page 11 to illustrate how important it is to read the keys and captions and look for other clues such as color and lines to help understand what information is there.

A. Analyzing Infographics: Have students read all three sentences carefully before looking back at the infographic. Ask questions to make sure they are focusing on the details that each sentence refers to. For instance, ask: *What is special about the teams in option “a”?*

B. Analyzing Infographics: Have students look at the features in the left column and find an example of each one in the infographic before matching the answers. Have students check answers in pairs.

C. Analyzing Infographics: Have students answer the questions individually, then check answers in pairs. Have them correct the false statements.

Critical Thinking

Make sure students understand the expression “truly ... the world’s sport.” In small groups, have them give an example of what they think makes soccer the world’s sport before looking back at the passage. Have students find evidence individually, then meet again in their small groups to compare answers.

Challenge: Write the following question on the board for students who have completed the comprehension and reading skill activities:

Who are the most famous professional soccer players from your country? How many of them play for clubs in their home country? How many have moved abroad? Use the Internet to research players if necessary.

Vocabulary Practice

A. Completion: This paragraph is about the growth in popularity of women’s soccer. Direct students attention to the photo and caption next to activity A, and then have the students do the activity. Note that the activity focuses on the meaning of the vocabulary within context, not on reading comprehension. Ask students to work in pairs to circle the target words (those in red) in the reading passage on pages 9–10 to notice how they are used. Then ask students to compare answers with their partner.

- Question 1: A person is *recruited* and an event is *established*.
- Question 4: The concrete noun *competitors* means people who want to win. *Unity* is an abstract noun which describes the idea of being one or connected.

B. Definitions: Have students complete the sentences by choosing the correct answers. Ask students to check answers with a partner.

C. Word Link: Have students do activity C, then check answers with a partner. The prefix *uni-* means “one,” so ask about how each of the example words has the sense of one. Note that *unique* means “one-of-a-kind—so special that something *unique* is the only example of that thing.” Therefore, caution students to avoid saying “very *unique*,” encourage them to use “very *unusual*” instead. If time allows, have students make a new sentence with each word.

LESSON OVERVIEW

Target Vocabulary: *adjust, automatic, champion, differentiate, elite, enhance, generate, genetic, psychological, require*

Reading Passage Summary: An Olympic champion has to have given the performance of their lifetime in order to win the gold medal. In order to achieve this highest honor, the athlete will have put in years of training and practice to reach this elite level of competition. It requires physical and mental strength, determination, and endurance—some of the biological, environmental, and psychological factors that go into the making of an Olympic champion.

Answer Key

Before You Read

- A. 1.** athletes; **2.** competition; Olympics;
3. medals
B. Possible answer(s): strength, determination, endurance, money, talent

Reading Comprehension

- A. 1.** b; **2.** a (Para C); **3.** c (Para C); **4.** d;
5. b (Para G)
B. Marathon runners: b, f; **Gymnasts:** c, d;
Both: a, e

Reading Skill

- A. 1.** number (180 cm or taller); **2.** place (Kenya, Ethiopia, Morocco); **3.** name (oxygen);
4. person (Greg Louganis); **5.** place (the Olympic Training Center in the United States)
B. 1. T; **2.** T; **3.** F (She's won several marathons.);
4. F (They take less than three seconds.)

Critical Thinking

Possible answer(s): **diet:** athletes that eat a lot of protein might build more muscles; **education:** athletes who train and study might have more balanced lives. Perhaps this may help them to improve their performance; **family:** athletes with a close family might get more support and help; **gender roles:** male athletes might have more opportunities than female athletes

in some sports; **religion:** some religions might focus more on a healthy lifestyle by not drinking alcohol or participating in certain activities.

Vocabulary Practice

- A. 1.** elite; **2.** required; **3.** enhanced;
4. differentiated; **5.** adjustments;
6. psychological
B. 1. champion; **2.** generate; **3.** genetic;
4. adjust; **5.** automatic
C. 1. anthropology; **2.** biology; **3.** geology

TEACHING NOTES

Before You Read

Ask students what they know about the Olympics. Write columns for summer and winter sports on the board, and have the class list as many Olympic sports as they know. Then have someone search the Internet to find a complete list of Olympic sports. Ask where the Olympics were held in recent years and where they will be held next. Has anyone in class attended the Olympics?

A. Completion: Have students read the photo caption and use the words in bold to complete the sentences. Check answers as a class.

B. Predicting: Encourage students to read the title and to look at the photograph on this page. Have students discuss the qualities necessary to become an Olympic champion. Ask students to list five factors in order of importance before sharing their ideas with a partner. Explain that they will read about possible factors in the article.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Note that cycling is an endurance sport, similar to running, as mentioned in the reading. The other three sports require sudden actions.
- Question 4: Although marathon runners and divers need to train, the paragraph is about all athletes, in general.
- Question 5: Greg Louganis says that divers must train by repeating the dives maybe thousands of times, but also says that many divers think too much—are too serious. His way of dealing with this is to use humor, but all athletes should have their own way of dealing with it (option “d” is too specific). We can infer from this that Greg Louganis would agree with option “b.”

B. Classifying: Have students refer to the passage and add the characteristics to the Venn diagram. Explain that a Venn diagram is a useful way to compare categories to find out what they have in common and which traits are unique. Make sure students understand that the overlapping part of the two circles refers to “both.” Ask the students to check answers in pairs.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph on **Scanning for Specific Information**. Explain that scanning means to look quickly to find specific information. Often this information is data in the form of a name, place, date, number, or reason. Remember that headers can be helpful in locating specific items. Decide what information you need to find first. After you have scanned and found it, read the whole sentence. As students practice scanning, watch their eyes to make sure they are reading over several lines at a time instead of word-for-word.

A. Scanning: Have students determine what kind of information they need to find by identifying key words (*the height, three countries, the chemical*

element, the person, the place). Elicit the type of information when checking answers as a class.

B. Scanning: Have students complete the activity individually. Although students may be able to answer the true/false questions easily, ask them to scan the text and circle the information.

Critical Thinking

Have students identify the details in paragraph E that refer to environmental and cultural factors (high altitude, having to run to school every day). Allow students time to take some notes on how the factors in the box might have an effect on an athlete. Pair students from different backgrounds (countries), if possible, to discuss their ideas.

Vocabulary Practice

A. Completion: This passage is about swimmer Diana Nyad becoming the first woman to swim from Cuba to Florida. Have students complete the information with the correct form of the words from the box. Point out that *adjust* and *enhance* both refer to some type of change, but the connotation of *enhance* is positive (to make something better). Check answers as a class. Choose a volunteer to read aloud the completed passage to the class.

Challenge: Have students discuss the following question:

Why do you think Diana Nyad wanted to swim from Cuba to Florida?

B. Definitions: Have students do activity B. Point out that there will be five extra words. Check answers as a class.

C. Word Link: Have students brainstorm words ending in *-ology* before beginning the activity. Have students complete activity C individually and then compare answers in pairs.



Video Summary: The video tells the story of how the beginning of sport climbing, now a popular extreme sport, can be traced back to the walls of the Verdon Gorge in France almost 40 years ago. Until the 1980s, the only way to climb the gorge was using cracks in the rocks. With the availability of power drills, climbers began to fix permanent anchors allowing more challenging routes to be climbed over previously inaccessible rock faces in the gorge. This set the pace for the direction of sport climbing to the discipline it is today.

Key Vocabulary: *anchor, gym, push the limits, rock face*

Answer Key

Before You Watch

A. 1. d; 2. a; 3. b; 4. c

While You Watch

A. b, c

B. 1. a; 2. c; 3. b

Critical Thinking

- ▶ Possible answer(s): I think people enjoy extreme sports because it's challenging and they like taking risks. The main challenge is the cost of expensive equipment such as parachutes and harnesses. The reward is the feeling of exhilaration, as though you're on top of the world!
- ▶ Possible answer(s): I think a rock climber needs to be brave, strong-willed, determined, and very energetic because some rocks are very steep and high. A rock climber can't give up in the middle of a climb.

moving. In this context, *push the limit* is used in a positive way, but it can also have a negative connotation (*The student pushed the limit when he refused to do his homework*).

While You Watch

A. Gist: Have students read the statements in preparation for selecting the answer while watching the video. Play the video. Check answers with the class.

B. Completion: Play the video again. Have students complete the timeline and compare answers with a partner. If necessary, play the video through a third time and then check answers as a class.

Critical Thinking

- ▶ In small groups, have students brainstorm different types of extreme sports and discuss why people enjoy doing them. Have students make a list of challenges and rewards, then discuss whether the challenges outweigh the rewards in their opinion.
- ▶ Have students make a list of personal traits a rock climber needs, noting reasons why each trait is important.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

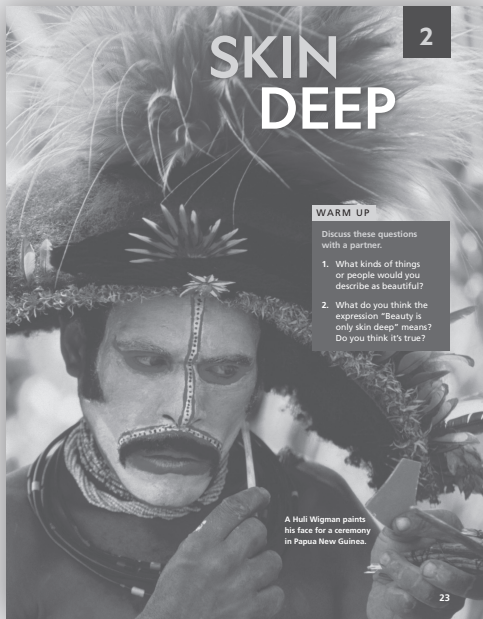
TEACHING NOTES

Before You Watch

A. Definitions: Have students complete activity A individually, then compare answers with a partner. An *anchor* is also the name of the part of a ship that is thrown overboard to keep the ship from

SKIN DEEP

2



UNIT INTRODUCTION

This unit focuses on the concept of beauty. In “What is Beauty?” students read about how people define what is beautiful and consider whether beauty is culture-specific or uniform around the world. In “Skin: The Body’s Canvas,” students read about different ways cultures around the world have decorated their skin as a way to show their identity. In “The Beauty of Ugly Food,” students will watch a video about fruit that is thrown away because it doesn’t look perfect, and what people are doing to stop the needless waste. Students will also read about The Body Shop’s founder Anita Roddick’s mission to protect the environment, and how tattooing is part of the Iban tribe’s culture.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *beauty and culture, cosmetic surgery, tattoo, scarring, henna body art, ugly food*

WARM UP

Answer Key

Possible answer(s):

1. I think long, thick hair and gold jewelry are beautiful.
2. I think the expression means that a person can look beautiful on the outside but their personality might not be very nice.

TEACHING NOTES

For centuries many cultures have used face painting as a way to decorate themselves for a variety of ceremonies and rituals. The paint is traditionally made from natural materials, although today many cultures have started using Western-style cosmetics.

- Read aloud the Unit Title as students look at the photo. Discuss the concept of skin and ask students: Is skin thick or is it thin? (It is thin.) Make a connection between their answer and the phrase *skin deep*. Have students describe the man’s face and give their opinion on how it looks.
- Read aloud the caption and explain that the Huli Wigmen are a tribe in Papua New Guinea and this is one man from the Huli tribe. Point out Papua New Guinea on the map.
- Have students discuss the questions with a partner and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *associate with, conform, consumer, desire, devote, feature, gender, notion, subjective, uniform*

Reading Passage Summary: Beauty is loosely defined as “the quality in a person that gives pleasure to the senses,” and can refer to shape, size, color, or form. But what is it exactly that makes someone beautiful? Some people believe there is a universal idea of beauty, while others believe it is culture-specific. Regardless, many people spend a lot of time and money on their own appearance to live up to what they think beauty is.

Answer Key

Before You Read

- A.** Possible answer(s): I think good-looking people have easier lives than other people because they are more confident, which leads to them getting better jobs and making more money.
- B.** Possible answer(s): **1.** I don’t think people around the world have similar ideas about beauty because different cultural groups have their own individual and unique features.
2. I think society influences how we perceive beauty because fashion magazines and popular culture set the standard for what is considered beautiful.

Reading Comprehension

- A. 1.** a; **2.** c (Para A); **3.** d; **4.** b; **5.** b (Para F)
B. 1. E; **2.** D; **3.** C; **4.** B; **5.** F; **6.** A

Reading Skill

- A. 1.** nails; **2.** wigs; **3.** three; **4.** Billions; **5.** Six
B. Possible answer(s): The writer supports the claims by giving expert opinions (Victor Johnston at New Mexico State University ...) and examples (the women in Western magazines are thin, but native people in southeast Peru prefer a larger shape).

Critical Thinking

- Possible answer(s): I think the expression means option “a,” because every person sees things differently. The “eye of the beholder” means the eye of the person who is looking, and everybody sees things in a different way.
- Possible answer(s): One example is that I really like short hair, and so when Allison cut her long hair short, I thought it looked great. But Maria thought it looked awful. We all have our own opinions about what is beautiful.

Vocabulary Practice

- A. 1.** conform; **2.** notion; **3.** devoted;
4. consumers; **5.** associated with
B. 1. uniform; **2.** genders; **3.** features;
4. subjective; **5.** desire
C. 1. uniform; **2.** conform; **3.** transformed;
4. formatted

TEACHING NOTES

Before You Read



A. Discussion: Have students read the statements and choose the ones they agree with, and then discuss their opinions with a partner.

B. Previewing: Have students work in pairs to answer the questions, then read the passage individually to check their answers.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Note the term *crossed eyes*, a term that is defined in the footnotes. Footnotes are given to clarify words essential to the meaning

of the reading passage. These glossed words and phrases are usually not high-frequency vocabulary, unlike the highlighted target vocabulary that is developed in each lesson and recycled throughout the book.

- Question 4: The word *predominantly* means “mostly” or “the majority of something.” *Hardly* means “not much,” *exactly* means “equal to,” and *probably* means “not 100 percent.”

B. Scanning for Information: Remind students that they learned about scanning for specific information in the reading skill in Unit 1B. If necessary, have students turn back to that section of the Student Book and review this skill again. Have students scan paragraphs (A–F) to match them with each piece of information (1–6). Point out that a *time frame* here refers to a chunk of history. Ask students what words or details they scanned for to find the answers. Check answers as a class.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Analyzing a Writer’s Claims**. Even though a claim can be an opinion, it still needs to have validity. Make sure students understand that in order for a claim to be taken seriously, it needs to be supported with facts (reasons, examples, statistics, and expert opinions).

A. Analyzing Claims: Remind students that they practiced scanning again in activity B on page 28. Have students read each claim in activity A and think about what type of specific detail will help support it (a number, a place, a person, etc.). Have students look back at paragraphs A–C to complete the notes, then check their answers with a partner.

B. Analyzing Claims: Refer students to paragraphs D and E and have them state the writer’s claim in each paragraph. Have them underline any reasons, examples, statistics, or expert opinions that help support these claims.

Critical Thinking

- Have students find the expression in the passage and reread it in context. Have them use the definition of *behold* from the footnote to figure out the meaning of *beholder*. In pairs, have them choose the correct answer
- Have students work in small groups to come up with examples to support the opinion and then share their ideas with the class

Vocabulary Practice

A. Completion: This paragraph is about Anita Roddick—founder of The Body Shop—whose mission was to protect the environment through her ethically run business and charity work. Direct students’ attention to the photo and caption next to activity A. Have students complete the information using the correct form of the words or phrases in the box, and then compare answers with a partner. Choose a volunteer to read the completed paragraph aloud to the class.

B. Completion: Have students complete each sentence using the correct form of the words in the box. Remind students that one word is extra. Check answers as a class.

C. Word Link: Have students complete activity C individually and then check answers in pairs. Remind students that one word is extra. The noun *uniform* refers to a distinctive set of clothes that people wear to work or to school. Requiring people to wear a uniform makes a group all look the same way, and so the adjective *uniform* means “the same.” If time allows, have students write a new sentence for each word.

LESSON OVERVIEW

Target Vocabulary: *criminal, crucial, external, fade, leisure, mature, permanent, protective, sector, status*

Reading Passage Summary: Our body's largest organ, our skin, is the only one on permanent display. Throughout time, people have decorated their skin as a way to communicate specific things about themselves to others—through lightening or darkening it, tattooing it, scarring it, or using henna. This has been done for centuries to show status in many communities around the world. Many of these practices continue today; some are gaining popularity in many industrialized nations throughout the world.

Answer Key

Before You Read

- A.** Possible answer(s): tattooing, painting, piercing, scarring
B. Possible answer(s): People think tattoos make them look more beautiful; In some cultures, tattoos are part of a ritual.

Reading Comprehension

- A.** 1. b; 2. b (Para C); 3. a (Para D); 4. a; 5. c (Para F)
B. 1. 1.9 square meters (Para A); 2. any one of the following: extremes of temperature / damaging sunlight / harmful chemicals / dangerous infections; 3. Chris Rainier (Para G)

Reading Skill

- A.** 1. a; 2. a; 3. b
B. Possible answer(s): Paragraph D: negative connotations of tattooing; Paragraph E: reasons for scarring; Paragraph F: nonpermanent markings

Critical Thinking

- Possible answer(s): wear particular styles of clothes; wear heavy makeup; wear jewelry; grow their fingernails; change their hairstyle; get piercings; shave their eyebrows

- I've expressed my identity by dyeing my hair different colors—sometimes red, green, or blue.

Vocabulary Practice

- A.** 1. crucial; 2. protective; 3. permanent; 5. fade; 6. sector
B. 1. b; 2. b; 3. b; 4. b; 5. a
C. 1. damage; 2. address; 3. resident; 4. basis

TEACHING NOTES

Before You Read

A. Discussion: Students work with a partner to brainstorm ways in which people can change the appearance of their skin. Have pairs compare their lists with another pair.

B. Previewing: Have the same pairs discuss why people choose to change the appearance of their skin. Ask students to share these ideas with the class and write them on the board. Then have students read the passage and check their answers.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Maori facial tattoos identify people as members of a particular family, so the reader can infer that the tattoos of family members would be similar.
- Question 3: In Japan, tattooed criminals (*yakuza*) date back to the Edo period in the 17th century, so the connection is well established in the society. As a result, tattoos are still associated with crime today. Even today, many public establishments such as baths and gymnasiums ban people with tattoos.

B. Analyzing Claims: Remind students that they learned about **Analyzing a Writer's Claims** in the reading skill in Unit 2A. If necessary, have students turn back to that section of the Student Book and review this skill again. Have students read each question and decide what specific information they need to scan for in the passage. Have students compare answers in pairs.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Summarizing the Main Idea of Paragraphs**. Remind students that, at paragraph level, the main idea is usually expressed in the topic sentence—usually the first sentence—while the other sentences in the paragraph provide supporting ideas and examples. To summarize the main idea, read the first sentence and quickly skim the rest of the paragraph to determine what it is mainly about. Have students look back at the reading passage and underline the topic sentence in each paragraph.

A. Summarizing the Main Idea: Have students read the first sentence in each paragraph and then quickly skim the rest of the paragraph before choosing the correct answer.

B. Summarizing the Main Idea: Have students complete the activity individually, then compare answers with a partner. Remind students that the main idea is general and does not focus on details.

Critical Thinking

- Have students work in small groups to brainstorm ways people can express individuality. Encourage them to think about the appearance of people they know from TV, movies, and real life for more ideas.

