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**Get ready to Explore Your World!**

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Welcome to Reading Explorer!

In this book, you’ll travel the world, explore different cultures, and discover interesting topics. You’ll also become a better reader!

Reading will be easier—and you’ll understand more—if you ask yourself these questions:

**What do I already know?**
- Before you read, look at the photos, captions, charts, and maps. Ask yourself: What do I already know about this topic?
- Think about the language you know—or may need to know—to understand the topic.

**What do I want to learn?**
- Look at the title and headings. Ask yourself: What is this passage about? What will I learn?
- As you read, check your predictions.

**What have I learned?**
- As you read, take notes. Use them to help you answer questions about the passage.
- Write down words you learn in a vocabulary notebook.

**How can I learn more?**
- Practice your reading skills and vocabulary in the Review Units.
- Explore the topics by watching the videos in class, or at home using the CD-ROM.

Now you’re ready to explore your world!
UNIT1
Mysteries

WARM UP

Discuss these questions with a partner.

1. Do you know of any famous mysteries?
2. Has anything strange or mysterious ever happened to you?
3. Do you think that there are things that science cannot explain?
Before You Read

A. Discussion. Look at the photos and captions on this and the next page. Then answer the questions below.

1. Do you believe in UFOs? (Do aliens from space really visit Earth?)
2. Have you ever seen a UFO, or have you heard about UFO sightings where you live?
3. If you saw strange lights or disks ("flying saucers") in the sky, what would you think?
4. Do you think governments keep secrets about UFO visits?

1 UFO = Unidentified Flying Object

B. Skim for Gist. Quickly skim the passage on the next page. What is the passage mainly about? Circle a, b, or c. Then read the passage to check your answer.

a. a famous place for UFO sightings
b. UFO sightings around the world
c. famous movies about UFOs
THE STORIES

Judy Varns works for the Mutual UFO Network. The purpose of this group is to research UFO sightings. According to Varns, a place in Nevada called Area 51 may be the best place on Earth to see a UFO. She took some photos in the area. In the images she saw something that she thinks is a UFO. "We saw this little disk-shaped thing in our photos. It's kind of exciting," she says.

Pat Travis lives near Area 51. One night she saw a strange light in the sky. The light's movement was very unusual. "It [went] sideways. It [went] up, down," she says. "It [made] these strange kinds of moves." Travis thinks it was a UFO from space.

WHAT IS AREA 51?

The US Air Force uses Area 51 for testing new technology. Area 51 is not really the airport's name—it's real name is a secret. James McGaha, a pilot who flew airplanes at Area 51, says, "There is absolutely no UFO activity" at Area 51 . . . "No flying saucers, no live aliens, no dead aliens."

So what did Varns and Travis see?

Bill Fox helped to design new airplanes at Area 51. He thinks he knows the answer. "We did build some strange-looking airplanes," he says. "I could see why some people would think they were UFOs."

Are UFOs real? You'll have to decide for yourself. But if you visit southern Nevada, keep your eyes on the skies!

---

1 If something is true according to someone, it is said or stated by that person.
2 An air force is part of a country's military that fights in the air.
3 Absolutely means totally or completely.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

1. Which sentence about Judy Varns is true?
   a. She helped Bill Fox design new airplanes.
   b. She works at an airport in Nevada.
   c. She doesn't believe UFOs are real.
   d. She works for a group that studies UFO sightings.

2. What is the main idea of the second paragraph (from line 10)?
   a. Pat Travis lives near Area 51.
   b. Pat Travis has seen many unusual things.
   c. Pat Travis thinks she saw a UFO.
   d. Pat Travis thinks UFOs are from space.

3. In line 13, the word *kinds* is closest in meaning to __________.
   a. lines
   b. groups
   c. friends
   d. types

4. What was James McGaha's job at Area 51?
   a. He made airplanes.
   b. He looked for aliens.
   c. He flew airplanes.
   d. He took secret photos.

5. What does *I could see why some people would think they were UFOs* (line 24) mean?
   a. I understand why some people think they saw UFOs.
   b. I agree with people who believe in UFOs.
   c. I could see UFOs near Area 51 with my own eyes.
   d. I don't know whether UFOs are real or not.

B. Matching. Match each statement (a–d) with the person who probably said it.

1. _____ Judy Varns
   a. “The airplanes we made might have looked like UFOs to some people.”
2. _____ Bill Fox
   b. “Look at these pictures! Do you think that’s a UFO?”
3. _____ James McGaha
   c. “I believe in UFOs. I saw one with my own eyes.”
4. _____ Pat Travis
   d. “I used to fly airplanes at Area 51. There are no UFOs there.”
A. Matching. Read the information below. Then match each word in red with its definition.

Crop circles have been seen in the U.K., Australia, Russia, and about 50 other countries. But how—and for what purpose—are they made? A family in a quiet farmland area wakes up one morning to find something very unusual: someone has cut strange shapes into their crop fields! These huge designs are called crop circles. There are circles, stars, even images of animals. But where do these crop circles come from?

Some people think that UFOs make crop circles when they land in fields. Others say they are made by aliens from space, but no one knows the purpose.

Another—more realistic—idea is that some people decide to build crop circles as a hobby, or as a kind of art. The technology to make crop circles is very simple—just a rope and a piece of wood. Some teachers and students have built crop circles for fun.

Crop circles are real—there are photographs and reports of about 12,000 of them. But more research is needed before we really know how and why these shapes are made.

1. to make something ______________
2. a pattern, shape, or plan ______________
3. a picture of a person or thing ______________
4. to choose to do something ______________
5. a place, part, or region ______________
6. the reason for doing something ______________
7. true or actual ______________
8. trying to discover facts about something ______________
9. outside the Earth; where stars and planets are ______________
10. using science and machines to do things ______________

B. Words in Context. Complete each sentence with the best answer.

1. Research is an important part of a(n) ____________'s job.
   a. scientist  b. artist
2. An example of technology is a ____________.
   a. computer  b. song
3. The purpose of Reading Explorer is to ____________.
   a. have 160 pages  b. help you read better
4. You can ____________ an image of a bird.
   a. see  b. hear

Usage
Both research and design can be used as a noun and a verb:
Professor Baker is researching UFOs. His research will take five years.
What do you think of my new design? I designed it myself.
Before You Read

A. Matching. Read the information below and match each word in blue with its definition.

Long ago, the Greek writer Plato (pictured above) wrote about Atlantis — an island that disappeared into the sea. No one has found Atlantis, but there are many stories about it. In the stories, the Atlantean people were very wealthy, but also very greedy — they wanted too much, so they lost everything.

1. ________ wanting a lot of money, food, etc.
2. ________ rich; having a lot of money
3. ________ a piece of land with water all around it
4. ________ to go out of sight
   * etc. (et cetera) = and other things; and so on

B. Scan. Quickly scan the passage on the next page. Look for answers to these questions:

1. Whose names can you find in the passage?
2. Which places are mentioned in the passage?

---

For thousands of years people have tried to place Atlantis on a map. But no one really knows if the island was real.
Most people have heard the story of the lost island of Atlantis. But is any part of the story true?

The Greek writer Plato wrote that Atlantis was an island in the Atlantic Ocean. The island’s wealthy people designed many great buildings and canals. At the center of the island they built a beautiful golden temple. But the Atlanteans became greedy—they had everything, but they still wanted more. The gods became angry, and the island was hit by earthquakes and great waves. Finally, the whole of Atlantis sank into the sea.

Throughout history, explorers have reported finding Atlantis. In 2004, the explorer Robert Sarmast reported finding the island’s remains on an underwater mountain near Cyprus. However, Sarmast and other scientists later found out these findings were natural, not man-made.