- Allow students time to write their own answer to the questions. Have a class discussion and ask students what they would consider doing to express their individual identity.

Vocabulary Practice

This paragraph is about the Iban—formerly known as the Sea Dayaks—a traditional ethnic group in Sarawak, Malaysia, Brunei, and the Kalimantan area of Indonesia. Direct students attention to the photo and caption next to activity A. In the past, the Iban were headhunters, but today the group has struck a balance between maintaining aspects of their traditional culture and living modern lives in urban areas.

A. Completion: Have students complete the paragraph individually with the correct form of the words in the box. Check answers as a class. Have a volunteer read their completed paragraph to the class.

Challenge: For students interested in doing more with the topic, ask the following question:

Among the Iban, you can tell a lot about a person by looking at his or her tattoos. In your culture, are there body decorations that tell other people about you? If so, what are they?

B. Definitions: Have students choose the correct words to complete the sentences. Check answers as a class.

C. Collocations: Have students complete the sentences with the correct word from the box. Point out that one word is extra. Remind students that collocations are words that go together, meaning they are often used as a fixed expression. The word *permanent* means “always”—it’s the opposite of *temporary*. If time permits, have students write additional sentences using the collocations.

Video Summary: The video provides facts and information about what happens to produce that doesn't look good from a cosmetic perspective.

Key Vocabulary: *below grade, bruised, cosmetic, produce, reject, retailer, specification*

Answer Key

Before You Watch

- A.** 1. appearance; 2. fruit and vegetables; 3. customers; 4. refuse; 5. mark on it
B. Possible answer(s): I like to buy round oranges and long thin carrots. I don't think I would be happy to buy fruit or vegetables that look wrong!

While You Watch

- A.** a
B. 1. b; 2. a; 3. b; 4. b

Critical Thinking

Applying:

- ▶ Possible answer(s): I think I would shop at a store that only sells imperfect produce because the cost is probably cheaper and the fruit won't go to waste.
- ▶ Maybe "ugly food" could be donated to people who can't afford to buy fresh fruit and vegetables.

B. Previewing: Direct students' attention to the photograph and ask them to discuss in pairs how the produce looks, and if there are any particular fruits or vegetables they would not buy if it did not look right.

While You Watch

A. Viewing: Have students read the statements before they watch the video. Play the video. Then have students answer the question and check the answer with a partner.

B. Multiple Choice: Have students read the sentences before playing the video again. Have students complete the activity. Then check answers with the class.

Critical Thinking

- ▶ In small groups, have students discuss their opinions on imperfect food, and whether they could overlook the imperfections in order to help reduce waste.
- ▶ In pairs, have students discuss other ways to reduce the amount of waste and then share their ideas with the class.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

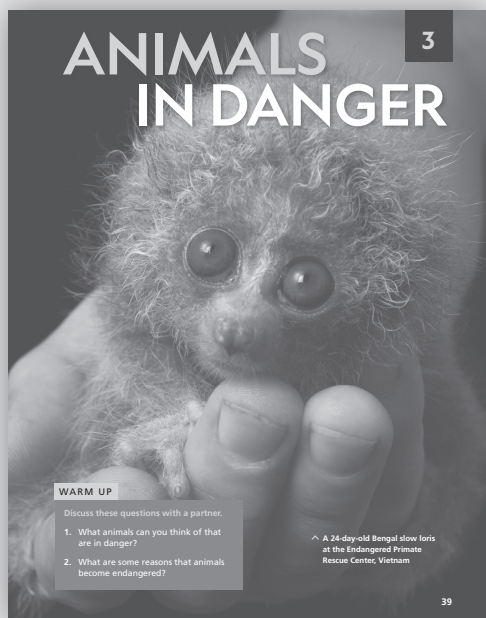
Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

TEACHING NOTES

Before You Watch

A. Definitions: Ask students to read the information and think about the meaning of the words in bold. Have them complete the activity, then check their answers with a partner. The word *produce* can be a noun (PROduce = fruits and vegetables) or a verb (proDUCE = to make). The word is pronounced differently depending on its part of speech.

ANIMALS IN DANGER



UNIT INTRODUCTION

This unit focuses on endangered animals and what is being done to protect them. In “Racing to Rescue Koalas,” students read about how human development and disease is putting koalas at risk in Australia. In “Tracking the Snow Leopard,” students read about the decline of the snow leopard, and how organizations in Central Asia have created programs to help herders and snow leopards coexist in the same environment. In “Protecting Pandas,” students will watch a video about giant pandas and their conservation status today. Students will also read about how human activity has endangered the cassowary, and how cheetah numbers are declining.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *koalas, eucalyptus, snow leopards, Central Asia mountains, Himalayan Homestays, Snow Leopard Enterprises (SLE), Giant Panda Breeding Center*

WARM UP

Answer Key

Possible answer(s):

1. some big cats, pandas, wolves, some whales, and elephants
2. Habitats become changed by human activity or by environmental factors.

TEACHING NOTES

Endangered animals are likely to become extinct, which means they would not exist anymore. The International Union for the Conservation of Nature maintains a “red list” with several different categories of risk. In some cases, animals have already become extinct in the wild and only exist

now in captivity in zoos. Animals on the critically endangered list—like the slow loris, koala, and snow leopard—are likely to become extinct in the near future, largely because they are hunted by people and their habitats have been destroyed.

- Read aloud the Unit Title as students look at the photo. Have them make an inference about the animal pictured here, based on the title. Do they think this animal is in danger?
- Read aloud the caption and explain the words *slow loris*, *endangered*, and *primate*. Have students brainstorm the names of other animals that are endangered. Have students discuss the questions with a partner and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *capture, extinct, grasp, physical, primary, reproduce, signal, suburb, tend to, threaten*

Reading Passage Summary: Koalas are native to eastern Australia and feed on the eucalyptus trees that grow in abundance there. Koalas spend most of their time up in the trees, using their sharp claws to hold on tight. They spend most of the day napping—in fact, they often sleep up to 18 hours a day! The koala population has declined rapidly in the past century as humans have moved into their habitats, hunted them, and cut down their trees for development; furthermore, disease has begun to affect their ability to reproduce. Today, koalas are a protected species but their numbers are still falling. Researchers and conservationists are working hard to protect the koala and are taking measures to help keep them safe.

Answer Key

Before You Read

- A. 1.** tree leaves; **2.** in their mother's pouch; **3.** 80,000
B. Possible answer(s): they might be losing their natural habitats to development; humans might be polluting their environment.

Reading Comprehension

- A. 1.** d; **2.** b (Para C); **3.** b (Para E); **4.** c (Para G); **5.** c (Para K)
B. 1. b; **2.** e; **3.** d; **4.** a; **5.** c

Reading Skill

- A. 1.** a; **2.** c; **3.** a; **4.** c; **5.** c
B. Possible answer(s): The word *discover* has the prefix *dis-*, which means "not." *Discover* must mean "not cover," or to find something out.

Critical Thinking

- ▶ loss of eucalyptus trees and disease
- ▶ Possible answer(s): I think it might be easier to solve the problem of disease by giving more koalas treatment. Also, there might be a vaccination that female koalas could be given

before they show signs of the illness. / I think it would be easier to improve the koalas' environment by reducing speed limits on streets and creating more green areas for koalas to live in. Perhaps then they will become healthier and less prone to disease.

Vocabulary Practice

- A. 1.** extinction; **2.** tend to; **3.** suburbs; **4.** capture; **5.** threatens; **6.** primary
B. 1. b; **2.** b; **3.** b; **4.** a
C. 1. appearance; **2.** exercise; **3.** condition; **4.** contact

TEACHING NOTES

Before You Read



A. Previewing: Have students read each sentence and choose the answer they think is correct. Explain that they will be able to check their answers in the passage. Point out the footnote and elicit the names of other animals that have a pouch (all marsupials, such as kangaroos and opossum).

B. Predicting: Have students read the title and headings in the passage before answering the question individually. Then have them check their ideas as they read the passage.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Aitken grasps the koala *through* the blanket, which tells us that the blanket is thick enough to protect her from the koala's bite.
- Question 5: De Villiers conducts a number of tests on Tee Vee, such as measuring her length and examining the baby. Students can infer that

she is checking on Tee Vee's condition to make sure everything is okay.

B. Main Ideas: Have students read each paragraph again and find the main idea for each one. Then have them compare their answers in pairs

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Determining the Meaning of Unfamiliar Words**. Explain that using these strategies to work out the meaning of unfamiliar words can help them to understand new words better. Give an example of each of the four strategies:

- 1. Look at the word's prefixes and suffixes:** the prefix *re-* means "again," so *review* must mean "view something again."
- 2. Guess the word's meaning by looking at the context:** In the sentence, "Later, de Villiers visits a forest near Brisbane to catch Tee Vee, a wild female koala," we can guess the meaning of the word *wild* because Tee Vee lives in a forest.
- 3. Look for synonyms and antonyms of the word used elsewhere in the paragraph:** De Villiers examines and checks Tee Vee. The words *examines* and *checks* must be synonyms.
- 4. Determine the word's part of speech and use a dictionary:** The word *condition* is a noun in the phrase "the condition of Tee Vee's fur," so we know which definition to use.

A. Analyzing: Have students find and underline the bold words in the passage and then use one of the strategies to find the best meaning. In pairs, have students say which strategy they used.

B. Analyzing: Have students find three more unfamiliar words and use the strategies to help define them. Then have students use a dictionary to check their answers.

Critical Thinking

- Have students note down their answers. Then refer students to paragraphs F, G, and H under the heading "Koalas at Risk" to check their answers.
- Have students work in pairs to discuss which threat would be easier to solve. Encourage students to support their claim with evidence.

Vocabulary Practice

A. Completion: This paragraph is about how the cassowary, a large and flightless bird, has been driven nearly to extinction due to human activity. Direct students' attention to the photo and caption next to activity A. Have students read the paragraph first before choosing the correct words. Then check answers with a partner. Choose a volunteer to read aloud the completed paragraph to the class.

- *Reproduction* means "creating life" and *extinction* means "the end of a species," so the two words are loose antonyms. *Tend to* in this case means "an action that is typical and predictable," but *tend to* + something means "to take care of."

B. Definitions: Have students complete the sentences with the correct word. Then ask students to check their answers with a partner.

C. Collocations: Remind students that collocations are words or phrases that go together. Have students complete the sentences individually, and then check answers in pairs. If time allows, have students write a new sentence with each collocation.

LESSON OVERVIEW

Target Vocabulary: *bonus, conflict, distinctive, drag, enforce, landscape, officially, poverty, reverse, status*

Reading Passage Summary: Snow leopards live in the cold and snowy mountains of Central Asia. Their numbers have been in decline, mostly because they eat domestic animals belonging to herders—so they are killed. This has caused conflict between the local herders and conservationists (who want to protect the snow leopard). The herders need their livestock to provide them with an income, so two conservation groups have come up with a way to help the herders continue to make a living and protect the snow leopards at the same time.

Answer Key

Before You Read

- A. 1.** Possible answer(s): It might be difficult to find food, and the weather gets very cold high up in the mountains. **2.** Possible answer(s): I think the snow leopard has adapted to the cold by growing a thick coat, and it can see well at night to hunt nocturnal animals.
- B.** the number of snow leopards left in the wild (Para D); methods of protecting snow leopards (Para G); disagreements between snow leopards and herders (Para E)

Reading Comprehension

- A. 1.** d; **2.** a; **3.** d (Para D); **4.** d (Para G); **5.** c
- B. 1.** a; **2.** b; **3.** b; **4.** a; **5.** b

Reading Skill

A/B. Possible answer(s):

The Value of Preservation

Financial ^{money}incentives are also helping to slow snow leopard killings. The organization Snow Leopard Conservancy India Trust has ^{set up}established Himalayan Homestays, a program that sends visitors to herders' houses. For a clean room and bed, meals with the family, and an introduction to their culture, visitors ^{is this a lot of money?}pay about ten U.S. dollars a night. If guests come once every two weeks through the tourist season, the herders will earn enough income to replace the animals lost to snow leopards. In addition, the organization helps herders build protective fences that keep out snow leopards. It also conducts environmental classes at village schools, and trains the organization's members as nature guides, available for hire. [?]In exchange, the herders agree not to kill snow leopards.

Critical Thinking

Possible answer(s):

- The main purpose is to encourage people not to kill snow leopards by providing financial incentives.
- Himalayan Homestays gives herders the tools to educate others about their culture and learn more about their environment. They also build fences around their property to keep the snow leopards out. SLE buys products that the herders make.
- I think Himalayan Homestays might be more effective because the herders learn why it's important to protect the snow leopards, and they have the opportunity to meet foreigners who might have different opinions than they do.

Vocabulary Practice

- A. 1.** officially; **2.** drag; **3.** reverse; **4.** enforce; **5.** landscape; **6.** status
- B. 1.** financially; **2.** disagreement; **3.** extra money; **4.** different from
- C. 1.** conflict; **2.** signal; **3.** contact; **4.** capture

TEACHING NOTES

Before You Read

A. Discussion: Discuss the caption and the photo with the students, making sure they understand the meaning of *elevations*. Emphasize that 3,000 to 5,000 meters is high up in the mountains. Point out the sparse landscape in the picture to help students think about the challenges the snow leopard faces, and point out its fur and big paws to help students think about how the animal has adapted to the conditions in its natural environment.

B. Predicting: Have students read the title and the headings and make sure they understand the meaning of *tracking*, *fragile*, and *preservation*. Have students check the information they think is included in the passage before reading to check their ideas. Elicit the correct answers from the class.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: *Trend* means “a general direction or a pattern.” In this case, it refers to a decline in the snow leopard population mentioned in the previous sentence. In popular culture, a trend is something that many people follow, such as a fashion style or type of entertainment.
- Question 4: The passage mentions that people pay a fee to stay one night, not a full week.

B. Words from Context: Have students look for the words in bold in the reading passage and use context to determine their meanings. Students complete the activity individually, and then check answers in pairs.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Annotating a Reading Passage**. Make sure students understand that annotating a text helps the reader focus on the important information and makes it easier to find the key details when reviewing. Point out that students will need to practice this skill for it to be useful. Encourage students to annotate all reading passages as they progress through the units.

A. Annotating: Have students annotate the section individually. Give students time to complete the task.

B. Annotating: Have students compare their annotations with a partner and add any new annotations they think are useful.

Critical Thinking

- ▶ Refer students to paragraphs G–J and have them note down their ideas individually about the main purpose of the financial incentives.
- ▶ Draw a T-chart on the board with the headings *Himalayan Homestays* and *SLE* and, in pairs, have students list ideas about how the programs are different.
- ▶ Have partners use their T-charts to discuss which program they think is more effective, and why.

Vocabulary Practice

A. Definitions: This passage is about how the cheetah now has a status of *vulnerable* and the attempts being made to reverse this trend. Direct students’ attention to the photo and caption next to activity A. Have students read the passage and then match the red highlighted words with their definitions. Remind students that they have already encountered the word *status* in Unit 2, but with a slightly different meaning—the relative position or rank of persons in a society. Direct students to paragraph C on pages 32–33 to remind them of the use of this definition in context. Have students check their answers with a partner. Choose a volunteer to read aloud the completed paragraph to the class.

B. Definitions: Students complete sentences with the correct option and then check answers in pairs. *Bonus* has a positive connotation, and refers to something unexpected that brings you joy.

C. Word Forms: Have students complete the sentences individually, then check answers with a partner. A *conflict* is a serious clash or disagreement between people or countries, often leading to fighting or even war. As the text box notes, *conflict* can be a noun (*The conflict between the police and the street gang led to the shooting incident*) or a verb (*Stefan often conflicted with his parents about his tattoos and piercings*). If time allows, have students make two new sentences for each word, using the word as a noun and a verb.



Video Summary: If there's one animal that lives up to the saying "you are what you eat," it's probably the giant panda. What giant pandas eat affects many different parts of their lives. This video looks at the panda's diet, habitat, and current population.

Key Vocabulary: *diet, digest, protein, rely on*

Answer Key

Before You Watch

A. 1. to process food in the stomach; **2.** a substance found in some food (such as meat or fish); **3.** food that one regularly eats; **4.** to trust in or depend on

B. 1. T; **2.** T; **3.** F (they are no longer endangered); **4.** F (an increase of 17 percent over the past decade)

While You Watch

A. See **Before You Watch B.**

B. 1. a; **2.** c; **3.** b

Critical Thinking

Possible answer(s): A giant panda and a koala are similar because they both eat plants. Koalas are losing their eucalyptus trees and pandas are losing their bamboo due to habitat loss caused by human activity. Their habitats are very different though: Pandas travel on land and koalas mostly live in trees. Also the intervention is different for each animal. The koalas are being monitored in the wild and looked after if they are found to be injured. Giant pandas are being breed in captivity to try to boost the numbers of pandas in the wild.

B. Predicting: Have students work in pairs to complete the true / false activity. Tell them not to worry if they do not know the answers; they will revisit this section after watching the video.

While You Watch

A. Viewing: Play the video. Have students check their predictions in **Before You Watch B.**

B. Multiple Choice: Have students read the multiple choice questions before watching the video again. Play the video again. Then have students complete the activity and compare their answers with a partner. If necessary, play the video through a third time and then check answers as a class.

Critical Thinking

Have students use a Venn diagram or T-chart to note down the similarities and differences between koalas and pandas according to the topics in the box. Then have students use their notes to discuss their ideas with a partner.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

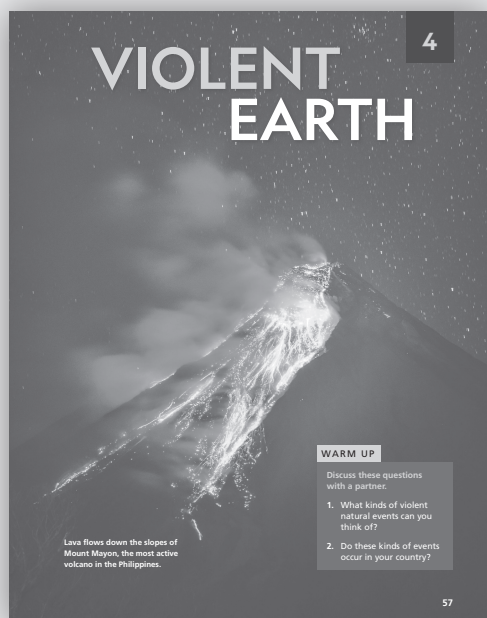
TEACHING NOTES

Before You Watch

A. Definitions: Ask students to read the information and think about the meaning of the words in bold. Have them complete the activity, and then check their answers with a partner.

VIOLENT EARTH

UNIT INTRODUCTION



This unit focuses on how humans live with the threat of natural disasters. In “Sacred Summits,” students read about Mount Fuji in Japan and Popocatepetl in Mexico, two active volcanoes located near densely populated urban areas. In “Is Prediction Possible?” students read about how scientists might one day be able to predict earthquakes. In “Earthquakes 101,” students will watch a video about earthquakes and the damage they can cause. Students will read about how the Decade Volcano Project aims to protect towns against destructive volcanoes, how volcanoes feature in ancient stories, and Mt. Kilauea in Hawaii—one of the most active volcanoes on Earth. Students will also read about how dogs might be able to predict earthquakes.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *Pacific Ring of Fire, Mount Fuji, Shintoism, National Research Institute for Earth Science and Disaster Prevention, Popocatepetl, Earthquake Research Institute, Parkfield*

WARM UP

Answer Key

Possible answer(s):

1. Natural disasters include extreme weather such as tornadoes, floods, hurricanes/typhoons, as well as seismic events such as earthquakes, volcanic eruptions, and tsunamis.
2. Yes, in Mexico, there are volcanoes and earthquakes.