Many people think Atlantis is simply a story. The purpose of the story was to teach people about the evils of greed. Richard Ellis published a book on Atlantis in 1999. He says “there is not a piece of solid evidence” for a real Atlantis.

So was the island real or not? Only one thing is certain: the mystery of Atlantis will be with us for a long time.

“There were a great number of elephants in the island, for there was [enough] food for all sorts of animals.”

—Plato (427–347 B.C.)
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. Another title for this reading could be _________.
   a. Atlantis Sinks into the Sea
   b. Atlantis: Real Place or Just a Story?
   c. The Greed of the Atlanteans
   d. I Found the Island of Atlantis

Detail 2. Which sentence about the story of the Atlanteans is NOT true?
   a. They were wealthy.
   b. They built many buildings.
   c. They were greedy.
   d. They became angry.

Vocabulary 3. We can change the word great in line 8 to _________.
   a. very large
   b. very good
   c. very cold
   d. very slow

Main Idea 4. What is the main idea of the third paragraph (from line 10)?
   a. Atlantis sank near Cyprus.
   b. No one has really found Atlantis.
   c. The real Atlantis was found a long time ago.
   d. Atlantis will be found under water.

Paraphrase 5. Which of the following is closest in meaning to “there is not a piece of solid evidence” for a real Atlantis (lines 18–19)?
   a. There is only one reason to believe the Atlantis story is true.
   b. The story of Atlantis is made up of many small pieces.
   c. There is nothing to make us believe the Atlantis story is true.
   d. The way to find out about Atlantis is by reading books.

B. Sequencing. Number the events in time order from 1–5. Then retell the Atlantis story to a partner.

_____ Plato writes about Atlantis.
_____ The Atlanteans became wealthy, but greedy.
_____ Richard Ellis writes about Atlantis.
_____ Robert Sarmast reports that he has found Atlantis.
_____ The island of Atlantis disappears.
A. Completion. Complete the information using the words in the box. One word is extra.

center certain final natural publish report

Edinburgh Castle in Scotland is very old—it has been at the 1. ____________ of Scottish history for over 800 years.

A few hundred years ago, secret tunnels were discovered under the castle. These tunnels were not 2. ____________; they were probably built by people living there as a way to leave the castle without being seen.

According to one story, a man was sent down into the tunnels to explore. As he went down into the tunnels, he played bagpipes very loudly so people could hear him outside.

Suddenly the music stopped . . . and the bagpiper never came out. Today, some people are 3. ____________ that the bagpiper is still down there playing his 4. ____________ song. They 5. ____________ that you can hear bagpipe music on dark nights.

B. Completion. Read the information. Then complete the sentences using the words in red.

Leeds Castle in Kent, England, is called the “Ladies’ Castle,” because many queens have lived there throughout its long history. Today, the castle is empty—except, perhaps, for the ghost of a big black dog. Some people believe that simply being able to see the dog brings bad luck. But for one woman, the dog brought very good luck.

The woman reported that one day she was sitting by a window in the castle. She looked up and saw a black dog walk through a stone wall near her seat. She got up to look for it—and the whole area where she was sitting fell into the lake below . . . Thanks to the ghost dog, the lucky woman was able to get out of the castle in one piece!

* A lake is an inland area of (usually fresh) water, larger than a pond or pool.

1. A place that is hundreds of years old has a long _____________.

2. According to the woman, a large ____________ of the castle fell into the water.

3. No one knows the ____________ story about the ghost dog in Leeds Castle.

4. People have ____________ seeing many ghosts in English castles over the years.

5. Perhaps the story is false, and the woman was ____________ not telling the truth.
Loch Ness Mystery

A. Preview. Look at the photograph and read the information. What do you think the picture shows?

This photograph was first published in London’s *Daily Mail* newspaper on April 21, 1934. It is known as “The Surgeon’s Photograph,” as it was reportedly taken by a London doctor named R. Kenneth Wilson. According to the newspaper report, the photograph was taken in Loch Ness, a famous lake in Scotland.

B. Summarize. Watch the video, *Loch Ness Mystery*. Then complete the summary below using words from the box. Two words are extra.

| build | center | decided | image | reported | research | certain | history | published | real |

Loch Ness is a lake in Scotland with a long and unusual
1. _____________. Many people have 2. ____________ seeing a monster swimming in its deep waters, but no one could be 3. _____________. The newspapers named the monster “Nessie.”

In 1934, a black and white 4. _____________ showing Nessie’s head and neck in the water was 5. _____________ in a London newspaper. Nearly everyone thought it was 6. _____________. But 60 years later, the truth 7. ____________ came out.

A man named Duke Wetherall had lost his job when he could not get a photo of Nessie for a newspaper. So he 8. ____________ to 9. _____________ his own monster, using a toy submarine.¹

He 10. _____________ put the “monster” in Loch Ness and took a picture of it. Wetherall’s photo made “Nessie” famous around the world. But for many years no one knew the true story behind the picture.

¹ A submarine is a type of boat that can move under water.

C. Think About It.

1. Why do you think so many people have reported seeing Nessie?

2. Which things in this unit can scientists explain? Which things can’t they explain?
Discuss these questions with a partner.

1. What food is your country most famous for?
2. Are there any foods from other countries that are popular in your own country?
3. What’s the hottest (spiciest) food you’ve ever eaten?
2A  Slices of History

Before You Read

A. Discussion. Look at the picture and information above. Then answer the questions below.

1. Why do you think the slices in the picture are of different sizes? Which kinds of foods do you think are healthy? Which foods can be unhealthy?

2. What kinds of fast food are popular in your country? Do you know anything about their history?

B. Predict. Read the title on the next page and the first sentence in each paragraph. Check (√) the questions that the passage probably answers.

- Who made the first pizza?
- When were tomatoes first used on pizza?
- How many pizzas are eaten every year?
- What is the most popular kind of pizza?
Pizza is certainly one of the world's favorite foods. But where does pizza come from? And who made the first one?

In fact, people have been making pizza for a very long time. People in the Stone Age cooked grains on hot rocks to make dough—the basic ingredient of pizza. Over time, people used the dough as a plate, covering it with various other foods, herbs, and spices. They had developed the world's first pizza.

In the early 16th century, European explorers brought back the first tomatoes from the Americas. Tomatoes are a standard ingredient in many pizzas today. At first, however, most Europeans thought they were poisonous (in fact, only the leaves and roots are). For about 200 years, few people ate them.

Slowly, people learned that tomatoes were safe to eat, as well as tasty. In the early 19th century, cooks in Naples, Italy, started the tradition of putting tomatoes on baking dough. The flat bread soon became popular with poor people all over Naples. In 1830, cooks in Naples took another big step in pizza history—they opened the world's first pizza restaurant.

Today, up to five billion pizzas are served every year around the world. In the U.S. alone, about 350 slices are eaten every second! People may not know it, but every piece is a slice of history.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea 1. What is the main idea of the passage?
   a. The first pizza was made by Stone Age people.
   b. In the past, some pizza ingredients were poisonous.
   c. Naples, Italy, was an important place in pizza's history.
   d. Pizza has a long history and has changed with time.

Detail 2. For Stone Age people, why was pizza similar to a plate (line 7)?
   a. They put other foods on top of pizza dough.
   b. Pizza could be cooked on hot rocks.
   c. They used pizza dough again and again.
   d. Pizza dough gets hard when it is cooked.

Paraphrase 3. In lines 16–17, the phrase safe to eat, as well as tasty could be replaced by ________.
   a. only safe when they taste good
   b. safe to eat and they taste good
   c. not safe to eat but they taste good
   d. taste good if they are cooked well

Vocabulary 4. In line 17, 19th century could be replaced by ________.
   a. 1700s
   b. 1800s
   c. 1900s
   d. 2000s

Inference 5. Which statement is probably true?
   a. Stone Age people liked tomatoes on pizza.
   b. The first pizza was made almost 200 years ago.
   c. The first pizzas in Naples didn't cost much money.
   d. Tomatoes were popular in Europe in the 16th century.