TEACHING NOTES

The Earth is a living planet in a constant state of change. Its crust is made up of 15–20 tectonic plates that sit on top of hot liquid rock called magma. The heat from deep within the Earth’s interior forces the plates to move toward and away

from each other. When the pressure of magma gets high enough, it escapes through an opening on the Earth’s surface—causing a volcanic eruption.

- Read aloud the Unit Title as students look at the photo. Discuss the meaning of the word *violent* and make a connection between the photo and the Earth. Ask what the glowing light is in the photo and talk about what causes a volcano to erupt.
- Read aloud the caption and explain the meaning of *lava*, *slope*, and *active volcano*. Make sure students know where the Philippines is on the map. Have students brainstorm the names of other places in the world with active volcanoes.
- Have students discuss the questions with a partner and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *ancestor, dawn, destruction, disaster, displace, expand, inevitable, monitor, summit, witness*

Reading Passage Summary: There are over 1,000 active volcanoes on Earth, and most of them are located along the Pacific Rim. Mount Fuji in Japan is one of the most well known, popular with tourists and hikers alike. Its last eruption was in 1707, and scientists are concerned it may erupt again soon—which could be devastating to the four million people living in its wake, not to mention the entire population of Tokyo nearby. Another well-known active volcano is Popocatepetl—or El Popo—near Mexico City. It last erupted around A.D. 820 and scientists say another big eruption is inevitable, displacing around 20 million people.

Answer Key

Before You Read

- A. 1.** erupted; **2.** active; **3.** sacred; **4.** ash
B. religious beliefs, why scientists are concerned, threats to locals

Reading Comprehension

- A. 1.** c; **2.** c (Para D); **3.** b; **4.** a (Para F);
5. c (Para E and I)
B. 1. F; **2.** H; **3.** F; **4.** G; **5.** I; **6.** G

Reading Skill

- A.** Possible answer(s): More people today are living near active volcanoes than ever before. The Decade Volcano Project helps set up “defenses” against a volcanic eruption. In 1992, they diverted a flow of lava from Mount Etna, Sicily which was threatening a nearby town.
B. Possible answer(s): Although volcanoes can cause great destruction, many people live near them. Scientists are continuing to look for ways they can predict these devastating eruptions before they happen.

Critical Thinking

- Possible answer(s): People risk their lives to live near active volcanoes because the soil is very fertile and they can grow healthy fruits and vegetables. Also, I think it would be very difficult to move away from your home when a volcano hasn’t been active in centuries.
 ► Possible answer(s): I think local authorities should work with scientists and innovative organizations to build volcano defenses and find ways to predict eruptions so people can evacuate.

Vocabulary Practice

- A. 1.** ancestors; **2.** disastrous; **3.** summit; **4.** dawn
B. 1. witness; **2.** displaced; **3.** expands;
4. destructive; **5.** monitored
C. 1. expanded; **2.** exports; **3.** exceeds;
4. explosion

TEACHING NOTES

Before You Read



Ask students what they know about living near volcanoes. Are there volcanoes in their country? If so, are they active?

A. Definitions: Have students read the caption and match the words in bold to the correct meanings. An *active* volcano can *erupt* at any time, even if it has been dormant, or “asleep,” for hundreds of years. Ask students if there are *sacred* places in their country.

B. Predicting: Have students scan the title, headings, images, and captions to find details that will help them predict what the passage is about. After they read the passage, have them go back and check their predictions.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students

to give evidence for their answers using paragraph references from the reading passage.

- Question 1: Although many people climb Mount Fuji for religious reasons, the paragraph goes on to describe why other people climb the mountain, too (e.g., for its “healing” powers, to test their strength).
- Question 3: In the passage, the *symptoms* are described as earthquakes or any signs that the mountain is changing. The word *symptoms* means *signs*, which are general ideas about what one can expect to see—as opposed to *earthquakes* and *sounds*. *Lessons* does not fit the context here (you *learn a lesson* when you make a mistake).

B. Scanning for Information: Remind students that they learned about scanning for specific information in the reading skill in Unit 1B. If necessary, have students turn back to that section of the Student Book and review this skill again. Have students scan the paragraphs (F–I) and write the correct paragraph letters next to 1–6. Check answers as a class.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Summarizing a Text**. Explain to students that it is helpful to summarize a passage after reading it to remember the key points. Remind students that reviewing your annotations (Unit 3) is a good strategy to help you summarize the main ideas.

A. Summarizing: Make sure students know the meaning of *potential*, *threatening*, *concrete*, and *diverting*. Have students read the short passage individually and write their summary. Remind them that a main idea is the most important point and the key details give more information about it.

B. Summarizing: Have students read the passage and identify the key points. Remind students that the summary only needs to be two or

three sentences long. Have students compare summaries and give their partners feedback to improve them.

Critical Thinking

- In pairs, have students discuss why people continue to live near active volcanoes today. Create a list of ideas on the board and ask questions such as, *What properties does volcanic soil have for growing healthy plants? How easy would it be to pick up and move your entire family to a new place?*
- Have students brainstorm other things local authorities should do to protect people who live near active volcanoes.

Challenge: Have students discuss possible solutions to evacuating a community living near an active volcano. In pairs, have students role-play a discussion between the local authority and the residents in the area.

Vocabulary Practice

A. Completion: This paragraph is about a Mexican folktale “The Legend of Popo”. Have students read the paragraph first before completing it with words from the box. Then have them check their answers with a partner. Compare the spellings of *disaster* and *disastrous*, whose meanings are similar to *catastrophe* and *catastrophic*.

B. Completion: This paragraph is about Mt. Kilauea in Hawaii. Have students read the paragraph first before completing it with the correct form of words from the box, then have them check their answers in pairs.

C. Word Link: The prefix *ex-* is often found with word roots beginning with the letters *t* or *p*, for example, *expand*, *expedition*, *expert*, and *extra*. Have students complete activity C, and then compare answers in pairs. If time permits, have students write a sentence for each of the words.

LESSON OVERVIEW

Target Vocabulary: *data, detect, foundation, laboratory, massive, precise, random, schedule, track, zone*

Reading Passage Summary: Throughout history, earthquakes have caused devastation and destruction around the world—mostly focused around the Ring of Fire in the Pacific Rim. Today, millions of people live in cities that are regularly shaken by powerful earthquakes, and scientists continue to research ways to predict them to protect people and save lives. There is still a long way to go, but it seems more and more likely that one day soon people will be able to prepare and evacuate before a major earthquake hits.

Answer Key

Before You Read

A. 1. T; 2. F (west coasts); **3. T**

B. The author is generally optimistic that scientists may be able to predict earthquakes in the future.

Reading Comprehension

A. 1. c; 2. d; 3. b; 4. d (Para F); **5. a**

B. a, c, e

Reading Skill

A. 1, 3

B. 1. d; 2. f; 3. c; 4. a; 5. e; 6. b

C. P-wave = yellow vertical arrow; S-wave = red wavy arrow; surface wave = red horizontal arrows

Critical Thinking

Possible answer(s): I think the safest place to be in an earthquake is under a very heavy structure that cannot move, or inside a very strong building frame, such as underneath a doorway on a lower level, away from any glass.

Vocabulary Practice

A. 1. schedule, random; 2. track, massive; 3. zone

B. 1. laboratory; 2. detect; 3. data; 4. precise

C. 1. on; 2. busy; 3. behind

TEACHING NOTES

Before You Read

Elicit students' background knowledge about earthquakes. With books closed, have students list places on the board that are known to have earthquakes. Then have them compare their list with the map on page 64, focusing on the areas with the two darker colors.

A. True or False: Students work individually to study the map and decide if the statements are true or false. Have them check answers with a partner.

B. Scanning: Point out the title "Is Prediction Possible?" Explain that the author has an opinion about whether it is possible to predict an earthquake. Remind students that scanning means looking quickly for specific information. Have pairs compare answers, then have students read the passage carefully to check their answer.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 1: Options "a," "b," and "d" are at the wrong level of detail; options "a" and "b" are too general (and there is no mention of new technology in the reading passage), and option "d" is too specific (the passage mentions scientific work outside of Japan). To help develop test-taking skills, point out that this range of options is typical for gist or main idea questions.

- Question 4: Paragraph F mentions that an earthquake hit in 2004. It was 2005 when the scientists reached the fault's final depth.
- Question 5: The word *although* in the first sentence (followed by a negative idea and a comma) signals the paragraph will end on an optimistic note. In summary, research shows that earthquakes may not be random, and technology might improve enough to help us predict earthquakes and save lives.

B. Summarizing: Remind students that they learned about summarizing a text in the reading skill in Unit 4A. If necessary, have students turn back to that section of the Student Book and review this skill again. Have students complete the activity individually, then compare answers in pairs. Answer choices “b” and “d” do not support or add extra detail to the main idea.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Analyzing Infographics (2)**. Remind students that they have already learned about this concept when they analyzed the infographic to compare and contrast information about the World Cup. Give students time to look back at “Living with the Threat” and identify the key and captions.

A. Analyzing: Have students read the sentences, then choose the best two statements. Answer choice 2 is mentioned in the passage, but not in the infographic.

B. Analyzing: Have students look closely at the key for labels 1–6 and then match the items. Check answers as a class.

C. Understanding Infographics: Have students add the labels to the infographic, and then check answers in pairs.

Critical Thinking

Have students discuss what they learned about how buildings have been made safer. Ask: *Which safety measures do you think are the strongest? Why?* In pairs, have them try to agree on where to put their X. Combine groups with different opinions to share their ideas, and see if larger groups can agree.

Vocabulary Practice

A. Completion: Students choose the appropriate word for the target vocabulary in context. Have partners compare answers. A *pattern* refers to a regular sequence of events, while a *schedule* refers to a time when something is expected to happen. Both can be predicted though, which is the opposite of *random*.

B. Completion: This paragraph is about whether animals such as dogs can predict earthquakes. Direct students' attention to the photo and caption next to activity B. Have students read the paragraph first before completing it with the correct words from the box. Then check answers in pairs. Ask for a volunteer to read the completed paragraph aloud to the class.

Challenge: For students interested in doing more with the topic, ask the following question: *Do you think that animals are more sensitive to earthquakes than people? Explain.*

C. Word Partners: *Schedule* can be used with a preposition to give information about when a planned event happens, (i.e., **ahead of** schedule = early; **behind** schedule = late; **on** schedule = on time). Have students complete activity C and then compare answers in pairs. If time permits, have students write a new sentence for each of the two extra words in the box (*regular* and *work*).



Video Summary: The video provides facts and information about earthquakes. It tells what causes them, what happens when they strike, how they are measured, and what is being done today to protect and save lives.

Key Vocabulary: *devastating, magnitude, rattled, shallow*

Answer Key

Before You Watch

A. 1. shallow; **2.** magnitude; **3.** devastating; **4.** rattled

B. Possible answer(s): The Earth's crust sits on top of tectonic plates, which move. As the plates push together, they can slip or fall beneath one another. This is what causes an earthquake—and the movement of the Earth sends shockwaves through the rock.

While You Watch

A. how earthquakes happen; how earthquakes are measured; examples of strong earthquakes

B. 1. b; **2.** b; **3.** a

Critical Thinking

Possible answer(s): I would prioritize ensuring that new buildings are earthquake-proof because that seems like a realistic way to help save lives now. Engineers have already designed proven methods, so I would want to use that technology in my city.

B. Predicting: Have students look at the words and think about how they relate to what happens underneath the Earth's surface. In pairs, have students discuss what causes an earthquake. Tell them not to worry if they do not know the answers; they will revisit this section after watching the video.

While You Watch

A. Gist: Have students look at the topics before playing the video. Play the video. Then have students check the topics that are covered in the video before comparing answers with a partner.

B. Detail: Have students read the multiple choice questions first. Play the video again. Then have students complete the activity before comparing answers with a partner.

Critical Thinking

Have students discuss each topic in the box and brainstorm another idea to add. Then prioritize them on a scale of 1–5 (1 = highest priority; 5 = lowest). For each topic, have students talk about the pros and cons of prioritizing it. Which do they think would save the most lives?

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

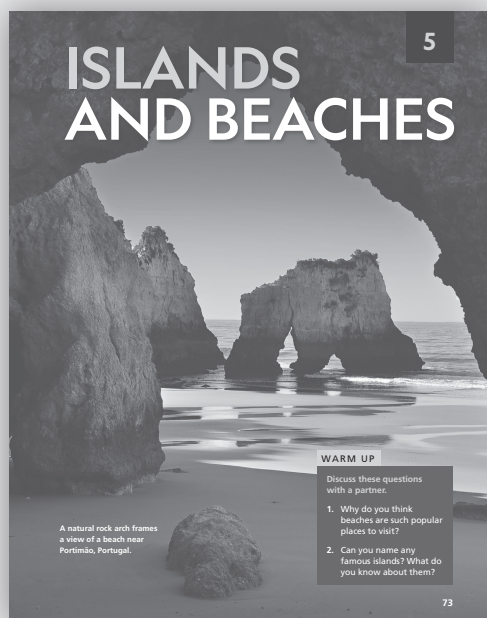
Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

TEACHING NOTES

Before You Watch

A. Definitions: Have students complete activity A individually and then compare answers with a partner. Although *devastating* ends in *-ing*, here it is an adjective and not a progressive verb form.

ISLANDS AND BEACHES



UNIT INTRODUCTION

This unit focuses on some very different tourist destinations. In “Land of Fire and Ice,” students read about Iceland and what makes it a popular place to visit. In “The Perfect Beach,” students read about Brazil’s beaches—some of the most beautiful in the world. In “Ha Long Bay,” students will watch a video about the geology of the rock formations in Ha Long Bay in Vietnam. Students will also read about a woman who answered an ad to live on a tropical island.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *Reykjavik, Vikings, Golden Circle, Geysir, Thingvellir, Copacabana, Prainha, Fernando de Noronha, Ha Long Bay*

WARM UP



Answer Key

Possible answer(s):

1. The natural landscape of beaches has a positive effect on our health and wellbeing.
2. The Canary Islands are off the west coast of Africa and are volcanic; Jamaica is in the Caribbean and is the birthplace of reggae; the Seychelles are in the Indian Ocean, and snorkeling is very popular there.

TEACHING NOTES

There are about two thousand islands and over three hundred thousand miles of coastline on Earth. Some islands and beaches are pristine and

tropical, while others are wild and windy. Many people travel thousands of miles in search of the perfect beach or island to relax and unwind, or to have an adventurous vacation.

- Read aloud the Unit Title as students look at the photo. Have students discuss what they see and how it relates to the title. Point out that some islands are volcanic—meaning they grew out of the ocean floor.
- Read aloud the caption and explain the meaning of *natural rock arch*. Elicit other land features of beaches and show Portugal on a map.
- Have students discuss the questions with a partner, and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *architecture, award, convert, cure, literally, migrate, monster, naturally, spectacular, tension*

Reading Passage Summary: Iceland truly is the land of fire and ice! The small country is located in the North Atlantic Ocean and it has become a very popular tourist destination in recent years. The island is volcanically active, and most of it is covered by lava fields, mountains, and glaciers. Nearly all of its heating and electricity comes from hydroelectric power and geothermal water reserves. Visitors are drawn to the island for its unique landscape and natural features, such as geysers, as well as lava and ice caves. Visitors also try to catch a glimpse of the northern lights, which can be visible in the dark winter months.

Answer Key

Before You Read

- A. 1.** attraction; **2.** lively; **3.** impressive
B. 1. 340,000; **2.** 100,000; **3.** 22;
4. more than 1.3 million

Reading Comprehension

- A. 1.** d; **2.** c (Para D); **3.** a; **4.** c (Para I); **5.** b (Para I)
B. 1. NG; **2.** F (a huge lake of bright blue sea water); **3.** T; **4.** NG; **5.** T; **6.** F (usually above freezing); **7.** F (Most of the inner part is uninhabited and relatively inaccessible.); **8.** NG

Reading Skill

- A. 1.** Greenland; **2.** Reykjavík; **3.** Atlantic
B. Starting with the label pointing to Reykjavík in a clockwise circle: d, b, c, a, e, f

Critical Thinking

- Possible answer(s): I think the most interesting activity would be caving. I'd love to go to a glacier, especially one just above an active volcano! I am not scared of small spaces and like to hike and do adventurous activities, so caving would be my first choice. I'm not very interested in art and like to have an active vacation, so I'd choose caving, viewing the

mid-Atlantic fault, seeing a large waterfall, and visiting a black-sand beach.

- Possible answer(s): I would spend Day 1 in Reykjavík and visit museums and look at art. On Day 2, I would see the mid-Atlantic fault and waterfalls, then continue on to Vík. On Day 3, I would go caving.

Vocabulary Practice

- A. 1.** spectacular; **2.** architectural; **3.** tension;
4. awarded; **5.** converted; **6.** literally
B. a. cures; **b.** monster; **c.** naturally; **d.** migrate
C. breathtaking, impressive, stunning

TEACHING NOTES

Before You Read

A. Definitions: Ask students to use the words in bold (*impressive, attractions, lively*) from the caption to complete the sentences. Have students use the words in sentences about their own lives.

B. Scanning: Remind students that when they scan, they are looking quickly for specific details. Make sure they understand that they should look for numbers to complete the facts. Have students work individually, and then check answers in pairs.

Reading Comprehension

Before completing the comprehension activities, elicit how this reading about Iceland is connected to the readings in Unit 4. (Iceland lies on a fault zone between the North American and Eurasian plates, so it is seismically very active with volcanoes, earthquakes, and hot springs.) Have them find Iceland on the map on page 64 in Unit 4.

A. Multiple Choice: Have students read the entire passage silently and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 1: Students need to identify the author's purpose, or reason for writing the passage. Point out the line underneath the title, "Never mind its chilly name—as a travel destination, Iceland is hot!" This sentence shows that the audience is tourists, or people looking to visit Iceland for the first time.
- Question 2: In paragraph D, students read about the thermal springs being heated by volcanic activity. In paragraph E, the Blue Lagoon is identified as a hot spring, so students need to make the connection to choose the correct answer, option "c."

B. True or False: Have students read the sentences and choose T (true), F (false), or NG (not given). Point out that this is a common type of exam question, and that they need to look carefully at each detail in the sentences before answering. For example, for statement 1, the article tells us that Viking settlers came from Northern Europe; Norway is not mentioned.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Summarizing Details on a Map**. Ask students if they prefer to study a diagram or read a text for information. Point out that both skills are important, but linking information between sources will help them better make connections. Explain that it can be useful to annotate visuals with information from the text.

A. Annotating: Have students study the map, then use text information from the passage (paragraph A) to label 1–3 on the map. Check answers as a class.

B. Annotating: Have students add the activities (a–f) to the map individually, and then check answers with a partner. They will need to orient themselves by using the labels already on the map, including

Thingvellir National Park, the Gullfoss waterfall, the Vatnajökull glacier, the town of Vík, and the Blue Lagoon.

Critical Thinking

- Have students say if they prefer to be active or relaxed when on vacation. Then have them describe what each activity in **Annotating B** involves, and rank the activities in order of preference from 1–6.
- Have students compare their rankings with a partner and use the map to plan their trip together. Choose pairs to share their three-day itinerary with the class.