B. Completion. Complete the chart below. Fill in each blank with one word or number from the reading.

| People made the first pizza during the __________ Age. | Tomatoes were brought to Europe by __________. | Europeans didn't eat tomatoes for __________ years. | People in ________ were the first to put tomatoes on pizza. | The first pizza opened in 1830. | People in the U.S. eat slices of pizza every second. |
Who made the first hamburger?

The hamburger is one of the best-loved foods in the world. In the U.S. alone, people eat more than 14 billion (14,000,000,000) burgers every year! But who made the first one? No one knows for certain, but there are 1. _____________ stories about where this favorite food comes from.

In the 1200s, Mongolian soldiers 2. _____________ to soften meat by placing it under the saddle\(^4\) of their horses while riding. Then they ate the meat—without cooking it. It was the first kind of “meat patty.” Hundreds of years later, people in the town of Hamburg, Germany, developed “Hamburg steak”—a dish of salty meat on round bread. They brought this 3. _____________ German food with them when they came to live in America in the 1900s.

The “hamburger” that we know today really started in the USA. In 1885, a man from Wisconsin named Charles Nagreen had the idea of 4. _____________ meatballs between pieces of bread. That way, people could eat them while walking. In the same year, a man in Hamburg, New York, sold sandwiches using pork as the main 5. _____________ . One day, he did not have enough pork and decided to use beef. Without knowing it, he had 6. _____________ a new type of food—one that is now eaten by millions around the world.

---

\(^4\) A saddle is a seat for a rider, usually made of leather (animal skin), which is placed on a horse’s back.

3. Words in Context. Complete each sentence with the best answer.

1. If you are poor, you have _____________ money.
   a. a lot of  b. only a little

2. If something is standard, it is _____________.
   a. usual  b. not usual

3. A tradition is _____________ way to do something.
   a. a new  b. an old

4. If you cover something, you put another thing _____________ it.
   a. under  b. over

5. When something develops, it _____________.
   a. changes  b. stays the same
Before You Read

A. True or False. What do you know about chili peppers? Read the information above and answer true (T) or false (F).

1. The Dorset naga is the world’s hottest chili.  
2. The Scoville is a type of chili pepper.  
3. Jalapeno peppers are hotter than Scotch bonnets.  
4. Sweet bell peppers have a very low heat level.

B. Scan. Quickly scan the passage on the next page. What is the name of the world’s spiciest chili pepper?
You may have experienced the feeling—your mouth feels like it's on fire and the heat causes your eyes to water. You've just eaten one of nature's spiciest foods—the chili pepper!

Chili peppers, also called chilies, are found in various dishes around the world—from Indian curries to Thai tom yum soup to Mexican enchiladas. Chilies come from the capsicum plant, and they are "hot" because they contain an ingredient called capsaicin.

Eating a hot chili can be painful, but the capsaicin may be good for your health. It opens your nose so you can breathe better. It may even be good for losing weight: capsaicin makes you feel less hungry and makes your body use more calories.1

We can measure the capsaicin in chilies with Scoville heat units (SHU). A fairly spicy green pepper has about 1,500 units. The world's hottest chili, the Naga Jolokia ("Ghost Pepper"), has more than a million!

The Naga Jolokia is produced in the Assam region of India. Recently, Anandita Dutta Tamuly, a 26-year-old mother from Assam, broke a world record by eating 51 of these hot peppers—in just two minutes!

"I found eating chilies was a great way to stay healthy," says Tamuly, who began eating chilies when she was a child. "Every time I have a cold or flu I just munch on some chilies and I feel better. To be honest,3 I barely notice them now."

1 Calories are units used to measure the energy value of food.
2 If you munch food, you eat it by chewing it slowly.
3 If someone is honest, they say the truth.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. What is the reading mainly about?
   a. how to measure the capsaicin in chilies
   b. dishes that are made with chilies
   c. interesting facts about chilies
   d. weight loss and chilies

Reference 2. In line 2, the word it refers to ________.
   a. the feeling
   b. your mouth
   c. the chili pepper
   d. the heat

Detail 3. How many SHU are in the Naga Jolokia chili?
   a. just over 50
   b. between 1,000 and 2,000
   c. a little less than 1,000,000
   d. over 1,000,000

Vocabulary 4. In line 21, someone has a world record if they ________.
   a. eat more Naga Jolokia chilies than anyone else
   b. make a recording of someone eating Naga Jolokia chilies
   c. eat two or more Naga Jolokia chilies very quickly
   d. make the best-tasting dish using Naga Jolokia chilies

Paraphrase 5. In lines 26–27, the phrase I barely notice them now could be replaced by ________.
   a. I really feel the heat of the chilies now
   b. I sometimes forget to eat chilies now
   c. I usually don’t eat hot chilies now
   d. I almost don’t feel the heat of the chilies now

B. True or False. According to the passage, are the sentences below true or false? Circle T (true), F (false), or NG (not given in the passage).

1. Capsaicin helps you breathe better. T F NG
2. Capsaicin makes you feel happier. T F NG
3. Capsaicin makes you feel hungrier. T F NG
4. Capsaicin helps you fall asleep at night. T F NG
5. Capsaicin makes chili peppers “hot.” T F NG
Vocabulary Practice

1. Matching. Read the information below and match each word in red with a definition.

Most of us have experienced the taste of sugar, but how many of us know where it comes from? The man in the picture is standing in front of a field of sugarcane, a plant which produces sugar. It only grows in hot countries like Brazil because it needs lots of water and sunlight. After they collect the plants, workers in factories break the long stalks to get the sweet juice out. Then they cook the juice in big pots. This causes the sugar to come out of juice.

1. to cut into two or more pieces
2. to make something happen
3. to sense, feel, or be affected by (something)
4. to create or make (something)
5. a living thing that is green and grows in the ground

3. Completion. Complete the information using words from the box. One word is extra.

<table>
<thead>
<tr>
<th>health</th>
<th>plant</th>
<th>recent</th>
<th>measure</th>
<th>produce</th>
<th>stay</th>
<th>units</th>
</tr>
</thead>
</table>

Chocolate comes from a 1. ___________ called the cacao tree. The tree grows mainly in Africa and Latin America. Cacao trees have fruit with beans inside. Workers pick the fruit and take the beans out to be dried, cooked, and turned into chocolate.

People from Switzerland eat the most chocolate in the world. In a 2. ___________ year, people in Switzerland ate about 10 kilograms (22 pounds) per person!

In some ways, eating sweet foods like chocolate can be good for your 3. ___________. But eating too many sweet products can cause problems. Sugar and chocolate have a lot of food energy. We can 4. ___________ this energy in 5. ___________ called calories. If you want to 6. ___________ fit, you need to be careful about how many calories you take in each day.

Word Partnership

Use break with:
- break your leg (or arm, etc.),
- break a record, break a rule,
- break a promise.

2B Sugar and Spice 27
A TASTE OF MEXICO

A. Preview. What do you know about Mexican food? What ingredients are used in Mexican dishes?

B. Summarize. Watch the video, A Taste of Mexico. Then complete the summary below using words from the box.

experience learning poor recent served

standard stay step traditional various

Many visitors travel to Oaxaca in Mexico to
1. _____________ its culture. It may be a
2. _____________ state, but it is rich in history and art.

Oaxaca is famous for its 3. _______________ dances and old buildings, and most of all, its food. In 4. ________________ years, many foreigners have become interested in

5. _____________ how to make Oaxacan food. They
6. _____________ in Oaxaca for several months and go to cooking school there.

The first 7. _____________ in Oaxacan cooking is making mole. Mole is a sauce with chili peppers and
8. _____________ spices. It is a 9. _______________ ingredient in many Oaxacan dishes, and is often
10. _______________ with chicken, meat, and other foods.

C. Think About It.

1. Susanna Trilling says Oaxacan food is “complex.” In other words, it has many ingredients and traditions. Do you think that the best kind of food are “complex”?
2. If you could go to a cooking school, which kind of cooking would you want to learn?

To learn more about Mexican food, visit elt.heinle.com/explorer
UNIT 3
That’s entertainment!

WARM UP

Discuss these questions with a partner.

1. What are your favorite kinds of films?
2. What kinds of movies are popular in your country? Why are they popular?
3. Are there any famous movie-makers from your country? What kinds of films do they make?
Animals Actors

Before You Read

A. Matching. Look at the photos and read the captions. Then match each word in blue with its definition.

1. living or growing in a natural state
2. learning skills to be able to do something
3. the feet of an animal such as a dog, cat, or bear
4. someone whose job is to act in plays or movies
5. young wild animals such as lions, wolves, and bears
6. to use your teeth to cut into or through something

B. Scan. You are going to read about an unusual summer job. Quickly scan the reading to answer the questions below. Then read again to check your answers.

1. What was the young man's job? 2. Where did he work?

At an animal training center, a wild grizzly bear named Tank learns to show his teeth for the camera.

Tank is taught to cover his face with his paws. Training a wild animal like Tank is not easy—the animal may try to bite its trainer!

Animal trainer Ruth LaBarge stands with a trained bear actor named Barney. LaBarge has trained many adult bears and bear cubs.
Russell Chadwick remembers the summer he turned 16—it was the time he wrestled with grizzly bears!

Russell’s adventure started when he came to stay at Wasatch Rocky Mountain Wildlife, an animal training center in Utah. The center is run by Doug and Lynne Seus, who train wild animals to be actors in television and movies.

Doug and Lynne asked high-school student Russell to help them take care of two four-month-old grizzly bear cubs called Little Bart and Honey Bump. That’s more difficult than it sounds, because even baby bears are pretty big.

Russell’s job was to play with the bears to get them used to humans. At the same time, he had to remember that movie bears are still wild animals:

“One time Bump took a bite out of my back, and I had to wrestle her to the ground. But it also showed me how smart she is. She knew she had done something wrong and ‘apologized’ by putting her head in my lap.”

Russell found that bears can understand more than just “sit” and “stay.” For example, when Russell called out “Peekaboo!” to the adult bear, Tank, he covered his eyes with his paws, just like a little kid.

Although he didn’t get a large fee for the job, Russell says he values the experience more than money. When you’ve wrestled with a grizzly bear, things like work and exams don’t seem so difficult anymore!
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. What is the reading mainly about?
   a. how to get a summer job in Utah
   b. what Russell did for his summer job
   c. why wild animals make good actors
   d. movies that the Seus's bears acted in

Vocabulary 2. In line 1, we could change the word turned to ________.
   a. became
   b. grew up
   c. went around
   d. remembered

Detail 3. Which of these sentences is NOT true?
   b. Doug and Lynne Seus work in Utah.
   c. Doug and Lynne Seus are animal trainers.
   d. Doug and Lynne Seus are movie actors.

Reference 4. In line 20, he refers to ________.
   a. Russell       c. Tank
   b. Peekaboo       d. a little kid

Main Idea 5. What is the main idea of the last paragraph?
   a. Russell liked everything about the summer job except wrestling with the bears.
   b. Russell thinks that tests and homework are good ways to get ready for a summer job.
   c. Russell's summer experience helped prepare him for other things in his life.
   d. Russell didn't receive enough money for his summer job.

B. Summary. Complete the sentences below. Fill in each blank with no more than three words from the reading.

1. At Wasatch Rocky Mountain Wildlife, Doug and Lynne Seus train animals to work in ________.
2. One summer, Doug and Lynne Seus asked Russell Chadwick to help them ________ two grizzly bear cubs.
3. Russell played with Little Bart and Honey Bump because the bears needed to ________ humans.
4. Russell thinks the job was a good experience even though he didn't get ________.
Chimpanzees, or "chimps," can be trained to learn and 1. ____________ various actions and movements. In this way, they can learn to "act" in films and on TV. About 200 chimps are now used in the U.S. entertainment business. Sometimes these chimps can seem almost like 2. ____________ actors.

But some people are against training chimps to be actors. Although chimps are smart, they are still wild animals. At training centers, chimps may be hit if they don't do what the trainer says. Also, most TV and movie chimps are very young. "The chimpanzees we see used in entertainment are generally youngsters," 1 says Dr. Jane Goodall, who runs a research center in Maryland, U.S.A., and has studied wild chimps in Africa. "Once they reach ... six to eight years old, they become increasingly 3. ____________ to [control]."

Owners can charge high 4. ____________ for the use of their chimps in TV shows and movies. But once the chimps stop acting, they become less 5. ____________ to their owners. The cost of 6. ____________ for chimps is very high. Housing and food can cost up to $10,000 a year—and chimps can live for 60 years or more! Because of this, many older, 7. ____________ chimps spend the rest of their lives in cages or are given to zoos.

1 A youngster is a young person.
2 A cage is a box, usually made of wire or metal, in which animals are kept so they cannot get away.

B. Definitions. Complete the sentences using the correct form of words in the box in A.

1. A(n) ____________ is a kind of experience that is exciting and uncertain.
2. If something is ____________, it is not easy.
3. A(n) ____________ is money that you pay to do something.
4. If you ____________ something, you think of it or keep it in your mind.
5. If something is ____________, it is worth a lot of money.

Usage

We call people humans when we compare them to animals or machines: Humans and animals communicate in different ways. A computer can find answers to problems faster than a human can.
Before You Read

A. Reading Maps and Charts.
   Look at the map and chart. Then answer the questions below.
   1. Which country had the highest number of cinema admissions (visits to movie theaters) in 2008? ________
   2. Which country had just over a billion (1,000,000,000) cinema visits in 2008? ________
   4. Which two countries produced about the same number of films in 2008? ________

B. Scan. Read the title and the first sentence of every paragraph on the next page. Check (✓) the things you think you'll read about. Then read the passage to check your predictions.
   - what kinds of things you see in an anime movie
   - how Hayao Miyazaki first started making movies
   - why Hayao Miyazaki wanted to make movies
Humans and robots fight to save the world. Animals with magical powers have great adventures. The world of anime is an exciting and colorful place. And who takes us there? Animators such as Japanese director Hayao Miyazaki.

Miyazaki started working in animation in 1963 and directed his first animated movie in 1979. More movies followed, including *Nausicaä of the Valley of the Wind*, produced in 1984. The following year Miyazaki started his own company, Studio Ghibli. Since then, the studio’s films have won various prizes, including an Academy Award in 2001 for *Spirited Away*.

Miyazaki’s studio also produces manga, or comic books. *Nausicaä* began as a popular manga series set in the future. In the 1984 movie based on the series, Princess Nausicaä travels in a flying machine to study poisonous plants. It’s just the beginning of a complex and exciting story.

The director’s films can be difficult to explain in just a few words. Nature and technology often play a central part in Miyazaki’s stories. Understanding the way children see the world is also important to him. “I look at them and try to see things as they do,” he says.

In his free time, Miyazaki stays away from television and other media. “Young people are surrounded by virtual things,” he says. “They lack real experience of life and lose their imaginations.” Luckily for anime fans, Hayao Miyazaki hasn’t lost any of his own.