Vocabulary Practice

A. Completion: Have students complete the sentences individually with the correct form of the words, and then check answers in pairs.

B. Definitions: Have students read the information in the exercise before matching the definitions to the correct form of the words highlighted in red. Check answers as a class.

C. Word Web: Have students complete the word web, using a dictionary or thesaurus if necessary. As an adjective, *spectacular* refers to something that is dramatically striking, breathtaking, and eye-catching. It has a positive connotation. The words *monotonous* and *puzzling* have negative connotations, and something that is *satisfactory* is just average. Check answers as a class. If time allows, have students write a sentence using the word *spectacular*, and then use their synonyms to see if the sentence still works.

Challenge: For students interested in doing more with the topic, ask the following question:

If you won a free trip to Iceland, what would you choose to do there?

LESSON OVERVIEW

Target Vocabulary: *balance, destination, eager, isolated, magnificent, prohibit, rank, spoil, state, ultimate*

Reading Passage Summary: Stanley Stewart, a travel writer, is on a mission to find his own perfect beach in Brazil. But does such a thing exist? As he travels through Brazil, he writes about the different beaches he visits for a travel magazine. He finds that the beaches in Brazil are varied, and they all attract a different type of person.

- There is a park near my house that I think is too perfect. It has manicured trees and bushes and the paths are paved in straight lines. I would prefer wildflowers and a more natural-looking rocky path.

Vocabulary Practice

- A.** 1. isolated; 2. ultimate; 3. eager; 4. destination
B. 1. prohibited; 2. state; 3. balance; 4. spoiled; 5. ranked; 6. magnificent
C. 1. of shock; 2. of mind; 3. of emergency; 4. of repair

Answer Key

Before You Read

A. 1. c; 2. f; 3. b; 4. d; 5. a; 6. e

B. Possible answer(s): 1. a travel writer looking for “the perfect beach”; 2. My perfect beach would be isolated. There would be lush, green cliffs leading down to the blue green water. There would be a lot of marine life and the sun would be shining.

Reading Comprehension

A. 1. c; 2. d; 3. d (Para G and H); 4. b (Para G); 5. b

B. 1. Maceió; 2. Prainha; 3. Praia do Leão; 4. Copacabana; 5. Jericoacoara

Reading Skill

A. 1. c; 2. b; 3. a; 4. f; 5. e

B. 2. The beach I’m searching for needs to be a little wilder. 3. It hasn’t been spoiled by tourists. 4. a fisherman’s beach; 5. more than a dozen beautiful beaches

Critical Thinking

Possible answer(s):

- It was beautiful and looked perfect.
- The phrase *too perfect* is used to describe a negative point of view. The word *too* means excessive, or more than necessary. Stewart is looking for something more unusual that is *wild* in the sense of being more remote and distinctive.

TEACHING NOTES

Before You Read



A. Quiz: In small groups, have students brainstorm the names of all the famous beaches they know about. Then have them complete the quiz individually before checking answers with a partner. This is meant to be a fun activity, so it does not matter if students do not know the answers. Answers are on page 88. Point out the location of each beach on a map.

B. Skimming: Direct students’ attention to the introduction and the photo captions. Have students list words that could describe “the perfect beach,” including contrast sets such as *isolated/crowded*, *sandy/rocky*, *shallow/deep*, *rough/gentle surf*. Have students discuss the questions in pairs and say if they agree or disagree with their partner’s idea of the perfect beach.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 3: An *isolated* place is far from other places and difficult to reach. *Remote* has a similar meaning. Of the four beaches given as options, Praia do Leão is the most isolated because it lies “a few hundred kilometers out in the Atlantic” (Para G).
- Question 5: Reference questions often refer to something that was mentioned previously in the passage. However, *the best one* in question 6 refers to Praia do Leão in the following sentence.

B. Annotating Maps: Remind students that they learned about summarizing details on a map in the reading skill in Unit 5A. If necessary, have students turn back to that section of the Student’s Book and review this skill again. Have students read the passage again for the specific details in the descriptions and complete the activity. Have them compare their answers in pairs.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Identifying a Writer’s Point of View**. Make sure students understand that Stanley Stewart has an opinion and that he makes personal judgments toward the different beaches he visits. Have students look back at the passage and identify the pronouns he uses (*I, me, my*). Point out that the first-person pronouns signal the writer is giving a point of view.

A. Identifying Point of View: Have students say what they remember about each beach in pairs and do the activity without looking back at the passage. Then have students look back and check their answers.

B. Identifying Supporting Details: Have students find details that support Stewart’s point of view about each of the beaches (1–5). Have students compare answers in pairs.

Challenge: For students who have completed the comprehension and reading skill activities, ask:
Are there beaches or other places of natural

beauty in your country that have become too popular and that have been spoiled? Give examples and reasons.

Critical Thinking

Have students note down their ideas individually, then discuss their answers with a partner.

- In pairs, have students discuss Stewart’s opinion of Prainha beach and say how it relates to a postcard.
- Have pairs discuss the meaning of a *little too perfect* and explain whether it is a negative or positive point of view.
- Have pairs discuss a place they know that’s a *little too perfect*. Encourage them to think about public areas in their community or a popular destination.

Vocabulary Practice

A. Completion: This paragraph is about a woman named Lucy Irvine who answered an ad to live on a tropical island with fellow adventurer Gerald Kingsland. Have students complete activity A and compare answers in pairs. Have them discuss their opinion about Lucy Irvine and whether they would have answered the ad.

B. Completion: Have students complete the passage individually with the correct form of the words. After checking answers with the class, ask students to close their books and summarize the story using as many of the target vocabulary words as possible.

C. Collocations: Have students complete the activity individually, then check answers in pairs. Here, the noun *state* means “condition of” and refers to a situation that something or someone is in. If time allows, ask students to find two or three other collocations with the word *state*. Make a list on the board. Have the students write additional sentences with the collocations.

Video Summary: The video provides facts and information about Ha Long Bay in Vietnam and the geology of the rock towers or karsts located there. The region has been home to humans for thousands of years and is popular with tourists, but most of the 1600 islands in the bay remain uninhabited—except for wildlife. In 1994, Ha Long Bay was recognized as a UNESCO World Heritage site.

Key Vocabulary: *channel, emerald, uninhabited*

Answer Key

Before You Watch

- A. 1.** a rich green color like the jewel; **2.** a narrow section of sea between two pieces of land; **3.** without any people living there

While You Watch

A. a, b, d

- B. 1.** T; **2.** F (Most remain uninhabited.); **3.** F (A dragon flew down from heaven to protect them.); **4.** T; **5.** NG

Critical Thinking

- Students' own answers
- Possible answer(s): There is a beautiful national park in my country with some important wildlife habitats. There are a variety of birds, insects, and mammals that are native to the area, and many of them are endangered. I think this national park should be included on UNESCO's Natural Heritage list because the wildlife needs protection.

TEACHING NOTES

Before You Watch

A. Definitions: Have students complete activity A individually, then compare answers with a partner.

While You Watch

A. Gist: Have students read the questions before they watch the video. Play the video. Have students check answers in pairs.

B. True or False: Have students read the sentences (1–5). Then play the video again and have students choose T (true), F (false), or NG (not given). If necessary, play the video through a third time and check answers as a class.

Critical Thinking

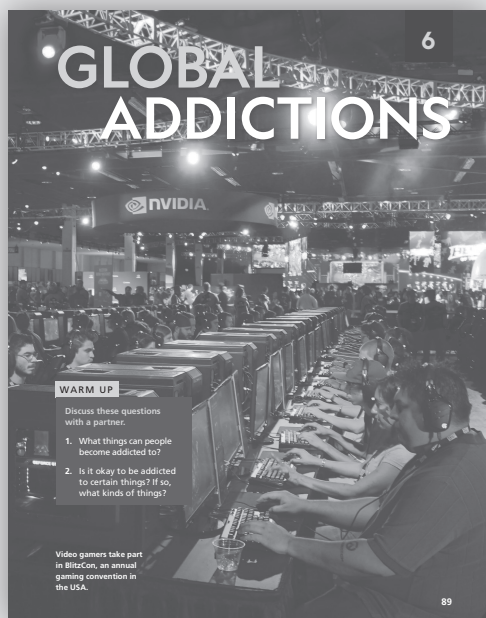
- In small groups, have students discuss whether there are any natural places in their country on UNESCO's list. Encourage them to look at UNESCO's website to check.
- Have students think about natural places in their country that should be included on the list. Give students time to note down their ideas in small groups. Then have them share their reasons with another group.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

GLOBAL ADDICTIONS



UNIT INTRODUCTION

This unit focuses on different types of addictions and how to avoid being distracted by them. In “The World’s Favorite Drug,” students read about caffeine and its positive and negative effects on us. In “Addicted to Distraction,” students read about our addiction to digital technology and what we can do to lessen its negative effects. In “World of Caffeine,” students will watch a video about the history of caffeine and its effects. Students will also read about how chocolate is dangerous for dogs, and how South Koreans benefit from interacting with nature.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *caffeine effects, stimulant, multitasking, nature therapy, cortisol*

WARM UP

Answer Key

Possible answer(s):

1. People can become addicted to drugs, foods, and computers.
2. I think it's okay to be addicted to things that are healthy for you, such as exercise. Some people I know spend hours at the gym each day and they are in great shape.

TEACHING NOTES

Addiction is defined as “a compulsive need for something despite its harmful consequences.” That activity could be anything from using drugs, to playing video games, to buying the latest

technology. It's easy for people to become addicted to things when they're readily available and part of our everyday society.

- Read aloud the Unit Title as students look at the photo. Have students describe the picture and say what they think the people are doing. Discuss the concept of addiction and guide students to make a connection between the title and the picture.
- Read aloud the caption and explain the meaning of *annual* and *convention*. Make sure students understand that BlizzCon is the name of the event.
- Have students discuss the questions with a partner, and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *abuse, contradict, exhibit, facilitate, furthermore, mental, proof, reaction, specialist, temporary*

Reading Passage Summary: Caffeine is a chemical found in coffee, tea, cola, and many other popular foods and drinks. Many people consume it regularly, and the question of whether it's safe or not has been widely debated throughout the years. It's thought to be safe in moderate amounts, but there are several different opinions about how much caffeine is safe to ingest on a regular basis.

Answer Key

Before You Read

- A. 1. b; 2. a; 3. c; 4. e; 5. g; 6. d; 7. h; 8. f**
B. Possible answer(s): I don't think caffeine in moderation is bad for you, but too much of it might make you jittery and nervous.

Reading Comprehension

- A. 1. c; 2. d; 3. b (Para C); 4. a; 5. a**
B. 1. b, c; 2. d, e; 3. a, f

Reading Skill

- A. 1. ease; 2. illnesses; 3. reaction; 4. sleep; 5. drug; 6. sad; 7. pressure**
B. Possible answer(s): **1.** I think it's a good idea if you consume caffeine in moderation. / I don't think it is a good idea because although caffeine's behavioral effects might be mild they are still there, and I would rather eat healthily and exercise regularly rather than rely on a stimulant.
2. I agree with the writer, I think it's good to drink coffee or tea—the benefits outweigh the negatives. / I disagree with the writer. I think the negatives outweigh the positives as regular loss of sleep can affect your health.

Critical Thinking

- **a. C; b. C; c. C; d. P; e. P; f. P / C**
 ► Possible answer(s): I think chocolate is generally negative, but I would like to find out more about its health benefits. I would also like to know how much sugar it has.

Vocabulary Practice

- A. 1. abusing; 2. reaction; 3. Furthermore; 4. exhibit**
B. 1. a; 2. b; 3. a; 4. a; 5. b; 6. a
C. Possible answer(s): moreover, also, additionally, what's more

TEACHING NOTES

Before You Read

A. Matching: Have students guess the amount of caffeine in each item individually, and then compare in pairs before checking answers on page 104. Ask students if they were surprised by any of the answers.

B. Discussion: Survey the class to see if students think caffeine is good or bad for them. Write the results on the board. Repeat the survey after students have read the passage and ask why their opinion might have changed.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 1: Option "a" is not mentioned in the passage. Option "b" and option "d" are mentioned but are too specific, leaving option "c" as the correct answer.
- Question 4: The word *despite* signals two opposite ideas. In this case, it means, "Most people drink coffee but they rarely abuse it."

B. Scanning: Have students scan the reading passage for the three people's names to find the relevant paragraphs. Then have them complete the activity before checking their answers with a partner.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill



Have students read the paragraph **Identifying Pros and Cons (1)**. Level 3 *Reading Explorer* teaches students two different ways of identifying the pros and cons effectively using charts. Point out how an author's reasons for and against an issue can help you evaluate the author's claims and formulate your own opinion about a topic. A T-chart is an effective way of listing the pros and cons to help determine the strength of each claim.

A. Analyzing Pros and Cons: Have students look back at the reading passage and underline the phrases and sentences which signal positive and negative effects of caffeine. Have students complete the chart, and then check answers with a partner.

B. Evaluating Pros and Cons: Have students work with a partner to discuss their reasons for and against consuming caffeine. Have students say whether they think the positive effects outweigh the negative effects, and whether they agree with the writer of the passage. Ask for volunteers to explain their answers.

Challenge: Write the following question on the board for students who have completed the comprehension and reading skill activities:

Caffeine and chocolate consumption are favorite topics in the popular media. What kinds of reporting or evidence would lead you to change your consumption patterns?

Critical Thinking



- Have students read the statements about eating chocolate. Have them work in pairs to discuss and agree on which statements highlight the positive or negative effects of eating chocolate.
- Have students discuss these claims in pairs, deciding whether eating chocolate is generally positive or negative. Discuss as a class what other information or evidence might be needed to make a decision.

Vocabulary Practice



A. Completion: This paragraph is about how chocolate can be harmful for dogs. Have students read the paragraph first before choosing the correct words. Then have them check answers with a partner. Choose a volunteer to read out the completed paragraph to the class.

B. Definitions: Have students complete each sentence with the correct answer, and then compare answers in pairs. To check comprehension of the vocabulary words, ask: *Does your view on caffeine contradict the writer's view? Are the effects of caffeine temporary? How can you facilitate your learning of English?*

C. Word Web: Have students work in pairs to use a dictionary to find synonyms of *furthermore*. Discuss as a class and write their words on the board. If time allows, have students write a sentence using *furthermore*, and then use their synonyms in the sentence to see if the sentence still makes sense.

LESSON OVERVIEW

Target Vocabulary: *concentration, consequently, constant, excessive, focus, in turn, surroundings, switch, therapy, visual*

Reading Passage Summary: Digital technology is a normal part of everyday life—most people are reliant on their phones, laptops, and computers to connect to the world around them. Although there are positive effects of being constantly plugged in, there are also health issues associated with too much distraction. Scientists have found a correlation between nature and a healthy lifestyle, and they recommend people get off their devices and go for regular walks away from their hectic city lives.

Answer Key

Before You Read

- A.** Possible answer(s): I spend about: 30 minutes reading articles; two hours chatting with friends; one hour posting on social media; two hours watching videos; three hours playing video games.
- B.** Possible answer(s): Some positive effects of using digital technology are that you don't need to be stuck in an office all day because you can work from home or when you're out and about; you can always get in touch with people; Some negative effects are that you're always "connected" and so it's more difficult to take a break from work; you can easily become addicted to your device.

Reading Comprehension

- A.** 1. a; 2. d; 3. c; 4. c (Para F); 5. a
- B.** 1. Chiba University; 2. 15; 3. city centers; 4. blood; 5. forests; 6. 16; 7. (stress) hormone; 8. blood pressure; 9. relaxes; 10. evolved

Reading Skill

- A.** **To add information:** moreover; **To contrast ideas:** yet; **To show another similar idea:** likewise; **To emphasize a point:** above all;

To show a consequence: therefore;

To make a conclusion: in short

- B.** Possible answer(s) (from passage): 1. In fact, Indeed; Consequently, As a result, Therefore; 2. In addition, Furthermore, Moreover

Critical Thinking

- Possible answer(s): Someone who lives in the city could go to a quiet building, such as a library, and read a book to relax, or they could go to a coffee shop with friends.
- Possible answer(s): A fitness app could be used to help reduce stress by helping motivate people to exercise.

Vocabulary Practice

- A.** 1. concentration; 2. Consequently; 3. surroundings; 4. therapies
- B.** 1. in turn; 2. visual; 3. focus; 4. excessive; 5. switch; 6. constantly
- C.** 1. vision; 2. revise; 3. invisible; 4. visualize

TEACHING NOTES

Before You Read

A. Discussion: In pairs, have students discuss how much time they spend doing the activities listed (1–5). Have a class discussion to find out which activities take up the most or least amount of time.

B. Predicting: Have students discuss the question in pairs, and then read the passage individually to check their ideas. The word *perform* means "do" in this context. It can also be used to describe what an actor does on stage.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: *Multitasking* means doing more than one activity at the same time. Taking photos or visiting cities isn't multitasking, because in these examples only one activity is being done. Making a phone call while typing an email are two different activities that are taking place at the same time.
- Question 5: The second sentence of paragraph I says, *We enjoy them*. *Them* refers to the visual details in nature in the first sentence. In the third sentence, *this* refers to "enjoying the visual details in nature."

B. Notes Completion: Have students read paragraph G again and then attempt to complete the notes without looking at the passage. Have students compare answers, and then look back at paragraph G to check. Point out that some answers are not in the same order as in the paragraph, so they should read the details carefully.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Understanding Transitions**. Explain that transitions make text flow more smoothly. They also help the reader understand important ideas such as the sequence of events and the connections between them.

A. Classifying: Have students classify the transition words by purpose and add any other words they know. Point out that such terms make texts smooth and coherent and also add variety. Ask students to work in groups of three to write six sentences, one for each of the functions. Have them see if the terms within each category are interchangeable.

B. Classifying: Have students complete the excerpts with words or phrases from the chart in activity A, and then compare their answers with the transition words the author used in the reading passage. Have students discuss with a partner how similar their words are to the author's.

Critical Thinking

- Have students note ways to reduce stress before they discuss the questions with a partner. Remind them that the passage talks about spending time in nature, but that is not always possible to do if you live in the city.
- Have students focus on ways people who live in cities can reduce stress—and discuss how technology can help.

Vocabulary Practice

A. Completion: This paragraph is about how South Koreans are taking advantage of "healing forests" to help relieve the stress and pressure of everyday life. Direct students' attention to the photo and caption in activity A. Have students complete the sentences with the correct words from the box. Check answers as a class. Choose a volunteer to read aloud the completed paragraph to the class.

B. Definitions: Have students match the definitions to the words in the box, and then check their answers with a partner.

C. Work Link: Have students complete activity C individually, and then compare answers in pairs. Make sure students understand the concept of a word root, and have them underline the word root *vis* in each word. If time allows, have students write a new sentence for each word.



Video Summary: From morning coffee to afternoon tea, caffeine is a daily part of life for millions of people. The video looks at what caffeine is, the history of how it entered our diets over a millennia, and the effects it can have on our health if we consume too much.

Key Vocabulary: *beverages, caught on, infuse, lethal*

Answer Key

Before You Watch

A. 1. d ; **2.** a; **3.** c; **4.** b

B. Possible answer(s): I usually drink two cups of coffee a day and eat chocolate once every three days. I sometimes have a cup of tea or cola, but I never have energy drinks.

While You Watch

A. 1. b, c; **2.** a, b

B. c, b, a, d

Critical Thinking

Possible answer(s): Some pros of gathering in coffee and tea establishments are that people can socialize and communicate about current events. They also contribute to the local economy by keeping the shop owners in business. Some cons might be that people may drink too much caffeine and may spend too much time away from their families. Students may not devote enough time to studying.

B. Previewing: Have students discuss with a partner how often they have consumed caffeine-based products over the last two days, what time of day they consumed the caffeine, and for what reason they consumed it. For example, someone might have a cup of espresso after lunch to be alert in the afternoon. Ask students: *Are there times when you depend on caffeine for alertness under stressful conditions?*

While You Watch

A. Gist: Have students read the statements before they watch the video. Play the video. Then have students check the answers individually before comparing answers with a partner.

B. Detail: Play the video again. Have students complete the missing information on the timeline. Check answers as a class.

Critical Thinking

Have pairs first discuss reasons *why* people gather in coffee and tea establishments. Have them write down their ideas, then read the ideas in the box. Draw a T-chart on the board with the headings *Pros* and *Cons* and have a class discussion about students' ideas.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

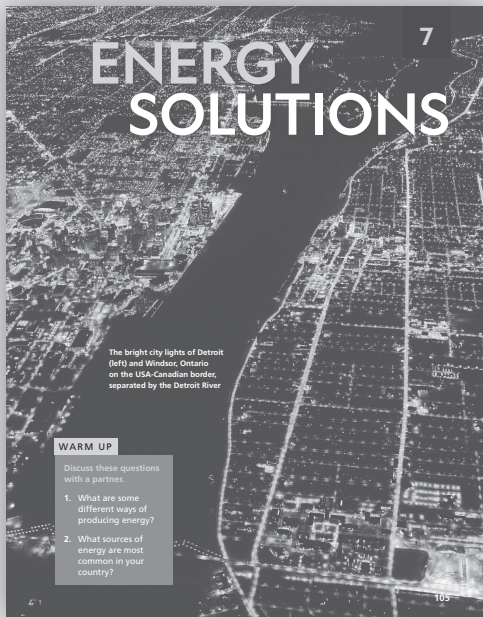
Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

TEACHING NOTES

Before You Watch

A. Definitions: Have students read the paragraph and then match the words in bold to the definitions. Have students check answers with a partner.

ENERGY SOLUTIONS



UNIT INTRODUCTION

This unit focuses on sustainable energy and what we can do to help reduce our dependence on fossil fuels. In “Powering the Planet,” students read about three possible energy sources as alternatives: sun, wind, and nuclear. In “City of the Future?” students read about the city of Dubai and what it’s doing to reduce its ecological footprint and provide its citizens with green ways of living. In “Wave Power,” students will watch a video about how wave power can be used to provide energy. Students will also read about how Singapore has begun to power some of its areas with renewable energy, and how a town in Florida is creating a place powered solely by the sun.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *alternative fuels, fossil fuel dependence, renewable energy, solar power, wind power, nuclear power, Dubai’s Sustainable City, green buildings*

WARM UP

Answer Key

Possible answer(s):

1. Using fossil fuels, getting energy from solar power, water power, wind power; **2.** I think solar and wind power are becoming more common, but people also use fossil fuels.

TEACHING NOTES

There are two main types of energy sources: renewable (easily replenished) and nonrenewable (not easily replenished). The problem with using nonrenewable energy sources such as fossil fuels is that they will eventually run out—so it’s important today to find new ways to use renewable energy

sources, such as solar, geothermal, wind, biomass, and hydropower.

- Read aloud the Unit Title as students look at the photo. Explain that the word “solution” implies that there is a problem. Discuss what types of problems could be related to energy, then brainstorm possible solutions. Make connections between their ideas and what they see in the photograph.
- Read aloud the caption and explain the words *border* and *separated by*. Make sure students know where Detroit and Windsor, Ontario, are on the map.
- Have students discuss the questions with a partner, and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *capacity, decline, dispose, eliminate, equivalent, guarantee, protest, steep, substitute, utilize*

Reading Passage Summary: People have been dependent on nonrenewable energy sources such as fossil fuels for decades, but in recent years researchers have been looking for a cleaner, cheaper, and more readily available alternative. Three renewable energy sources are discussed in this passage as possible substitutes for fossil fuels: solar, wind, and nuclear.

Answer Key

Before You Read

A. Possible answer(s): **1.** Advantages: it's clean, renewable energy; Disadvantages: you need to receive a lot of sunlight, solar panels don't always look nice; **2.** Possible answer(s): wind power, wave power

B. Solar: India; **Wind:** England; **Nuclear:** France, China, India, Japan

Reading Comprehension

A. 1. a; **2.** c (Para D); **3.** b (Para G and H); **4.** a (Para K); **5.** a

B. 1. c, d; **2.** f; **3.** a, e

Reading Skill

A. 1. nuclear energy; **2.** solar energy, wind energy, nuclear energy; **3.** solar energy, wind energy

B. 1. solar energy, wind energy; **2.** nuclear energy; **3.** solar energy, nuclear energy

Critical Thinking

► Possible answer(s): I think solar energy has the most significant advantages because people can have their own solar panels and the energy is clean and readily available, especially if you live in a sunny climate; I think nuclear has the most significant disadvantages because of its safety record.

► Possible answer(s): I think the disadvantages of wind energy are the easiest to solve because people need to understand that we have to

find an alternative to fossil fuels so they will have to accept wind farms on the landscape. Maybe the design of the wind turbines can be changed to better fit into the landscape.

► Possible answer(s): I think solar power is the best option to replace fossil fuels because if every home has solar panels, the energy from the sun can be collected in great quantities and shared throughout communities.

Vocabulary Practice

A. 1. eliminate; **2.** substitute; **3.** equivalent; **4.** utilize

B. 1. b; **2.** b; **3.** a; **4.** a; **5.** a; **6.** a

C. climb ↑; decline ↓; dive ↓; drop ↓; increase ↑; reduction ↓

TEACHING NOTES

Before You Read



A. Discussion: Direct students' attention to the photo and caption. Make sure students understand what solar power is and have them discuss whether they have seen solar panels in their community. How do the solar panels they have seen compare to the photograph?

- In pairs, have students discuss the advantages and disadvantages of solar power. Draw a T-chart on the board with the headings *Advantages* and *Disadvantages* and have students share their ideas.
- Ask students to think about other natural features of the Earth, such as oceans and air. Have a class discussion about how these natural features can produce energy.

B. Scanning: Remind students that scanning is to read quickly for specific details. They should only be looking for the names of the countries that go under each heading.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read

along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 2: Solar power only provides less than 2 percent of the world's energy because the panels are so expensive, so options "a" and "b" are not correct. Solar power doesn't produce any emissions, so option "d" is not correct.
- Question 5: The words *any* and *alone* tell us that the meaning is about one source of energy that can solve the problem. The correct answer, option "a," focuses on the solution to the problem. Option "b" focuses on the problem (burning fossil fuels), option "c" refers to more than one source of energy, and the solution in option "d" is not specific (an alternative to fossil fuels, in general, as opposed to one energy source).

B. Matching: Have students read the passage again and complete the activity individually. Then have students check answers in pairs.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill



Have students read the paragraph **Identifying Pros and Cons (2)**. Remind students that they have already learned about this concept. Point out the charts in activities A and B to show how pros and cons can be graphically organized to help the reader see the advantages and disadvantages of an idea.

A. Identifying Pros: Have students individually read the passage and highlight the advantages of each energy source before completing the activity. Have students compare their answers in small groups.

B. Identifying Cons: Have students individually read the passage and highlight the disadvantages of each energy source. Have them compare their answers in their groups.

Challenge: For students interested in doing more with the topic, ask the following question:

How can you reduce your dependence on fossil fuels? Possible answer(s): I can walk or ride a bicycle instead of driving a car, buy clothing made of natural materials, and recycle.

Critical Thinking



Certain sources of energy are advantageous to some countries due to their location and geology. For example, both Iceland and New Zealand are able to use thermal energy. Other places, such as the Arabian Peninsula, have strong sunlight nearly every day of the year.

- Ask students to look again at the charts showing advantages and disadvantages in activities A and B and rate each energy source from 1 to 3, based on how significant they think the pros and cons are. Have students discuss their ideas in pairs.
- In pairs, have students look again at the disadvantages and discuss which ones would be the easiest to solve.
- Have pairs discuss their opinion about which source is the best alternative to fossil fuels.

Vocabulary Practice



A. Completion: This paragraph is about how Singapore has begun to power some of its areas with renewable energy. Have students do activity A by using four words from the box to complete the sentences. Check answers as a class.

B. Words in Context: Have students complete activity B, and then compare answers with a partner. To check comprehension, ask: *Can you guarantee the sun will shine tomorrow? Has the dependence on fossil fuels declined in your country?*

C. Word Partners: Have students complete the activity individually, then compare answers in pairs. *Steep* is often paired with words in two contexts: 1) in a physical setting, such as a *steep slope* for skiing or a *steep flight of stairs*, and 2) to describe trends on a graph such as a *steep decline* in stock prices. If time permits, have students make a sentence with each adjective phrase.

LESSON OVERVIEW

Target Vocabulary: *comprehensive, cooling, distribute, efficiency, emissions, regulation, resident, sustainable, unrealistic, wealthy*

Reading Passage Summary: Dubai is a wealthy, modern city in the United Arab Emirates, located where the Arabian Desert meets the sea. Visitors come from near and far for the high-end shopping, first-class dining, and beautiful beaches. In recent years, the city has implemented policies to help lower its emissions, and it has even created a Sustainable City with the goal of reducing its ecological footprint. Dubai's leaders hope the city will one day be used as a global model.

Answer Key

Before You Read

- A.** 1. ecological footprint; 2. take action; 3. metropolis
B. Possible answer(s): A modern city like Dubai could find alternative ways to produce energy, such as solar power. There is a lot of sunlight in the Middle East so that might be a good choice.

Reading Comprehension

- A.** 1. d; 2. c; 3. a; 4. b; 5. a
B. 1. c; 2. f; 3. g; 4. b; 5. d; 6. a

Reading Skill

- A.** Positive words: carbon-rich, vital, abundant, inexpensive; Negative words: dirty, dangerous, grave risks, deadly diseases, recklessly, toxic, polluting, foolhardy, irresponsible; Possible answer(s): I think the author's tone is negative because there are many more negative words. The author thinks coal is dangerous to human health and that it should be replaced now.
B. Possible answer(s): I think the author's tone is positive because he or she has given examples of good things Dubai is doing to reduce its emissions.

Critical Thinking

- Possible answer(s): Dubai has invested in solar energy, green buildings, and public

transportation. All new buildings must meet strict energy regulations and use solar panels.

- Possible answer(s): My country gives a discount to people who have solar panels on their roofs, and provides tax incentives to people who buy energy-efficient appliances and cars that use less gasoline.

Vocabulary Practice

- A.** 1. sustainable; 2. residents; 3. emissions; 4. efficiency; 5. wealthy; 6. unrealistic
B. 1. cooling; 2. comprehensive; 3. distributed; 4. unrealistic; 5. regulation; 6. efficiency; 7. emissions; 8. sustainable
C. ecology; emit; distribution; efficient; sustain; residential

TEACHING NOTES

Before You Read

A. Completion: Have students read the caption and note the words in bold. Ask students to match these words to the correct sentences. The expression *take action* is often used by political or environmental groups who want to encourage others to join them to make a change. Check answers as a class.

B. Predicting: Make sure students understand why it's important for a city or country to reduce its ecological footprint. Have students discuss their ideas in pairs, and then check their answers as they read the passage.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 2: A writer will often start a passage with an example to grab the reader's attention. In this case, the example is surprising because

it's not typical to have a ski resort in the middle of the desert! The writer's purpose is to draw attention to a surprising fact—and to describe how wealthy and modern Dubai is. So option "c" is correct.

- Question 4: Although the infographic on page 115 describes rainwater, it is not mentioned at all in relation to Dubai's Sustainable City. So option "b" is correct.

B. Summarizing Main Ideas: Remind students that they learned about summarizing main ideas in the reading skill in Unit 2B. If necessary, have students turn back to that section of the Student's Book and review this skill again. Have students read each paragraph and identify the main idea, then compare answers with a partner. Remind students that one description is extra.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Identifying an Author's Opinion**. Explain how positive and negative words in a text can help show the author's opinion about a topic. When you know how the author feels about a topic, you can better understand the point he or she is trying to make.

A. Identifying Opinion: Have students read the text and identify the positive and negative words before answering the questions individually. Then have them compare their ideas with a partner. Discuss whether they agree or disagree with the author's opinion.

B. Identifying Opinion: Have students read paragraphs C, D, and F and consider the author's opinion about Dubai, underlining the words that support their claim. Ask students to share their ideas with the class.

Critical Thinking

- Have students make a list of ideas before looking back at the text. Have them add to their list after rereading the passage, and then compare answers in pairs.
- In small groups, have students discuss what their community or country is doing to reduce its ecological footprint. Give them ideas, such as tax benefits, transportation incentives, energy-efficient cars, and new bike lanes.

Vocabulary Practice

A. Completion: This passage gives information about how Florida's new town of Babcock Ranch may be the town of the future. Have students read the passage before completing the information with words from the box, and then have them check answers with a partner. Choose a volunteer to read the paragraph aloud to the class. Ask students whether they think it is realistic or unrealistic that Babcock Ranch could be a model for future towns.

B. Definitions: Have students choose the correct word from the box in activity A to match the definition. Remind students two words are not needed. Have students check answers in pairs. To check comprehension, ask: *How comprehensive is your packing for vacation? Do you think regulations for road users in your country keep people safe?*

C. Word Forms: Have students complete the chart with the correct part of speech for each word. Point out that the gray boxes mean there is no word for that space. If time permits, have students make a sentence with each added word.

Video Summary: The video provides facts and information about how wave power can be harnessed to provide sustainable energy as an alternative source to fossil fuels. In particular, it looks at an invention called Pelamis and how it was developed—from testing to commercial use—for harnessing energy from the waves.

Key Vocabulary: *pipes, pumps, tides, turbines*

Answer Key

Before You Watch

A. Upper left: 1; Middle: 2; Right: 4; Bottom left: 3

B. 1. pipes; 2. pumps; 3. turbines; 4. tides

While You Watch

A. 1

B. 1. sea snake; 2. high pressure; 3. weather conditions; 4. Scotland; 5. Portugal

Critical Thinking

Possible answer(s):

- ▶ Although tides are predictable in any one location, the weather is not, so the equipment needs to be very sturdy to withstand ocean storms. In some places, it could interfere with navigation or fishing.
- ▶ I think it depends on the location of the place, its weather, and the attitudes of local people toward new sources of energy.

While You Watch

A. Main Idea: Have students read the sentences (1–3). Play the video and have students check their answers with a partner.

B. Completion: Have students read the sentences. If necessary, elicit or explain the meaning of *wave stimulator* and *prototype*. Play the video again. Have students complete the activity, and then compare answers with a partner.

Critical Thinking

- ▶ Have pairs consider how wave power is generated and make a list of how the equipment needed could affect ocean life.
- ▶ Have pairs synthesize all the information they've learned in the unit about each of the alternative ways to generate power. Have them decide on the alternative with the most potential, then share their opinion with the class.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

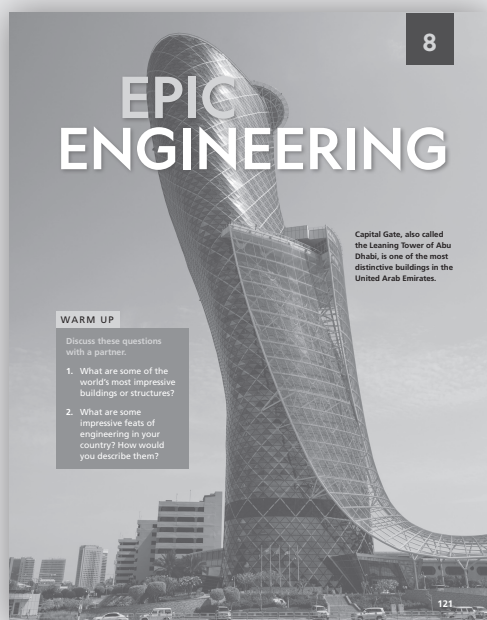
TEACHING NOTES

Before You Watch

A. Matching: Have students read the captions and label the diagram individually, and then compare answers with a partner.

B. Matching: Have students match the words in bold with the definitions, and then check answers with a partner.

EPIC ENGINEERING



UNIT INTRODUCTION

This unit focuses on great engineering accomplishments throughout history. In “China’s Grand Canal,” students read about how the Grand Canal in China has remained an important waterway in the country. In “Highway of Dreams,” students read about the Transoceanic Highway and consider the advantages and disadvantages of bringing access to the area between Peru and Brazil. In “Building a Rain Forest,” students will watch a video about the largest green museum in the world. Students will also read facts about the Great Wall of China, the Panama Canal, and the Gotthard Base Tunnel.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *Grand Canal, Great Wall of China, UNESCO World Heritage, Transoceanic Highway, Amazon Center for Environmental Education and Research, California Academy of Sciences*

WARM UP



Answer Key

Possible answer(s):

1. The Three Gorges Dam, the International Space Station, the Large Hadron Collider, Dubai’s Palm Islands; **2.** Students’ answers will vary.

TEACHING NOTES

Capital Gate is one of the tallest buildings in Abu Dhabi at over 160 meters (520 ft). The building leans at an 18-degree angle and is said to be the most inclined building in the world.

- Read aloud the Unit Title as students look at the photo. Explain the meaning of *epic* and point out that both words in the phrase “Epic Engineering” begin with the letter “e,” which gives the title extra effect. Have students describe the building they see in the picture and give an opinion about it. Do they think it’s epic?
- Read aloud the caption and explain the words *leaning* and *distinctive*. Make sure students know where Abu Dhabi is. Ask them if they know of another famous leaning building (e.g., the Leaning Tower of Pisa).
- Have students discuss the questions with a partner, and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *acquire, citizen, demolish, former, monument, proposal, regional, renovation, repair, transport*

Reading Passage Summary: For over 1,400 years, the Grand Canal has been an important conduit of trade and culture between China's agricultural south and political north. It was built in 605 and grew in importance over the next 500 years, which led to its renovation in 1279. Today, the canal has become a UNESCO World Heritage site, based on its status as one of the world's great engineering accomplishments.

Answer Key

Before You Read

- A. 1.** 1368–1855; **2.** it was used to transport everything from food to wood to textiles; **3.** Beijing in the north and Hangzhou in the south; **4.** 1,770 kilometers
- B.** Possible answer(s): I think the canal has been important because it helped move people, goods, and ideas from one part of China to another.

Reading Comprehension

- A. 1.** b (Para B); **2.** d (Para D); **3.** b; **4.** d; **5.** c
- B.** c, f, b, e, a, d

Reading Skill

- A. 1.** best-known; **2.** waterway; **3.** trademarks; **4.** lifeline
- B. 1.** well-known; **2.** man-made; **3.** Without; **4.** lifetime; **5.** day trip; **6.** highlight

Critical Thinking

- ▶ Possible answer(s): Each city was special because the traditional cultures were different, which made the buildings unique.
- ▶ Possible answer(s): Today, the cities all look exactly the same.

Vocabulary Practice

- A. 1.** proposals; **2.** acquired; **3.** monument; **4.** renovation; **5.** transported
- B. 1.** b; **2.** a; **3.** a; **4.** b; **5.** a
- C. 1.** innovate; **2.** renovated; **3.** novelty

TEACHING NOTES

Before You Read

A. Scanning: Have students read each question and underline the *wh-* word that tells what specific details they should look for (*when* = a date, *what* = a thing, *how long* = a measurement). Have students work individually, and then have them check answers with a partner.