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1. robot is a machine that can move and perform tasks on its own.
2. someone has power, they have a lot of control over people and activities.
3. prize is something that is given to the winner of a competition.
4. something that is complex has many different parts, and is difficult to understand.
5. virtual object or activity is something that is created by a computer to look like the real thing.
6. there is a lack of something, there is not enough of it or it does not exist at all.
7. our imagination is your ability to form new or exciting ideas.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. The passage is mainly about Hayao Miyazaki's _________.
   a. movie awards
   b. ideas about young people today
   c. animation company
   d. life as an animation director

Detail 2. When did Miyazaki direct his first animated movie?
   a. 1963   c. 1984
   b. 1979   d. 2001

Vocabulary 3. In line 20, the movie based on the series means that _________.
   a. the movie is part of a group of movies
   b. the ideas in the movie came from the manga comics
   c. the series tells us about things that happen in the future
   d. the movie was made before the manga books

Detail 4. Which statement about Miyazaki's movies is NOT true?
   a. The stories are often about nature.
   b. The films are often about Miyazaki's children.
   c. The stories often include technology.
   d. The films can be difficult to explain in a simple way.

Inference 5. Which of the following is probably true?
   a. Miyazaki believes children cannot understand complex stories.
   b. Miyazaki's manga have won more awards than his movies.
   c. Miyazaki has directed only a few movies since he started Studio Ghibli.
   d. Miyazaki thinks children should spend less time watching TV.

B. Sequencing. Number the events in time order from 1–5. Then retell Miyazaki's life story to a partner.

   ____ Miyazaki opens Studio Ghibli.
   ____ Miyazaki wins an Academy Award for Spirited Away.
   ____ Miyazaki begins working in animation.
   ____ Miyazaki makes a movie version of Nausicaä of the Valley of the Wind.
   ____ Miyazaki makes his first animated movie.
Vocabulary Practice

Completion. Complete the information using words from the box. Two words are extra.

director following including series
explain future machines
film important media

James Cameron: Filmmaker

Date of birth: August 16, 1954
Place of birth: Ontario, Canada


• Cameron's Terminator movies are about a war between 3. ____________ and humans.

• Many newspaper writers and other people in the 4. ____________ thought Cameron's Titanic would not be a hit. In fact, it made $1.8 billion worldwide and became the biggest 5. ____________ of all time.

• 6. ____________ Titanic, Cameron took a break from making movies. In 2000, he produced a TV 7. ____________ called Dark Angel, starring Jessica Alba.

• Cameron's 2009 adventure movie Avatar was his first movie since Titanic. The story is set more than 100 years in the 8. ____________ on an alien world with islands in the sky. As in Hayao Miyazaki's films, nature and technology play a central part in the story.

Words in Context. Read the sentences and circle true (T) or false (F).

1. If you create something, you make something for the first time. T F
2. If you explain something to a group of people, you ask them how to do it. T F
3. The leader of a country has a very important job. T F
4. If a movie follows a TV program, it comes before that program. T F

Usage

We use the media to talk about all the ways that people get news and information:
He told his story to the media.

Media can take a singular or plural verb:
The media has/have changed people's ideas about the environment.
History of Film

A. Preview. You will hear these words in the video. Use the words to complete the sentences.

<table>
<thead>
<tr>
<th>camera</th>
<th>documentary</th>
<th>invented</th>
<th>screen</th>
<th>studio</th>
</tr>
</thead>
</table>

1. People watch movies on a _____________ in a movie theater.
2. The first movie technology was _____________ more than a hundred years ago.
3. A company that makes movies is known as a movie _____________.
4. Filmmakers use a _____________ to shoot movies.
5. A _____________ is a type of movie that is about real life.

B. Summarize. Watch the video, History of Film. Complete the summary below using words from the box. Two words are extra.

<table>
<thead>
<tr>
<th>adventures</th>
<th>fee</th>
<th>future</th>
<th>including</th>
<th>machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>directors</td>
<td>film</td>
<td>human</td>
<td>important</td>
<td>series</td>
</tr>
<tr>
<td>explain</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For more than a hundred years, 1. _____________ has been one of the world’s favorite kinds of entertainment. Movies let us experience 2. _____________ in faraway places and see things we have never seen before.

In the late 19th century, inventors produced a 3. _____________ called a kinetoscope. This showed a 4. _____________ of images very quickly. After paying a 5. _____________, people could look into the kinetoscope and watch the first kinds of movie.

The kinetoscope was soon 6. _____________ by the film projector. Projectors were used in the world’s first movie theaters. Movies became more popular, and movie stars 7. _____________ Charlie Chaplin and Mary Pickford became famous worldwide.

Since those early days, 8. _____________ have used film technology to record 9. _____________ events around the world. In the 10. _____________, film technology will show us other ways to experience the world.

C. Think About It.

1. How might movie change in the next 20 years? How about in the next 50 years?
2. What do you think has been the most important film in history? Why?
A. Crossword. Use the definitions below to complete the missing words.

Across
1. to make by joining parts together
5. something used to make something else, usually food
7. to tell people that something has happened, e.g., in a newspaper
10. to describe something so it can be understood
12. all of something
13. If you _____ something, you place another thing over it.
15. not easy
17. happened only a short time ago
18. usual or normal
19. an exciting and/or dangerous event or experience

Down
2. picture
3. grown-up person
4. plan what something will look like
6. TV, radio, and newspapers are types of _____.
8. having little or no money
9. amount of money paid for a service
11. to make or create
13. to make something happen
14. movie
16. If you are _____ of something, you know it is true.

B. Notes Completion. Scan the information on pages 40-41 to complete the notes.

Field Notes
Site: Lines and Geoglyphs of Nasca and Pampas de Jumana
Location: Peru
Information:
- These mysterious lines and images are in the _______ of southern Peru.
- The designs, or "geoglyphs," are found over an area of nearly _______ km².
- Many lines are more than _______ years old and are so big that they can only be seen _______.
- The _______ people made most of the images, but no one is certain why.
- Some researchers think _______ was the main issue. The images were made for the _______, who they hoped would bring them rain.
- The lines were made by taking away the _______ on top of the ground and leaving the _______ underneath.
In the desert of southern Peru, thousands of lines and images—including a spider, a monkey, and various other animals and plants—are drawn in the sand.

Who created these pictures, and for what purpose? Many of the images are more than 1,500 years old and can only be seen from the air. Because of this, some people thought they must have been made by visitors from space. Today, we know that most of the images were in fact created by people known as the Nasca. Less certain is why they were made.

A team of researchers in Nasca may have found an answer. "In this area, water was the key issue," says research director Markus Reindel. The Nasca lived in one of the driest areas in the world. Their river water came from the nearby Andes mountains. By making images for the mountain gods, the Nasca thought they would get more rainfall each year.

Over the years, however, the climate changed and the rivers ran dry. Sometime between A.D. 500 and 800, the last Nasca left the area. They left behind them one of the world's great mysteries.

Glossary
climate: the weather in a certain part of the world
desert: a dry, often sandy area of land with little rainfall
key issue: the main point or question
religious ceremony: a traditional event, set of actions, relating to a god or gods
stage: the scene, or area, used for a certain purpose, e.g., a ceremony
The Nasca Lines were not all created at the same time, for the same purpose. The earliest designs were made by people known as the Paracas. These included images of 30-meter (100-foot) humans with large eyes: no one knows for certain what they were for. The Paracas were followed by the Nasca people. At first their pictures were mostly of the natural world. Later these developed into long lines and detailed patterns. According to researcher Markus Reindel, the later Nasca Lines "weren't meant as images to be seen anymore, but stages to be walked upon, to be used for religious ceremonies."

Creating the Nasca Lines

Scientists now think they understand how the drawings were made:

**Step 1** The Nasca placed large stones to mark the outer lines of the drawing.

**Step 2** The darker stones on top of the ground were taken away, leaving the lighter stones underneath.

**Step 3** The darker stones were placed along the outer edges of the lines.

The Nasca also used simple technology—a pole and a rope—to make many circular designs.
A. Dictionary Skills. In English, there may be different meanings for the same word. Read the definitions for each word. Then write 1 or 2 next to the words in red below.

<table>
<thead>
<tr>
<th>n. = noun</th>
<th>v. = verb</th>
</tr>
</thead>
</table>

**break** (v.) 1. to go against a rule, promise, or agreement 2. to hit something until it separates into two

**center** (n.) 1. the middle of something 2. a place where people take part in meetings/activities

**plant** (v.) 1. to put seeds into the ground to grow 2. to put something down firmly

**serve** (v.) 1. to give people food and drinks 2. to be used for a particular purpose

**space** (n.) 1. an empty or available area 2. the area beyond Earth where the stars and planets are

**steps** (n.) 1. raised flat surfaces that you use to walk up or down 2. a series of actions taken with a certain purpose

1. At over 200 meters (650 feet) deep, Loch Ness certainly has enough space _____ to hold a monster.
2. Hundreds of years ago, people used to believe Earth was the center _____ of the universe.
3. The Scoville scale serves _____ as a good way to measure how hot something is.
4. The next step _____ for the Nausicaa manga series was to turn it into a movie.
5. People in Assam, India, plant _____ the world’s hottest chili pepper.
6. Area 51 is “out of bounds,” meaning you break _____ the law if you go inside.

B. Word Link. The suffix -ly changes adjectives (like bad) into adverbs (like badly). Read sentences 1–6 below. Then complete each sentence (a–f) with the adverb form of the word in red.

1. Early films were screened using a simple machine called a kinetoscope.
2. Many sweet foods are natural, like sugar and chocolate.
3. There are many people who believe ghosts are real.
5. The final cost of the movie *Avatar* was over US$300 million.

a. Honey is produced _________ by bees.
b. Now, anyone can make videos _________ by using their mobile phone.
c. No one knows for sure if Edinburgh castle is _________ haunted.
d. After 60 years, people _________ learned the truth about Nessie’s photo.
e. Japanese animation has _________ become very popular in the West.
UNIT 4

True Tales

WARM UP

Discuss these questions with a partner.

1. Do you know of anyone who has lived through a dangerous experience?
2. What are the most common news stories in your country?
3. Have you heard of anything so unusual that you thought it wasn’t true?

This watch was found on the Titanic wreck. Its owner was one of the 1,500 people who died when the ship sank in 1912.
Before You Read

A. True or False. Read the information above and circle True or False. Pay attention to the words in blue.

1. An iceberg caused Titanic to sink.  
   True  False
2. Over 1,500 passengers died when Titanic sank.  
   True  False
3. Nobody knew where Titanic's shipwreck was until the 1980s.  
   True  False

B. Scan. Read the title and the first sentence of each paragraph on the next page. How many times did Robert Ballard visit the Titanic shipwreck? Read the passage to check your answer.
As a boy, Robert Ballard liked to read about shipwrecks—especially the *Titanic*. “My lifelong dream was to find this great ship,” he says.

On August 31, 1985, Ballard’s dream came true. With video cameras and an underwater robot, Ballard found the two main parts of *Titanic* nearly four kilometers beneath the sea. He also saw many sad reminders of *Titanic’s* end, including a child’s pair of shoes lying on the ocean floor. There were more than 1,500 deaths that night in 1912.

Ballard reached the *Titanic* again in 1986 in a small submarine. He used a deep-sea robot—a “swimming eyeball”—to take photos inside the ship. When they saw the images, other people wanted to visit the shipwreck.

When Ballard returned in 2004, he found the ship in worse condition. Other explorers had taken away about 6,000 items, including jewelry, love letters, lamps, and even pieces of the ship. They believed the items should be moved to a safer place, but Ballard doesn’t agree.

Ballard believes that taking things from *Titanic* is like robbing a grave. Instead, he hopes to put lights and cameras on *Titanic*. With this technology, people can see the shipwreck on a computer and remember the great ship. “As long as she needs protection,” says Ballard, “*Titanic* will always be part of my life.”
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea
1. What is the main idea of the reading?
   a. The story of the Titanic is very sad.
   b. Explorers who visit Titanic leave it in worse condition.
   c. Robert Ballard hopes more people will visit Titanic.
   d. The man who found Titanic now wants to protect it.

Detail
2. Which sentence about Ballard is true?
   a. Ballard read about the Titanic when he was a child.
   b. Ballard went inside Titanic to take pictures.
   c. Ballard believes pieces of Titanic should be taken to a safer place.
   d. Ballard’s second visit was the last time he saw Titanic.

Paraphrase
3. The phrase lifelong dream (lines 2–3) is closest in meaning to _________.
   a. something you want to do at the end of your life
   b. something you want to do as a child
   c. something you want to do during the night
   d. something you have wanted to do your whole life

Detail
4. When was Ballard’s second visit to Titanic?
   a. 1912       c. 1986
   b. 1985       d. 2004

Inference
5. Which statement would Ballard probably agree with?
   a. People should visit Titanic and see it for themselves.
   b. People should not remove things from Titanic.
   c. There should not be any lights or cameras on the Titanic.
   d. People should forget about Titanic.

B. Summary. Complete the sentences below. Fill in each blank with no more than three words from the reading.

1. Robert Ballard’s _____________ was to find Titanic, and in 1985, his _____________ came true.
2. Ballard found the two _____________ of Titanic at the bottom of the ocean.
3. One sad thing Ballard saw was a(n) _____________ of shoes that used to belong to a child.
4. After Ballard visited the shipwreck, other explorers went there and _____________ about 6,000 things.
5. Ballard doesn’t think people should visit Titanic. He thinks the shipwreck needs _____________.
Why were there so many
1. ____________ on the night that Titanic sank? One reason is that weather 2. ____________ were very bad. The accident happened in April when the air and water were very cold. Scientists
3. ____________ that most of the passengers who fell into the water died in less than 15 minutes. But the
4. ____________ reason for the high number of deaths is that there were not enough lifeboats. There were 2,223 people on the ship—but only enough boats for 1,186 people. Also, many people could not 5. ____________ the lifeboats in time before the boat broke apart. In the end, only 706 people 6. ____________ safely to land.

3. Words in Context. Complete each sentence with the best answer.

1. If you return, you go to a place _________.
   a. for the first time    b. again
2. If people agree, they have ________ about a subject.
   a. the same idea    b. different ideas
3. If you drink tea instead of coffee, you drink _________.
   a. tea    b. both tea and coffee
4. If you hope for something, you ________ that thing to happen.
   a. don't want    b. want
5. If you reach a place, you are ________ to get to that place.
   a. able    b. not able

Usage
If you agree with someone, you have the same idea or opinion as that person.
If you agree to do something, you say that you will do it.
Before You Read

A. Reading Maps. Use the map to answer the questions (1–4).

1. Lightning flashes happen most often a. over land b. over water.
2. Europe has the a. least b. most lightning flashes of any continent.
3. Central Africa has a. fewer b. more lightning flashes than central Asia.
4. Most of South America gets a. more b. less than 10 lightning flashes per km² per year.

B. Scan. You are going to read about a boy who was struck by lightning. Quickly scan the reading to answer the questions below. Then read again to check your answers.