B. Predicting: Have students discuss the question with a partner. Then have them read the passage to check their ideas.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 1: Although the original canal was built for the army, the reason was not so they could move more quickly. Rather, it was so that food could reach them more quickly and easily.
- Question 2: Emphasize to students they should read the entire statement rather than only focusing on key words. Students could mistakenly think option “d” is one of the correct answers if they focus on Peking duck and Peking opera and miss the important part that says *southern* instead of *northern*.

- Question 5: The example of Yangzhou fits most appropriately after the statement about local development along the canal at the end of paragraph E.

B. Timeline: Have students complete the timeline individually, and then compare answers with a partner. Point out that they should look at the map on page 125 as well.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Understanding Vocabulary: Compound Words**. Make sure students understand that a compound word is formed by combining two words together to form a new word. Compound words can be formed with different parts of speech; for example, *freeze-dry* (two verbs), *football* (two nouns), *takeout* (verb + preposition), and *underworld* (preposition + noun).

A. Definitions: Have students find and underline the compound words in paragraphs C and D before completing the activity individually. Then have them check their answers with a partner.

B. Completion: This paragraph is about the construction of the Great Wall of China, which was started by the first Emperor of China who wanted to protect the country from attack. Direct students attention to the photo and caption next to activity B. Have students make a list of all the possible compound words before beginning the activity. Then have them check their compound words with a partner and complete the sentences. Check answers as a class.

Critical Thinking

- Have students read paragraph F again and summarize Zhou Xinhua's opinion and discuss their answers with a partner. Why were the cities "special and unique"?
- In pairs, have students explain Zhou Xinhua's meaning when he says, "a thousand people with one face." How is that different from "special and unique"?

Challenge: Write the following question on the board for students who have completed the comprehension and reading skill activities:

Which do you consider the more amazing engineering feat, the Great Wall or the Grand Canal? Explain why you think so.

Vocabulary Practice

A. Completion: This passage is about the history of the development and more recent renovation and expansion of the Panama Canal. Direct students attention to the photo and caption next to activity A. Have students choose the correct word from each pair to complete the sentences. Then have them check answers with a partner. Choose a volunteer to read aloud the completed passage to the class.

- Note the renovation of the Panama Canal has enabled much larger ships to use it. The Suez Canal, which also provides a shortcut for shipping, has responded to modern navigation by having ships move one-way in convoys rather than allowing two-way traffic.

B. Definitions: Have students select the correct answer to complete the definitions. Check answers as a class.

C. Word Link: Have students underline the root *nov* in each word and think about its meaning before completing the activity. Have students check their answers with a partner. If time allows, have students make a new sentence with each word.

LESSON OVERVIEW

Target Vocabulary: *accessible, border, dense, enormous, illustrate, impact, occur, partially, practical, ruin*

Reading Passage Summary: The Transoceanic Highway is a new highway running from the Pacific Ocean in Peru to the Atlantic Ocean in Brazil. The landscape is varied—from rugged and isolated to flat and open—as it passes through the steep Andes Mountains, the Amazon Basin, and the plains of southern Brazil. Along the route, the economic activities of the local people vary: the Andean people of the mountains have a pastoral economy, the Amazon region has some logging and mineral extraction, and the plains of southern Brazil have large soybean and sugar cane farms, used for ethanol fuel. Despite the potential economic benefits of the road, environmentalists are worried about the impact on Amazonian animals and plants unique to the region.

Answer Key

Before You Read

- A. 1.** Possible answer(s): The highway would provide easier and more affordable transportation for people and goods.
2. Possible answer(s): The pristine environment in the Amazon will be threatened.
B. Paragraphs E and F address the advantages for the Peruvians. Paragraphs G and H address the disadvantages for the environmentalists.

Reading Comprehension

- A. 1.** a; **2.** b (Para C); **3.** b; **4.** c (Para G); **5.** a
B. 1. faster; **2.** live; **3.** jobs; **4.** biodiversity;
5. pristine; **6.** farming

Reading Skill

- A. 1.** No; **2.** Yes; **3.** Yes; **4.** No; **5.** Yes
B. 1. Possible answer(s): I think Mary feels negative about the old highway because she says that it was a long and uncomfortable journey. She couldn't wait for the new

highway to be built. **2.** I think the author feels neutral about the new highway right now because the passage is organized into the positive and negative aspects of the highway. The writer ends the passage saying that only time will tell if it will bring good or bad changes.

Critical Thinking

- Possible answer(s): The Grand Canal and the Transoceanic Highway are similar because they were both built to help people transport goods and travel more easily across vast distances.
 ► Possible answer(s): I think the Transoceanic Highway will be as successful as the Grand Canal because it serves as a way to transport people and goods across difficult terrain. Now that the highway is open, people will not want to go back to being as isolated as they were before.

Vocabulary Practice

- A. 1.** enormous; **2.** border; **3.** impact; **4.** practical;
5. ruining
B. 1. dense; **2.** occurs; **3.** partially; **4.** accessible;
5. illustrates
C. 1. network; **2.** fog; **3.** layers; **4.** crowds

TEACHING NOTES

Before You Read



A. Discussion: Direct student's attention to the photo and caption. Have a class discussion about the terrain and transportation routes in the area. Point out the mountains in the photograph and discuss how the steep terrain and dense rain forest have, until now, made it very difficult to transport bulky goods such as lumber or mineral rocks. In addition, migration into remote areas has also been prevented, so the flora and fauna are mostly in unspoiled condition. Have students answer the questions with a partner, and then have them share ideas with the class.

B. Scanning: Point out the headings *Improving People's Lives* and *Environmental Challenges* in the passage. Have students scan the reading and underline answers to the questions in activity A, before reading the passage more closely to check their ideas.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Paragraph C explains that Brazil had already built roads as far as the border with Peru.
- Question 5: In paragraph I the author questions whether the changes will be mostly positive or negative without concluding either way, so option "a" is correct.

B. Pros and Cons: Remind students that they learned about identifying pros and cons in the reading skill in Unit 6A. If necessary, have students turn back to that section of the Student's Book and review this skill again. Have students use words from the reading passage to complete the chart, and then check answers with a partner. Remind them to use one word for each item and look at the headings to help locate the information.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Inferring Information (1)**. Level 3 *Reading Explorer* gives students the opportunity to practice this reading skill twice, in this unit and in Unit 11. Explain that a writer does not always provide every detail, and so often there are times when the reader will need to infer the writer's meaning.

A. Inferring: Have students look back at the reading passage and say whether the statements are inferred or not. Check answers with the class.

B. Inferring: Have students note answers to the questions first before discussing how they inferred the answers with a partner.

Critical Thinking

- In pairs, have students list ways the Grand Canal and the Transoceanic Highway are similar. Encourage them to refer back to both passages to find specific details.
- Have students work in small groups to discuss the success of the Transoceanic Highway, and then have them share their ideas with the class.

Challenge: For students interested in doing more with the topic, ask the following questions: *Are there any places in your country that are inaccessible by road? Give examples. Why have they remained that way?*

Vocabulary Practice

A. Completion: This paragraph is about how the Gotthard Base Tunnel was built to lessen the environmental problems of transporting goods across the Swiss Alps. Direct students attention to the photo and caption next to activity A. Have students choose the correct words to complete the information, and then check answers with a partner. Choose a volunteer to read aloud the completed paragraph to the class.

B. Have students complete the sentences with the correct form of the words in red from activity A. Remind them that only five words are needed. Check answers as a class.

C. Collocations: Have students do activity C, and then check answers with a partner. Something that is *dense* contains a lot of things or people in a small area, such as a *dense population* or a *dense jungle*. There is also a slang meaning of *dense*; if you say someone is dense, you mean you think the person is not very smart: *She's not a bad person—just a little dense*. If time allows, have students make a new sentence for each of the collocations.



Video Summary: The video provides facts and information about the California Academy of Sciences, the largest green museum in the world. The living museum is complete with rain forest, coral reef, and other natural environments. The tropical dome housing the rain forest is rich with life, and the coral reef has many species of extremely precious animals.

Key Vocabulary: *aquarium, canopy, dome, ramp, tunnel*

Answer Key

Before You Watch

A. 1. dome; 2. aquarium; 3. canopy; 4. tunnel; 5. ramp

While You Watch

A. 1, 3, 4

B. 1. b; 2. c; 3. a

Critical Thinking

Applying Ideas: Possible answer(s): There are several famous soccer players that come from my city, so I would create a sports museum. The building would be shaped like a soccer ball and there would be turf inside for visitors to use. I would invite the famous players to come on opening day, which would draw a big crowd.

While You Watch

A. Gist: Play the video. Have students check the true statements, and then compare their answers with a partner.

B. Multiple Choice: Have students read the questions (1–3). Play the video again and have students complete the activity, then check answers as a class.

Critical Thinking

Have students brainstorm in small groups about what type of museum or attraction would bring visitors to their local town or area. Think about famous people, local wildlife, and famous landmarks that people would want to learn more about. Have the same small groups draw up a plan of their attraction in order to present their ideas to another group.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

TEACHING NOTES

Before You Watch

A. Definitions: Ask students to read the information and think about the meaning of the words in bold. Have students complete activity A individually, and then check their answers with a partner.

HIGH-TECH SOLUTIONS



UNIT INTRODUCTION

This unit focuses on how new technology is changing our lives. In “The Power of Virtual Reality,” students read an interview about how virtual reality is being used to help people. In “High-Flying Helpers,” students read about how drones are performing important humanitarian and conservation tasks. In “Drone Delivery,” students watch a video about a start-up drone delivery company. Students will also read about how VRT can help patients suffering from psychological trauma.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *augmented reality, virtual reality, embodied cognition, drones, zipline*

WARM UP

Answer Key

Possible answer(s):

1. smartphones, GPS, Wi-Fi, tablets, digital cameras, hybrid cars
2. My smartphone is helpful to me because I can stay connected wherever I am.

TEACHING NOTES

Today, augmented reality (AR) is becoming increasingly common in our everyday world. The example in the picture shows how AR adds to the reality you already see. Some future uses include smart glasses and contact lenses, but there are ethical and privacy concerns with this new technology.

- Read aloud the Unit Title as students look at the photo. Explain the meaning of *high-tech*, and point out that there must first be a problem in order to have a solution. Have students describe the picture and discuss what’s happening. How can technology be used to improve a driver’s experience based on the photo? Ask if they think the traditional way of driving was a problem that needed to be solved.
- Read aloud the caption and explain the words *augmented reality* and *up-to-date*. Ask them whether they’ve ever seen this technology and what their opinion is on it. Have students discuss the questions with a partner, and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *actual, alter, conference, conversely, demonstrate, downside, get to, go over, passive, treat*

Reading Passage Summary: Virtual Reality (VR) devices first became available to the public in the 1990s, mostly as goggles that allowed users to play games with 3D visuals. Although now VR is widely used in video games, researchers are finding new uses for the technology that can help improve people's lives—through education, healthcare, and exercise.

Answer Key

Before You Read

- A.** Possible answer(s): It could be used to treat medical conditions like poor eyesight; people could experience different places and different cultures.
- B.** Possible answer(s): Athletes could do drills with a virtual “trainer”; People could have virtual meetings where they're all sitting in the same room; Organizations could create educational material where people virtually visit endangered places.

Reading Comprehension

- A. 1.** c; **2.** a (Para B); **3.** c (Para H and I); **4.** a; **5.** b
- B. 1.** by doing / embodied cognition; **2.** reducing reaction times; **3.** eye contact; **4.** scientists; **5.** it's a tool

Reading Skill

- A. 1.** b, f; **2.** a; **3.** c, d
- B. 1.** Possible answer(s): Teachers could use VR in the classroom to give their students a more enriching experience. For example, students could go “back in time” and “walk around” an ancient town with other people from that time period. In architecture, architects could let their clients see their designs through VR to help the client visualize what it would look like in real life. **2.** Possible answer(s): the shrinking Amazonian Rain Forest; endangered wildlife

habitats: VR could allow people to experience firsthand the logging and see how vulnerable the wildlife is.

Critical Thinking

- The interviewer mentions creating violent video games.
- Possible answer(s): People might get addicted to VR and think that it's reality. That could lead to a decrease in social interaction and an increase in health problems, including depression.

Vocabulary Practice

- A. 1.** treat; **2.** passive; **3.** get to; **4.** actual; **5.** going over
- B. 1.** b; **2.** a; **3.** a; **4.** b
- C. 1.** downpour; **2.** downside; **3.** downturn; **4.** downsize

TEACHING NOTES

Before You Read



A. Discussion: Make sure students understand the meaning of *therapy* and *interactive simulation*. Have pairs brainstorm other uses of VR, both as a form of entertainment and ways it could be used in medical advancement.

B. Predicting: Have students share their ideas with a partner and add to their lists. Then have students read the passage individually to find out more possible uses of VR.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph numbers from the reading passage.

- Question 2: Embodied cognition means “learning by doing,” which means the activity has to be active. The only passive activity here is option “a”—watching a soccer game on TV.

- Question 3: The purpose of the Ischia VR model is to show people how the oceans will look in 50 years, and let them explore the effects of CO₂ on the ecosystem.
- Question 4: The interviewee states, "Carson Palmer is one of the earliest *adopters*." Although we can infer he is an athlete and more specifically, a quarterback, he is one of the earliest *users* of the VR system designed to improve play on the football field.

B. Short Answer: Have students try to answer the questions before looking back at the passage. Remind students to use no more than three words in each answer. Have them compare their answers with a partner.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Applying Information from a Text**. Explain how applying information from a text can help you better understand the writer's ideas and think about how well these ideas would work in different situations. You might be able to predict what could happen in a similar situation, solve a problem, or infer other details based on the writer's ideas.

A. Identifying Advantages: Have students complete the activity individually without looking back at the passage. Then have students compare answers in pairs and find text evidence in the passage. Remind students that one of the advantages is not mentioned in the text.

B. Applying Information: In pairs, have students discuss the advantages of VR using information from activity A. Then have them apply those ideas to the areas listed in activity B. Have pairs share their ideas with other pairs, and then have a class discussion.

Critical Thinking

- Have students answer the question before looking back at the passage for confirmation. Then have partners compare answers.
- Have partners brainstorm downsides to VR, and then have them share ideas as a class.

Vocabulary Practice

A. Completion: This paragraph is about how VRT can help patients suffering from psychological trauma. Direct students' attention to the photo and caption next to activity A. Have students read the paragraph first, and then have them do activity A by choosing the correct words or phrases to complete the sentences. Have students compare answers in pairs. Choose a volunteer to read aloud the completed paragraph to the class.

B. Words in Context: Have students complete the activity individually, then compare answers in pairs.

C. Word Parts: Point out that *down* can mean "toward or in a lower place or position." Have students complete the activity individually, and then compare answers in pairs. Remind students that one word is not needed. If time allows, have students write a new sentence for each compound word in the box.

LESSON OVERVIEW

Target Vocabulary: *affordable, aid, ambitious, assess, medical, military, package, rapid, sufficient, survey*

Reading Passage Summary: Drones are small, remote-controlled airplanes or helicopters that were originally created and developed by the military as tools of war. However, researchers are now finding positive uses for these machines to help address health and conservation challenges across the globe. Drones are being used today to provide medical supplies to remote places and to help protect endangered wildlife.

Answer Key

Before You Read

- A.** Possible answer(s): They can get to hard-to-reach places such as oceans and mountain tops; drones could be used to look for people in danger; they could survey damage done by wildfires or hurricanes; they could deliver medicine and clothing.
- B.** surveying natural disasters; delivering medicines; locating threats to wildlife

Reading Comprehension

- A.** 1. c; 2. d (Para B); 3. a (Para C); 4. b (Para D); 5. b
- B.** 1. blood and vaccines; 2. 30 minutes; 3. weapons; 4. uploading drone footage

Reading Skill

- A.** 1. medical supplies, life-saving supplies/medicine, blood, health clinics, healthcare products/service, medicine, vaccines, treatable illnesses; 2. hard-to-reach, remote; 3. Thanks to; 4. aid
- B.** 1. c; 2. c; 3. c; 4. b; 5. d

Critical Thinking

Possible answer(s): Drones could be used to drop supplies to remote locations; for example, they could be used to deliver vaccines and medical

testing kits to remote islands. They could be used to monitor wildlife populations in remote locations. They could be used to map remote areas and help locate areas of deforestation.

Vocabulary Practice

- A.** 1. packages; 2. assess; 3. affordable; 4. ambitious; 5. rapidly
- B.** 1. help; 2. succeed; 3. in detail; 4. enough; 5. armed; 6. health
- C.** 1. receive; 2. depend on; 3. suspend; 4. appealed for

TEACHING NOTES

Before You Read



A. Discussion: Direct students' attention to the photo and caption. Have students work in pairs to brainstorm ideas using a T-chart with the headings *Hard-to-reach places* and *Items to deliver*. Then have them add to their list with other ideas for drone use.

B. Skimming: Remind students that skimming is reading a text quickly to get the general idea of meaning. Have students read the applications of drone technology first, and then give them one or two minutes to skim the passage. Have students read the passage to check their answers.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Paragraph A refers to "hard-to-reach places," which means *remote*. Therefore, it's clear that the health clinics in Rwanda are in remote locations.

- Question 5: The word *swarm* refers to large groups of insects, especially flying or quickly moving ones (a swarm of bees, locusts, grasshoppers, etc.).

B. Short Answer: Have students attempt to answer the questions first without looking back at the reading passage. Remind them to use no more than three words for each answer. Have students compare their answers with a partner, and then check back to the passage for confirmation.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Recognizing Text Coherence**. Make sure they understand how connecting ideas makes a text easier and clearer to read. Give an example of each point in the paragraph, such as (*It's a tool used to help others. This tool is inexpensive and easy to use; Emergency workers used the data to create a detailed map of the affected area. They were then able to transport aid to the people who needed it most.*)

A. Analyzing: Have students read the questions first before looking at the section in the reading passage. Have students answer the questions before checking answers as a class.

B. Analyzing: Have students read the questions first before looking at the section in the reading passage. Have students complete the activity individually, and then compare answers in pairs.

- Question 4: The word *tool* replaces *drone* for emphasis—it's ironic that the military created something that is being used to save lives.

Critical Thinking

Have students refer to their answers to Before You Read A. In small groups, have students add to their ideas, and then have a class discussion.

Vocabulary Practice

A. Completion: This paragraph is about how two types of drone—the quadcopter and the ornithopter—are being used to solve problems. Direct students' attention to the photo and caption next to activity A. Have students read the passage before circling the correct words to complete the information. Have students check their answers with a partner. Choose a volunteer to read aloud the completed passage to the class.

B. Definitions: Have students circle the correct options to complete the definitions, and then have them compare answers with a partner.

C. Collocations: Remind students that collocations are words commonly used together. Have students circle the correct options, and then check answers in pairs. If time allows, have students use the other collocations—*provide aid*, *withhold aid*, *call for aid*, *extend aid*—to make new sentences.

- Question 1: Point out that the subject is homeless people (the ones getting the aid), not the ones giving the aid.



Video Summary: Matt Sweeny is the founder of a drone company called Flirtey, competing with giants like Amazon to provide delivery services, using drones to deliver to customers' homes. Whether enough customers want to pay a premium for this service remains to be seen.