1. Who was hit?
2. When was he hit?
3. Where did it happen?
4. What was he doing?
5. How old was he?
On a sunny afternoon in 2004, nine-year-old Geoff Banninger was walking to a park in Colorado to see his sister play softball. But before he got to the park, Geoff was struck by lightning.

The lightning stopped Geoff’s heart and his breathing. It burned his hair and left a burn line from his head to his foot. It blew his glasses off his face and melted them. It even made a hole in the bottom of his shoe.

“I woke up about a minute later,” says Geoff, “and my mom told me I had been struck by lightning.”

What is lightning? A lightning strike is the result of a buildup of electrical charges inside a cloud. We usually see lightning during stormy weather. But, as Geoff discovered, it can happen even on a sunny day.

Geoff’s legs felt strange after he was hit, but he hasn’t had any further problems since then. “I’m a lucky guy,” he says. But being lucky is not the only way to ensure your safety during a thunderstorm. You can also follow the 30/30 rule: if you see lightning, and then hear thunder less than 30 seconds later, go inside a building. Then wait 30 minutes after the last thunder or lightning before you go back outside.

So how likely is it you will be hit by lightning? Fortunately, it’s not a common problem. According to the U.S. National Weather Service, your chance of being struck in your lifetime is only 1 in 5,000.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Detail 1. Which sentence about Geoff Banninger is NOT true?
   a. The lightning stopped his breathing.
   b. The lightning burned his hair.
   c. The lightning left a line around his shoe.
   d. The lightning stopped his heart.

Inference 2. Which of the following is probably true?
   a. Geoff remembers being struck by lightning.
   b. When Geoff was struck by lightning, his mother was nearby.
   c. Geoff's sister saw him get hit.
   d. Geoff believes he has a very unlucky life.

Reference 3. In line 14, the word it refers to __________.
   a. stormy weather
   b. cloudy weather
   c. a lightning strike
   d. a sunny day

Detail 4. According to the 30/30 rule, you should go inside a building ________.
   a. when thunder and lightning are less than 30 seconds apart
   b. at least 30 minutes after the last thunder or lightning
   c. when you see lightning, but don’t hear thunder
   d. any time you hear thunder and see lightning

Main Idea 5. What is the main idea of the last paragraph?
   a. Most people are never struck by lightning.
   b. It's common to be struck by lightning.
   c. It's fortunate if you are struck by lightning.
   d. Lightning usually strikes in the afternoon or early evening.

B. Matching. What is the main idea of each paragraph in the reading? Match each heading (a–e) with the correct paragraph.

Paragraph  | Heading
---|---
1. (from line 1)  | a. How to Stay Safe During a Thunderstorm
2. (from line 5)  | b. Will You Be Struck by Lightning?
3. (from line 11) | c. The Day Geoff Banninger Was Struck by Lightning
4. (from line 15) | d. Why Do We Have Lightning?
5. (from line 23) | e. What Happened When Geoff Was Struck?
Vocabulary Practice

Matching. Read the information below and match each word in red with a definition.

The **whale shark** is the biggest fish in the ocean. It can grow as large as a bus. Its **heart** can weigh 20 kg (44 lb) or more!

The **hammerhead shark** uses its strangely shaped head to hold down food while eating. The **chance** of being attacked by a hammerhead is very small. Since 1580, there have only been 33 recorded attacks.

**An angel shark** hides at the bottom of the sea and waits for fish to come by. Then it opens its mouth and the fish swim in.

1. the possibility, or opportunity, for something to happen
2. the part of an animal's body that pumps (pushes out) blood
3. do nothing for a time until something happens

Completion. Complete the information using words from the box. One word is extra.

<table>
<thead>
<tr>
<th>common</th>
<th>ensure</th>
<th>further</th>
<th>happen</th>
<th>heart</th>
<th>likely</th>
<th>result</th>
<th>rule</th>
</tr>
</thead>
</table>

What should you do in a shark attack? Eleven-year-old Aaron Perez knew the answer. One evening he was swimming in the Gulf of Mexico when a bull shark attacked him. There was one 1. ____________ Aaron knew about sharks: if a shark attacks you, you should hit it in the eye or the gills.¹ Aaron hit the shark hard with his hand, and it let him go. He got out of the water safely.

When they 2. ____________, shark attacks can be deadly. But they are not 3. ____________. Each year, sharks usually kill fewer than ten people worldwide. A 4. ____________ 100 people are attacked and injured. You are more 5. ____________ to be attacked in parts of the sea where tourists throw in food to bring in sharks. The sharks learn to return to these places to find food.

However, people are dangerous to sharks, too. Every year, 60 million sharks are killed for food and medicine. As a 6. ____________ of this hunting, some species, or kinds, of sharks may die out completely. “Time is running out² for these species,” says Sonja Fordham, a scientist at the Ocean Conservancy. “Programs to protect sharks [are] needed to 7. ____________ that these magnificent³ species survive.”

¹ Gill ⁰ run out ² magnificent

Word Partnership

Use **rule** with: follow a rule, break a rule, make a rule
A. Preview. Read the sentences below and complete the definitions.

Flashes of lightning are very bright and last for about 0.2 seconds.
Clouds are made of many particles of water.
Thunder can be heard ten miles or more from a lightning strike.

1. A flash is a ________ light.
   a. short, quick  b. long, slow
2. A particle is a very ________ piece or amount of something.
   a. large  b. small
3. Thunder is the ________ produced by a lightning strike.
   a. sound  b. light.

B. Summarize. Watch the video, Lightning. Then complete the summary below with words from the box. Two words are extra.

agree  believe  chance  common  conditions  deaths  ensure  mainly  reach

Lightning is a 1. __________ sight in many parts of the world.
Lightning storms 2. __________ happen in the summer when weather 3. __________ are hot and wet. Inside a rain cloud, particles move around and build up electrical charges. This creates lightning. Lightning usually stays inside the cloud, but sometimes it is able to 4. __________ the ground. Not all scientists 5. __________ on why this happens.

In the U.S., people have a greater 6. __________ of being killed by lightning than by hurricanes or tornadoes. Every year, there are about 100 7. __________ caused by lightning in the U.S. The best way to 8. __________ you are safe during a lightning storm is to stay indoors. If you are outside, stay away from high places or tall trees.

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UNIT 5
Outdoor Activities

WARM UP

Discuss these questions with a partner.

1. How much time do you usually spend outdoors? What do you do?
2. What kinds of outdoor activities are popular in your country? Why are they popular?
3. Do you think it is important for people to spend time outdoors? Why or why not?
Before You Read

A. Labeling. Read the information below. Then label the picture above with the words in blue.

Baseball is played by two teams, with nine players on each team. A player called a pitcher throws a small round ball called a baseball. A player from the other team known as the batter tries to hit the ball with a stick called a bat. If he misses the ball, the person behind him (the catcher) catches the ball and throws it back. The umpire decides if the throw is good. Teams get points by running and touching areas on the ground called bases.

B. Scan. You are going to read about international baseball. Quickly scan the reading on the next page (including the captions) to answer the questions below. Then read again to check your answers.

1. What are some names of people mentioned in the passage?
2. What were those people’s jobs?
Baseball is sometimes called "the national pastime" of the United States. But modern baseball is truly an international game.

Baseball began in the U.S. in the early 19th century. The first World Series was played in 1903. However, only American and Canadian teams played in the series. The first non-U.S. victory was by the Toronto Blue Jays in 1991.

Since the early 1990s, managers of U.S. teams have brought several foreign players to the U.S. game. Today, about 30 percent of players in American baseball come from foreign countries, including Puerto Rico, Japan, South Korea, and the Dominican Republic.

One of the first Asian players in the U.S. was Japanese pitcher Hideo Nomo. Nomo got a lot of attention from the media when he joined the Los Angeles Dodgers in 1995. Soon, many other U.S. teams were making contracts with players from other countries.