Key Vocabulary: *at a premium, autonomously, head start, over-the-counter, startup*

Answer Key

Before You Watch

- A.** 1. startup; 2. head start; 3. autonomously; 4. Over-the-counter; 5. at a premium
B. Possible answer(s): lightweight, small packages like clothing

While You Watch

- A.** 6, 2, 7, 1, 3, 4, 5
B. 1. F (They are the first to get U.S. government approval.); 2. NG; 3. T; 4. T; 5. F (They are powered by batteries.)

Critical Thinking

Possible answer(s): If drone deliveries become common, it might cause a safety issue with other planes flying in the area, and a drone could crash and hurt many people on the ground. Also, it will put delivery people out of business. However, it could be a quick and easy way to receive a package.

While You Watch

A. Sequence: Have students complete the activity before watching the video. Play the video. Have students check their ideas as they watch.

B. Details: Have students read the statements first before playing the video again. Have students complete the activity and correct the false statements. Check answers as a class.

Critical Thinking

In small groups, have students draw a T-chart with the headings *Pros* and *Cons*, and talk about each issue. Do they think drone deliveries are a good or bad idea overall?

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

TEACHING NOTES

Before You Watch

A. Definitions: Have students read the paragraph before completing activity A, and then have them compare their answers with a partner.

B. Predicting: Have students discuss the question with a partner and note their answers. Tell them not to worry if they do not know the answers; they will revisit this section after watching the video.

ALL IN THE MIND

10



UNIT INTRODUCTION

This unit focuses on how brains work—both from a human and animal perspective. In “What’s on Your Mind?” students read about how our identity is based on our memories and learn how the brain is structured. In “Inside Animal Minds,” students read about what animal cognition research has taught us about animal intelligence. In “Brain Power,” students will watch a video about the human brain and how it functions. Students will also read about how a mind map can improve your memory, and how chimp behavior can be very humanlike.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *human brain, memory, intelligence, emotions, self-awareness, human / animal cognition*

WARM UP

Answer Key

Possible answer(s):

1. I think I have a good memory. I remember riding in a car as a child with my dad on a windy country road with the windows open.
2. I think chimps are very intelligent because they can understand commands and find ways to solve problems.

TEACHING NOTES

Bottlenose dolphins have bigger brains than humans, and they are considered to be highly intelligent animals.

- Read aloud the Unit Title as students look at the photo. Point out the different meanings of the word *mind* (*What’s on your mind? Do you mind closing the window?*) and explain that in the title, it means “brain.”
- Read aloud the caption and explain the words *intelligence* and *bottlenose dolphin*. In pairs, have students describe what’s happening in the photo and how it connects to the idea of the title. Ask whether this experiment proves that a dolphin is smart.
- Have students discuss the questions with a partner, and follow up with a class discussion.

LESSON OVERVIEW

Target Vocabulary: *conscious, emotion, flexible, function, perspective, reinforce, structure, transform, vast, welfare*

Reading Passage Summary: The mind, an incredibly complex organ, is capable of extraordinary things. Over time, researchers have mapped our brains, and we now know that there are different parts of the brain responsible for different functions, such as memory, emotion, speech and perception, and self-awareness. One of the most important factors involved in shaping our individual identities is our memory, which is closely connected to our emotions.

Answer Key

Before You Read

- A.** Possible answer(s): remember complicated facts; solve complex problems; speak multiple languages; feel a range of emotions
B. ability to store memories

Reading Comprehension

- A. 1.** c; **2.** a (Para C and D); **3.** c (Para F);
4. d (Para I); **5.** a (Para J)
B. 1. hippocampus; **2.** amygdala;
3. temporal lobe; **4.** prefrontal cortex

Reading Skill

- A. 1.** a; **2.** c; **3.** b; **4.** d
B. 1. Self-awareness; **2.** human; **3.** two;
4. identity; **5.** Long-term; **6.** responses;
7. reverse; **8.** meditation

Critical Thinking

- (Para H) The smell of freshly cut grass, for example, will generate happy feelings in someone who spent enjoyable childhood summers in the countryside, but not in someone who was forced to work long hours on a farm.
 ► Possible answer(s): I feel happy when I hear seagulls because it reminds me of my childhood at the beach. I also like the smell of rain on hot earth because that reminds me of

how we would wait excitedly for the rain to come in the middle of the summer.

Vocabulary Practice

- A. 1.** perspective; **2.** transform; **3.** vast;
4. reinforce
B. 1. flexible; **2.** structure; **3.** functions;
4. welfare; **5.** conscious; **6.** emotions
C. 1. number; **2.** areas; **3.** majority; **4.** network;
5. assortment

TEACHING NOTES

Before You Read



A. Discussion: In pairs, have students make a list of things the human brain does. Then have them rank their ideas in order from most amazing to least amazing. Have pairs share answers with the class, explaining what makes each function amazing.

B. Predicting: Make sure students understand the concept of shaping an identity, then have them complete the activity individually. Have students discuss their answer with a partner, then read the passage to check their ideas.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 1: Point out that “how we create memories” is a specific part of how the mind works. “How the mind works” is a more general, overarching idea in the passage.
- Question 2: Paragraph C states that self-awareness is the ability to think about yourself and how you’re feeling. Paragraph D states that the area where it develops doesn’t function until age two. Therefore, option “a” is NOT true.

B. Labeling: Have students locate each piece of information in the passage and match it to the part of the brain. Have students check answers in pairs.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Identifying Text Organization**. Explain that long texts with complicated details are often organized into paragraphs, each with a clear main idea. By reading the first sentence of each paragraph and skimming the rest you can identify the main ideas and use these to create a word web to summarize the text. Have students look back at the reading passage and consider how the text is organized.

A. Identifying Main Ideas: Have students read the first line of each paragraph and skim the rest to complete the activity. Have them check answers in pairs.

B. Summarizing: Make sure students understand that the section numbers refer to the sections in activity A. Have them complete the activity and compare answers in pairs.

Critical Thinking

- Have students scan the reading to find the example and underline it. The author uses the example of freshly cut grass to illustrate emotional reactions.

- Ask students for examples from their own personal experience that trigger emotional reactions for them. Some people find that scents are especially important.

Challenge: Write the following task on the board for students who have completed the comprehension and reading skill activities: *Give an example of a time when you had a flashback to a memory from childhood. What triggered it?*

Vocabulary Practice

A. Completion: This paragraph is about how a mind map can improve your memory. Have students do activity A by using the correct words from the box to complete the information. Ask for a volunteer to read the completed paragraph aloud to the class.

- *Perspective* has several meanings. A *perspective* is a particular way of thinking about something. When you *put something in perspective*, you consider it in relation to everything else.

B. Definitions: Have students use the words in the box to complete the definitions, and then have them check answers in pairs.

C. Collocations: Remind students that collocations are common pairings of words. The word *vast* means “of great extent or quantity.” Have students complete the activity and check answers in pairs. If time permits, have students write a new sentence for each collocation.

LESSON OVERVIEW

Target Vocabulary: *abstract, acknowledge, dismiss, imitate, master, motive, possess, primitive, pronounce, theory*

Reading Passage Summary: Not long ago, scientists thought that humans were unique in their ability to think logically, to plan, to make tools, to be self-aware, and to communicate with symbols or words. While there are still huge differences between the capabilities of humans and other animals, some researchers believe that advanced intelligence in the animal kingdom exists more widely than previously thought.

Answer Key

Before You Read

- A.** Possible answer(s): I think animals can be called intelligent, especially when they understand commands and use tools to solve problems. A common definition of *intelligence* is “a highly developed ability to think logically, to understand the world around you, and to learn things quickly.”
- B. 1. and 2.** gray parrot (words, imitation, counting, zero concept), sheep and elephants (face recognition), chimpanzees (making and using tools), octopuses (emotions), dog (linking vocabulary to photographs)

Reading Comprehension

- A. 1. b; 2. b; 3. c (Para D); 4. a; 5. a (Para E)**
- B. 1. No; 2. Yes; 3. Yes; 4. No; 5. Yes**

Reading Skill

- A. 1.** actions = behaviors; **2.** basic = elementary; **3.** communicate = talk; **4.** create = invent; **5.** exhibit = show
- B.** (general term first, then specific examples)
- abilities, recognize faces; 2. primates, humans and apes; 3. species, humans;
 - forms of intelligence, creativity and language

Critical Thinking

- The five skills that show an animal has intelligence are: a good memory, an understanding of symbols, self-awareness, understanding of others’ motives, and creativity. (Para C)
- Possible answer(s): I think Alex the parrot is very intelligent based on these five skills. He used his voice to imitate words which shows he had a good memory. He had an understanding of the abstract concept of zero, which shows an understanding of symbols. His ability to understand language and changing relationships shows self-awareness, as well as the ability to understand others’ motives.

Vocabulary Practice

- A. 1.** mastered; **2.** primitive; **3.** dismiss; **4.** acknowledges
- B. 1.** possess; **2.** imitate; **3.** pronounce; **4.** motive; **5.** abstract; **6.** theory
- C. 1.** announced; **2.** denounce; **3.** pronounce

TEACHING NOTES

Before You Read



A. Discussion: In pairs have students summarize the caption, and then have them discuss whether tool use is an indication of intelligence. Have pairs answer the questions, and then end with a class discussion where pairs can share their ideas.

B. Scanning: Students quickly scan the reading to identify the animals mentioned and find the types of intelligence associated with each animal. Have students read again to check their answers.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: The passage mentions that elephants can recognize faces, not how they communicate with each other.

B. Inferring Information: Remind students that they learned about inferring information in the reading skill in Unit 8B. Review this skill again. Have students reread the paragraphs that are referenced, complete the activity individually, and then compare answers in pairs.

- Question 4: Although the reading says Betsy can learn as quickly as a two-year-old, there is no reference as to what order the dog learns these words, so we cannot infer this statement from what is given in the reading.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Recognizing Lexical Cohesion (1)**. Make sure they understand how using synonyms can help avoid repetition, and discuss the difference between close synonyms and different shades of meaning. Point out how a thesaurus can help them with their writing.

A. Recognizing Synonyms: Have students complete the activity individually, then check answers in pairs. Note that these pairs may not be synonyms in all situations. For instance, *communicate* also refers to nonverbal communication, so it isn't always a synonym of *talk*.

B. Analyzing: Make sure students understand that each sentence includes two words or phrases with the same meaning. Remind them this is a way for the writer to avoid repetition and clarify ideas. Have students complete the activity individually, and then compare answers in pairs.

Critical Thinking

- Have students look back at the reading to find the five skills, and then compare answers with a partner.
- In small groups, have students discuss how the five skills relate to Alex the parrot and rate his intelligence.

Vocabulary Practice

A. Completion: This paragraph is about chimp behavior. Direct students' attention to the photo and caption next to activity A. Have students read the paragraph first before completing it using the words from the box. Have students compare answers in pairs. Ask for a volunteer to read the completed paragraph aloud to the class.

B. Definitions: Have students choose words from the box to complete the definitions, and then compare answers in pairs.

C. Word Link: Point out that the prefixes can help students determine the meaning of the words. Have students complete the activity, and then compare answers in pairs. If time permits, have students write a new sentence with each word.

Challenge: For students interested in doing more with the topic, ask the following questions:
Do you have a pet? If so, what behaviors does your pet show that indicate intelligence?

Video Summary: The video provides facts and information about the human brain and its remarkable ability to coordinate the body's functions. It focuses on four main areas: the cerebrum, the cerebellum, the brain stem, and the diencephalon.

Key Vocabulary: *coordinate, made up of, regulate, sensory, signal*

Answer Key

Before You Watch

- A.** 1. consists of; 2. to control the speed or performance of something; 3. related to touch, sight, hearing, etc.; 4. an action that sends a message; 5. to bring different parts together so they work well
- B.** Possible answer(s): The brain regulates body temperature, swallowing, heart rate, blood flow, balance, and muscle movement.

While You Watch

- A.** a. diencephalon; b. cerebellum; c. brain stem; d. cerebrum
- B.** 1. F (three-quarters); 2. T; 3. F (three parts); 4. T

Critical Thinking

Possible answer(s): I think cognition research is important because by understanding our brain and how we use it, we can find ways to treat medical conditions. When we understand how the brain is meant to function, it is more likely we can find ways to simulate that process when things are not functioning as they should.

TEACHING NOTES

Before You Watch

A. Definitions: Have students read the information first before matching the words and phrases to their definitions. Check answers as a class.

B. Preview: Have students work in pairs to make a list of other body functions that the brain regulates. Ask them to consider things the body does automatically, or involuntarily.

While You Watch

A. Main Ideas: Have students look at the diagram and the functions (a–d) before playing the video. Play the video. Then have them match the functions to the diagram and check answers in pairs.

B. True or False: Play the video again. Have students complete the activity and correct any false statements, before comparing their answers with a partner.

Critical Thinking

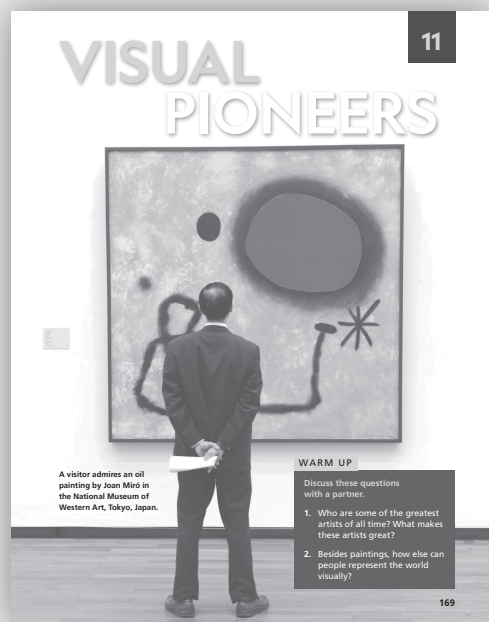
In pairs, have students discuss cognition research and how they think it could help people in the future. Have them consider ideas such as medical treatment and disease prevention.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

VISUAL PIONEERS



UNIT INTRODUCTION

This unit focuses on artists who have started movements and made a difference to the world. In “Van Gogh’s World,” students read about the Dutch painter Vincent van Gogh and the challenges he faced as an artist. In “Seeing the Light,” students read about two different artists who made a name for themselves in interesting ways: Tarsila do Amaral and Vivian Maier. In “The Genius of Picasso,” students will watch a video about the artist Picasso and what made him unique. Students will also read about Japanese woodblock prints, and the Jamaican artist Nari Ward.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *Joan Miró, Vincent van Gogh, Impressionism, Japanese woodblock prints, Tarsila do Amaral, surrealism, antropofagia, Vivian Maier, Finding Vivian Maier, Picasso*

WARM UP

Answer Key

Possible answer(s):

1. Leonardo da Vinci was a great artist as his paintings are still admired hundreds of years after his death.
2. You can represent the world visually through sculptures, photography, or even art forms such as theater.

creates a new type of art. Have students say how they think the picture relates to the title, and give their opinion about the painting. Do they like it? Why or why not?

- Read aloud the caption and explain the words *oil painting*. Have students discuss Joan Miró and say what they know about the artist. If possible, have students research about Miró and find other of his paintings online.
- Have students discuss the questions with a partner, and follow up with a class discussion.

TEACHING NOTES

- Read the unit title aloud as students look at the photo. Explain the word *pioneers* and explain that a visual pioneer could be someone who

LESSON OVERVIEW

Target Vocabulary: *appreciate, classic, creativity, innovative, purchase, recovery, resist, sensible, sensitive, wander*

Reading Passage Summary: Van Gogh was a Dutch painter in the late 1800s. He is well known today for his post-impressionistic work—a type of art in which he gives a strong sense of his personal feelings about a subject. Despite discouraging failures, van Gogh produced over two thousand works in his short life. Many aspects of van Gogh's life are still disputed, such as the illness that interfered with his work and eventually caused him to take his own life.

Answer Key

Before You Read

A. 1. Dutch; **2.** 1853; **3.** 26; **4.** yellow sunflowers

Reading Comprehension

A. 1. c (Para B); **2.** b; **3.** b; **4.** a; **5.** d

B. 1, 4, 6, 3, 2, 5

Reading Skill

A. 1. Instead, his father thought he should take a “sensible” job—something like a salesclerk or carpenter. **2.** ... receiving financial help from his brother Theo. **4.** Following an argument with fellow artist Paul Gauguin, van Gogh took a razor and cut off his own earlobe.

5. Following his release from the hospital in May 1890, ... he ... shot himself ... What caused him to take his own life ... mental illness ... ?

6. In the spring of 1889, he was sent to a mental hospital ... But during his periods of calm, he was able to complete more than a hundred masterpieces, including the classic *Starry Night*.

B. 1. He realized he was meant to be a painter, and he got financial help from his brother.
2. People there didn't appreciate his work.
3. his argument with Gauguin

Critical Thinking

► Possible answer(s): Lack of financial success: until his death, he wasn't able to sell a single

painting; Mental illness: his mental health started to decline, he could not eat or sleep, he heard strange sounds and thought people wanted to hurt him; his illness inhibited his creativity; Loneliness: days passed and he spoke to no one.

► Possible answer(s): I think the most important factor was probably mental illness, because extreme depression leaves a person feeling hopeless.

Vocabulary Practice

A. 1. innovative; **2.** appreciated; **3.** wandering; **4.** resisted; **5.** classic

B. 1. original; **2.** well again; **3.** reason; **4.** aware; **5.** buy; **6.** great

C. 1. sensible; **2.** sensation; **3.** senseless; **4.** sensitive

TEACHING NOTES

Before You Read



A. Quiz: Have students complete the quiz individually, and then compare answers in pairs.

B. Scanning: Have students check their answers by scanning the first two paragraphs of the reading passage. Note that the text first says van Gogh was Dutch, and then that he was born in Holland. Both are correct: the Netherlands is the entire country, while Holland refers to just two provinces in the Netherlands.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then have them answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 3: While living in Paris, van Gogh began to see life differently. The colors he used to paint with began to change. Through his art, he tried to show others what he saw.
- Question 5: Paragraph H ends with a question, which leads into the sentence, “This question, like so many others”

B. Sequencing: Have students work individually to complete the sequence of events, and then have them compare answers with a partner. Together, have pairs sketch his route on the map.

Reading Skill



Have students read the paragraph **Inferring Information (2)**. Remind students that they have already learned about this concept. Explain that inferring is an important skill that takes practice to master. It’s important to know how to look for evidence or information in a text to understand details that the writer doesn’t state.

A. Inferring: Have students read the statements first before looking back in the reading passage to find the evidence. Have students work individually to complete the activity, then check answers as a class.

B. Inferring: Have students note answers to the questions by inferring information from the reading passage, and then discuss answers in pairs.

Critical Thinking



- Have students work individually and use evidence from the text to complete the chart.
- In pairs, have students discuss each factor and give their opinion about which was probably the most important.

Vocabulary Practice



A. Completion: This paragraph is about the connection many Impressionist painters felt toward Japanese woodblock prints. Direct students’ attention to the photo and caption next to activity A. Have students read the paragraph first before completing the information with the correct form of the words from the box. Ask for a volunteer to read the completed paragraph aloud to the class.

- It helps if students understand that the passage compares two types of Western artists: Impressionists, who admired Japanese woodblock prints, and other artists who preferred a more classical style.

B. Definitions: Have students choose the correct option to complete each sentence, and then compare answers in pairs.

Challenge: For students interested in doing more with the topic, assign the following task: Look at *Bridge in the Rain* on page 176 and describe at least two techniques that give the feeling of a very heavy rainstorm. Answer: vertical black lines of rain, the dark sky, and the way people are bent over.

C. Word Link: The word *sense* is often collocated with *make sense*—“to be understandable”—and *common sense*, a natural ability to make good judgments and to behave sensibly. Have students complete the activity, and then compare answers in pairs. If time permits, have students write a new sentence for each word in the box.

LESSON OVERVIEW

Target Vocabulary: *conservative, immigrant, influence, native, reflect, selection, settle, storage, style, urban*

Reading Passage Summary: Tarsila do Amaral and Vivian Maier are two very different artists, but both have reached global audiences for their distinctive styles in their own way. Tarsila do Amaral, born in Brazil in 1886, broke away from the traditional style of the time to create bold real-life scenes that mixed diverse cultures. In doing so, she created something uniquely Brazilian. Vivian Maier, born in New York City in 1926, photographed urban scenes with residents going about their everyday lives. Her black and white photography revealed real people doing real things—creating a visual story for all to see.

Answer Key

Before You Read

- A.** Possible answer(s): I think *Operarios* is a political statement about the diversity of an urban landscape. It's important for all people to have jobs and feel valued in the society.
- B.** Possible answer(s): I think the work of Tarsila do Amaral is important because it looks very different from other paintings of that time. The work of Vivian Maier shows real people doing real things in photographs, which might not have been popular at the time but is now considered to be an important work of visual storytelling.

Reading Comprehension

A. 1. b; 2. d (Para C); 3. b (Para D); 4. c; 5. a (Para J)

B. 1. c; 2. d; 3. g; 4. h; 5. f; 6. b

Reading Skill

- A.** 1. works, artwork; 2. celebrated, appreciated; 3. distinctly, uniquely
- B.** 1. regular, everyday, normal; 2. remarkable; 3. show; 4. hidden in darkness

Critical Thinking

- Possible answer(s): Maybe they are afraid of rejection and criticism; they might feel that they are creating something for themselves only.
- Possible answer(s): Pros: the artist's family feels proud and they get money, the artist's hometown becomes famous; Cons: the artist doesn't get the recognition they deserve in their lifetime; the subject of the work may be disappointed not to have his or her image shown and possibly made famous.

Vocabulary Practice

- A.** 1. urban; 2. selection; 3. settled; 4. reflects; 5. immigrant
- B.** 1. b; 2. b; 3. a; 4. a; 5. a
- C.** 1. innate; 2. nations; 3. native; 4. natural

TEACHING NOTES

Before You Read



A. Discussion: Give students time to study the paintings, and then have them work in pairs to share their ideas.

B. Predicting: In pairs, have students discuss why the work of each artist is important. Explain or elicit the meaning of *diverse*, *industrial*, and *auction*.

Reading Comprehension



A. Multiple Choice: Have students read the entire passage silently, and then answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the reading passage.

- Question 2: Tarsila do Amaral used strong, vivid colors to paint nature.
- Question 3: While *Antropofagia* literally means "cannibalism," in the art world it refers to "taking an idea from one place and using it in another." Option "b" is the only choice that combines two cultures into one piece of art.

B. Main Ideas: Have students read paragraphs F–K again, and choose the best headings. Check answers as a class.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Recognizing Lexical Cohesion (2)**. Remind students that they have already learned about this concept—the use of synonyms to avoid repetition. Some synonyms are exact matches, while others are similar but not exact. Using synonyms makes writing more interesting and helps the reader follow the writer’s ideas.

A. Identifying Synonyms: Have students reread the paragraphs that are mentioned to find synonyms for each of the underlined words. Have them compare answers in pairs.

B. Identifying Synonyms: Have students reread the paragraphs that are mentioned and find the synonyms for the words in italics. Have them compare answers in pairs.

Critical Thinking

Have students reread paragraph K and discuss the questions in pairs.

- Have students think about reasons why artists might keep their work hidden.

- Encourage students to imagine they are the artist, the artist’s family, a person in the artist’s hometown, and the subject of the artists’ work as they consider the pros and cons.

Vocabulary Practice

A. Completion: This paragraph is about the Jamaican artist Nari Ward. Direct students’ attention to the photo and caption next to activity A. Have students do activity A by choosing the correct form of the words from the box to complete the sentences. Ask for a volunteer to read the completed paragraph aloud to the class.

B. Definitions: Have students select the best way to complete each sentence according to the meaning of the highlighted word, then have them check answers in pairs.

C. Word Link: Have students work individually to complete the sentences, then have them check answers in pairs. If time allows, have students make a new sentence with each word.



Video Summary: This video talks about Pablo Picasso and what made him a genius. Picasso changed his style many times throughout his painting career, and his innovative works of art affect us today.

Key Vocabulary: *buck, genius, push the boundaries, reinvent*

Answer Key

Before You Watch

A. 1. someone with exceptional ability; **2.** to go beyond the limits; **3.** to change something so that it appears to be new; **4.** to resist or oppose

B. a strong drive or passion to succeed

While You Watch

A. See answer to **Before You Watch B.**

B. 1. a; **2.** a; **3.** b

Critical Thinking

- ▶ Possible answer(s): I think van Gogh was the most talented because he had to overcome so many obstacles that forced him to be more determined and engrossed in his work when he was well enough. He had a different way of seeing the world, and expressed that through his use of color and technique.
- ▶ Possible answer(s): I think there are so many people who have a lot of artistic talent that are not great artists now but might become famous in the future through social media. It's not easy to become famous, though!

B. Predicting: In pairs, have students discuss the meaning of "rage to master," and then choose the answer they think is correct. Students will then watch the video to check their answers.

While You Watch

A. Viewing: Play the video. Then have students check their answer to Before You Watch B.

B. Multiple Choice: Have students read the questions first. Play the video again. Have students complete the activity, and then have them compare answers with a partner.

Critical Thinking

- ▶ In pairs, have students discuss which artist they think was the most talented and say what aspects of their work they like best. Remind students that van Gogh was not famous when he was alive.
- ▶ Have students consider artists today that are not considered great, but might be in the future.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

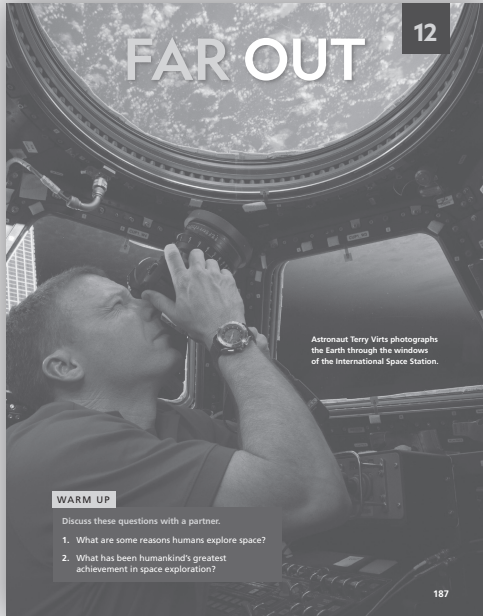
TEACHING NOTES

Before You Watch

A. Definitions: Have students read the information first before completing activity A, and then have them compare answers with a partner.

FAR OUT

12



UNIT INTRODUCTION

This unit focuses on space travel and future possibilities. In “Defying Gravity,” students read about the International Space Station and challenges associated with spacewalks. In “The Ultimate Trip,” students read about how the future of space travel is in the hands of private companies. In “Mysteries of Pluto,” students will watch a video about Pluto and learn facts about the dwarf planet. Students will also read about astronaut Sunita Williams, and a company that hopes to mine asteroids for precious metals.

Visit the *Reading Explorer* website to download supplementary worksheets for this unit.

Key Words for Internet Research: *International Space Station, astronaut, spacewalk, Terry Virts, Luca Parmitano, Sunita Williams, SpaceX, Planetary Resources, colonizing Mars, NASA, New Horizons, Pluto*

WARM UP



Answer Key

Possible answer(s):

1. People explore space because they want to know more about what's beyond our planet. They might be looking for things in space that might help cure disease or give inspiration for new inventions on Earth. Also, I think exploration is a basic human trait.
2. I think walking on the moon was a huge achievement in space exploration, which then led to efforts to go further. We now have photographs of faraway planets and have even sent rovers to Mars.

in Earth's orbit and can sometimes be seen from Earth with the naked eye.

- Read the unit title aloud as students look at the photo. Have students discuss what they see and how it relates to the title. Point out that *far out* was a popular expression at one time that meant something was really great or cool.
- Read the caption aloud and explain the meaning of *astronaut* and *International Space Station*. Make sure students understand that Terry Virts is looking through the window back at Earth.
- Have students discuss the questions with a partner, and follow up with a class discussion.

TEACHING NOTES

The International Space Station was launched into orbit in 1998 and has been inhabited continuously since 2000. It's the largest human-made structure

LESSON OVERVIEW

Target Vocabulary: *accumulate, concern, consciousness, demanding, detached, familiarize, impressive, internal, pioneer, venture*

Reading Passage Summary: The International Space Station (ISS) is a research laboratory in space, where crew members conduct experiments related to space travel. Astronauts on the ISS conduct spacewalks, which are necessary to build and maintain the laboratory. Astronauts need to go through extensive training before embarking on a spacewalk because the conditions in space are very different from those on Earth.

Answer Key

Before You Read

A. 1. Possible answer(s): I think the station is used as a laboratory to research and test what happens when people live in space. **2.** Possible answer(s): I think the best part of working at the ISS is being a part of such important research. I think the biggest challenges would be living in such a small space without gravity, missing your family, and worrying about all the things that might go wrong.

B. possible dangers of spacewalking, how astronauts prepare for a spacewalk, one astronaut's experience in space

Reading Comprehension

A. 1. d (Para C); **2.** c (Para D); **3.** c (Para D); **4.** b; **5.** a (Para F)

B. 1. floating; **2.** weightlessness; **3.** route / path; **4.** monitor; **5.** overheat; **6.** jetpack

Reading Skill

A. 1. took off; **2.** found out; **3.** carried out; **4.** deal with; **5.** go over; **6.** pass out; **7.** grew up

B. 1. in; **2.** with; **3.** off; **4.** on; **5.** up; **6.** up

Critical Thinking

Possible answer(s): I think the most difficult aspect of space travel would be living in an enclosed space because that would make me

feel very claustrophobic. I like wide open spaces, and this would make me feel trapped.

Vocabulary Practice

- A. 1.** venture; **2.** demanding; **3.** internal; **4.** familiarize; **5.** accumulated
B. 1. impressive; **2.** pioneer; **3.** detached; **4.** concerns; **5.** Consciousness
C. 1. socialize; **2.** hospitalized; **3.** modernize; **4.** popularize

TEACHING NOTES

Before You Read

A. Discussion: Have students read the caption and make sure they understand the meaning of *permanent* and *laboratory*. Have students discuss the ISS in small groups, using the picture for context.

B. Skimming and Predicting: Have students read the headings and skim the reading individually to select the answers. Then have students read the passage to check their ideas.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then have them answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 2: Although the passage opens with Luca Parmitano, he was not the first person to go on a spacewalk. Paragraph D refers back to 1965, when Alexei Leonov carried out the first one.
- Question 3: In paragraph D, students read that for every hour they walk in space, astronauts practice for 10 hours in the water. Students will need to multiply a two-hour spacewalk × 10 hours (2 × 10) to get the answer 20 hours.

- Question 5: Although Sunita Williams says on her first walk they needed to fix the solar array she does not mention how difficult this was, so we can eliminate “d.” She talks about being confused whether she was going up or down, left or right, not about being confused by the northern lights, so we can eliminate “c.” There is no mention of poor visibility through her helmet, so the correct answer is option “a.” This is implied when she tells herself, *It’s okay. You’re not going to fall.*

B. Scanning: Have students complete the chart without looking back at the reading passage. Then have them compare answers in pairs before scanning the reading to check their answers. Remind them only one word completes each blank. Ask students which words they scanned for to check their answers.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Understanding Vocabulary: Phrasal Verbs**. Make sure they understand that phrasal verbs always consist of a verb plus a preposition or adverb, and that they cannot always be translated literally. Students should look carefully at the parts of the phrase and its context to try to guess its meaning. *Look, get, go, take, and bring* are commonly used in phrasal verbs, and students will simply have to begin to memorize their meanings.

A. Definitions: Have students find the phrasal verbs in each paragraph, and then have them think about their meanings so they can match them to

the definitions. There are three phrasal verbs in paragraph D, so students will have to consider the meanings carefully. Check answers as a class.

B. Completion: Have students read the sentences and choose the phrasal verb they think sounds best. Have them compare answers in pairs, and then check as a class.

Critical Thinking

Have students work individually to add their own idea, then rate each aspect from 1–6 according to how difficult it would be to deal with. Have students discuss their ideas with a partner.

Vocabulary Practice

A. Completion: This paragraph is about the training process astronauts are required to go through before they can be assigned to a mission. Direct students’ attention to the photo and caption next to activity A. Have students read the paragraph first, and then complete it with the correct words from the box before checking answers with a partner. Ask for a volunteer to read the completed paragraph aloud to the class.

B. Definitions: Have students match the definitions to the correct form of the words in the box. Check answers as a class.

C. Word Parts: Have students complete the words by adding the suffix *-ize*. Point out that often in British English, this suffix is spelled *-ise*. Check answers as a class. If time permits, have students write a sentence for each word.

LESSON OVERVIEW

Target Vocabulary: *backing, decade, extremely, fortune, founder, launch, precious, replace, resource, sustain*

Reading Passage Summary: Space travel today seems much more likely than ever before. In the past, government agencies were the driving force behind space exploration, but nowadays private companies are leading the way forward. There is money to be made in space—some companies hope to mine precious metals such as platinum, while other companies hope to send humans to colonize Mars.

Answer Key

Before You Read

A. 1. e; 2. b; 3. c; 4. d; 5. a

B. Possible answer(s): I think some important events in space travel will be colonizing Mars and traveling to other planets.

Reading Comprehension

A. 1. b (Para A); 2. c; 3. b; 4. a; 5. d (Para F)

B. 1. F (There were missions in the 1970s.); 2. F (It was during the Apollo program.); 3. NG; 4. T; 5. T; 6. T

Reading Skill

A. 1, 2

B. 1. c; 2. a; 3. b

Critical Thinking

Possible answer(s):

- ▶ I think it is likely that humans will build a Mars space colony one day, especially as technology advances and more research is done about how to survive on the planet.
- ▶ I wouldn't be interested in going there because it's so far away from Earth. Also, the landscape looks barren, and there wouldn't be anything to do there!

Vocabulary Practice

A. 1. decades; 2. precious; 3. sustain; 4. resources; 5. extremely; 6. backing

B. 1. c; 2. c; 3. b; 4. c

C. 1. stones; 2. metal; 3. moment

TEACHING NOTES

Before You Read

A. Quiz: In pairs, have students discuss when they think the first human went into space. Then have them complete the quiz individually before checking answers with a partner. This is meant to be a fun activity, so it does not matter if students do not know the answers. They will find the answers on the infographic on pages 196–197.

B. Predict: In pairs, have students brainstorm how they think space travel might change in the future. Have students discuss important events in future space travel, and then read the passage individually to check their ideas.

Reading Comprehension

A. Multiple Choice: Have students read the entire passage silently, and then have them answer the questions. Alternatively, play the audio and have students read along. Check answers as a class, asking students to give evidence for their answers using paragraph references from the passage.

- Question 3: When you replace *energy* with each of the four options, the only word which works in the final sentence is *enthusiasm*, so option “b” is correct.

B. Interpreting Infographics: Direct students' attention to the infographic on pages 196–197, and give them time to read the information before discussing with a partner. Have students individually

read the statements and decide if the information is true, false, or not given. Remind them to correct the false statements, and then have them check answers with a partner.

Additional comprehension questions are available for download on the *Reading Explorer* website.

Reading Skill

Have students read the paragraph **Understanding Appositives**. Make sure students understand that an appositive is a noun or noun phrase that renames another noun next to it. Point out the commas in the example sentences.

A. Analyzing: Have students check the sentences that contain appositives. In pairs, have students check answers, and then point out the appositive and the noun it refers to.

B. Applying: Have students complete the activity, and then check their answers in the reading passage.

Critical Thinking

- ▶ In pairs, have students discuss the likelihood of building a Mars space colony. Have them describe the technology that would be necessary for such an endeavor.
- ▶ Have pairs discuss whether they would be interested in going there, giving reasons for their answer.

If possible, play “four corners.” On the board, write *Arguments for and against colonizing Mars*.

1. *We should colonize Mars because one day Earth will not be livable.*
2. *We should colonize Mars because it is the next step for humanity.*

3. *We should not colonize Mars because it is too expensive.*

4. *We should not colonize Mars because we need to fix problems on our own planet.*

Designate each corner of the room to one of each of the arguments (1–4). Have students stand in the corner that they mostly agree with.

Give students two minutes to discuss their opinions with the students in their corner. Then have them speak to students in other corners and compare ideas.

Have groups share their findings with the class.

Vocabulary Practice

A. Completion: This paragraph is about the efforts being made by the private company Deep Space Industries to develop technology to mine asteroids in the future. Direct students’ attention to the photo and caption next to activity A. Have students read the paragraph before completing the information using words in the box. Then have them compare their answers with a partner. Ask for a volunteer to read the completed passage aloud to the class.

B. Definitions: Have students complete the sentences individually, and then check their answers in pairs.

C. Collocations: The adjective *precious* means “of great value.” Have students complete the activity individually, and then have them check answers in pairs. If time allows, ask students to find two or three other collocations with the word *precious*. Make a list on the board. Then have the students write additional sentences with the collocations.



Video Summary: Pluto lies at the edge of our solar system. In 2006, it was reclassified as a dwarf planet. Images from NASA's *New Horizons* probe have given scientists new information about this dwarf planet, furthering our growing understanding of the solar system and beyond.

Key Vocabulary: *core, debris, frigid, orbit*

Answer Key

Before You Watch

- A.** 1. pieces of useless or leftover material;
2. to travel completely around something in space; 3. extremely cold; 4. the center of something
- B.** dwarf planet; two-thirds; 248; -226°C; ice, nitrogen

While You Watch

A. See answer to **Before You Watch B.**

B. 1. b; 2. b; 3. a; 4. b

Critical Thinking

- ▶ Possible answer(s): I don't think so because Pluto is so far away from Earth.
- ▶ Possible answer(s): I think humans would have a hard time traveling through space for as long as it would take to get to Pluto. I think they would struggle with the freezing temperatures and darkness.

B. Predict: Have students complete the questions individually, and then have them compare answers with a partner. Tell them not to worry if they do not know the answers; they will revisit this section after watching the video.

While You Watch

A. Viewing: Play the video. Then have students check their answers to Before You Watch B.

B. Detail: Have students answer the questions before watching the video again. Then play the video again and have students check answers in pairs.

Critical Thinking

- ▶ In small groups, have students discuss whether humans will ever send manned missions to Pluto.
- ▶ Have students think about challenges humans might face in sending missions to Pluto.

Vocabulary Review

Have students work alone to check their understanding of the unit's target vocabulary. If time allows, have students write an example sentence with each word. Ask for volunteers to read their completed sentences aloud to the class.

Additional vocabulary practice questions are available for download on the *Reading Explorer* website.

TEACHING NOTES

Before You Watch

A. Definitions: Have students read the information in the paragraph before completing activity A individually. Then have students compare answers with a partner.