Today, world-class baseball is available to more fans than ever before. In 1994, baseball became part of the Asian Games. In 2006, 16 teams from around the world took part in the first World Baseball Classic—an international series of professional baseball games. Finally, baseball has become a truly global pastime.

"For starting pitchers, we have two Dominicans, one Italian, one Mexican, and one Japanese."

—Tommy Lasorda, Los Angeles Dodgers manager, 1995

A pastime is something you enjoy doing in your free time.
A victory is success in a fight, war, or competition.
Someone or something that is world-class is one of the best in the world.
Global means concerning or including the whole world.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea
1. Another title for the article could be ________.
   a. The History of the World Series
   b. Baseball: An International Sport
   c. The All-American Pastime
   d. Baseball Has a Good Year

Detail
2. In what year did Toronto win the World Series?
   a. 1903 c. 1994
   b. 1991 d. 1995

Sequence
3. Which of the following happened first?
   a. A non-U.S. team won the World Series for the first time.
   b. The first World Baseball Classic was held.
   c. Baseball was played in the Asian Games for the first time.
   d. Hideo Nomo started playing for the Dodgers.

Paraphrase
4. In line 19, the words took part could be replaced by ________.
   a. played c. left
   b. learned d. won

Detail
5. Which place is NOT mentioned in the article?
   a. South Korea c. Venezuela
   b. Puerto Rico d. Los Angeles

B. Completion. Complete the diagram below. Fill in each blank with one or two words from the reading.

- Baseball's History in the U.S.
- Changes in U.S. Teams
- Growing International Interest

- invented in the 1. ________ century
- first 2. ________ played in 1903
- Hideo Nomo joins Dodgers in 3. ________
- U.S. teams now have more foreign 4. ________
- first World 5. ________ is played in 2006
- baseb is inclu in the A: 6. ________
**Vocabulary Practice**

**Completion.** Complete the information using words from the box. Two words are extra.

<table>
<thead>
<tr>
<th>attention</th>
<th>join</th>
<th>several</th>
</tr>
</thead>
<tbody>
<tr>
<td>available</td>
<td>manage</td>
<td>teams</td>
</tr>
<tr>
<td>contracts</td>
<td>percent</td>
<td></td>
</tr>
</tbody>
</table>

Hours before a U.S. baseball game, players traditionally put mud on the baseballs. Why? Baseballs can be dangerous if pitchers are not able to hold them well. In 1920, a player was killed when a pitcher made a bad throw using a clean, new baseball. People tried

1. ____________ different ways to make new baseballs easier to hold, but none worked well. Then, in 1938, a man named Lena Blackburne found an answer to the problem. Blackburne was a player for various U.S. baseball ____________, including the Chicago White Sox and the Boston Braves, and later went on to ____________ the White Sox in the late 1920s. He found that using a certain type of mud from the Delaware River in New Jersey—together with a special “magic” ingredient—helped to make baseballs easier to hold. Blackburne’s idea got a lot of ____________ and many teams started using Lena Blackburne Baseball Rubbing Mud. Now, the company has ____________ with all the major league baseball teams in the U.S. Since then, people have tried other ways, but they always go back to mud. After all, it works, and there’s lots of mud ____________!

3. **Words in Context.** Complete each sentence with the best answer.

1. If something is **available**, you ____________ easily get it.
   - a. can  
   - b. can’t

2. A person who can speak a **foreign** language can speak ____________ one language.
   - a. only  
   - b. more than

3. If something is **modern**, it is ____________.
   - a. new  
   - b. old

4. If you play in a **team** sport, you play it ____________.
   - a. on your own  
   - b. with other people

5. If you **join** a club or event, you ____________ it.
   - a. leave  
   - b. become part of

---

**Word Link**

We can add -er to some words to describe a person who does a certain action or job, e.g., manager, teacher, writer, builder, researcher, designer, publisher, producer.
Before You Read

A. Matching. Look at the information above. Match the words in blue with the definitions (1-6).

1. ________ a large area where trees grow close together
2. ________ walking outdoors on rough ground
3. ________ moving toward the top
4. ________ important in the past
5. ________ high area of land with steep sides
6. ________ a building used to worship a god or gods

B. Scan. You are going to read about a hiking experience. Quickly scan the reading to answer the questions below. Then read again to check your answers.

1. Does the writer like hiking?
2. What was unusual about his hiking experience in Korea?
Hiking in Korea

Travel writer Christopher Duffy hikes up a mountain—and gets a taste of Korean culture.

On my first Saturday in South Korea, I decided to climb Mount Bukhansan. I enjoy hiking, and everyone told me about Bukhansan National Park. They mentioned its beautiful forests, clean air, and historic temples. They didn’t tell me about the huge crowds that go here every weekend!

Hiking is an activity that’s generally done in groups in South Korea. After following the crowd for an hour, I asked a group of hikers how far the summit was. The leader of the group was Mr. Choi. When Mr. Choi saw I was alone, he said, “You will hike with us.” Then he introduced me to his friends.

We hiked together for an hour until the group decided to stop for lunch. I tried to get a sandwich from my backpack, but one of Mr. Choi’s friends said, “No, no, no. You will eat with us.” They provided a plate of pig’s feet, some kimchi, and a couple of drinks. After they shared their meal with me, the group decided they had walked enough. They began walking back down the mountain.

I continued climbing, and finally arrived at the summit. A man standing on the mountaintop introduced himself as Mr. Kim. Together we shared a bottle of makgeolli, a traditional Korean drink, and admired the view.

“In Korea,” he said, “we say that the people you meet on the mountain are the best people.” I thought about my day on Bukhansan, and I knew he was right.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Detail 1. People did NOT tell the writer about the ______ at Bukhansan.
   a. crowds
   b. temples
   c. forests
   d. clean air

Reference 2. The word *its* (line 5) refers to ______.
   a. South Korea's
   b. everyone's
   c. Bukhansan National Park's
   d. the crowd's

Vocabulary 3. The word *alone* (line 12) means ______.
   a. becoming tired
   b. not with other people
   c. very hungry
   d. from another country

Main Idea 4. What is the main idea of the last paragraph?
   a. It took a long time to get to the summit of Bukhansan.
   b. The author enjoyed hiking with other people on Bukhansan.
   c. The author tried makgeolli, a traditional Korean drink.
   d. The author probably won't return to Bukhansan.

Inference 5. What is probably true about the writer?
   a. In his home country, hiking is not usually done in big groups.
   b. In his home country, most people have heard of Bukhansan.
   c. He has been to Bukhansan a few times before.
   d. He felt the climb up Bukhansan was very difficult.

B. Sequencing. What is the main idea of each paragraph in the reading? Match each heading (a–d) with the correct paragraph.

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>Heading</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. (from line 2)</td>
<td>a. Going to Bukhansan National Park</td>
</tr>
<tr>
<td>2. (from line 8)</td>
<td>b. Words from a Man on a Mountaintop</td>
</tr>
<tr>
<td>3. (from line 14)</td>
<td>c. A Meal on a Mountain</td>
</tr>
<tr>
<td>4. (from line 21)</td>
<td>d. Meeting Mr. Choi and His Friends</td>
</tr>
</tbody>
</table>
Vocabulary Practice

**Completion.** Complete the information using words from the box. One word is extra.

<table>
<thead>
<tr>
<th>activity</th>
<th>couple</th>
<th>enjoy</th>
<th>general</th>
<th>introduce</th>
<th>leader</th>
<th>provide</th>
</tr>
</thead>
<tbody>
<tr>
<td>arrive</td>
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</table>

Hiking on Hawaii’s Pu’u Kukui mountain is a very special leisure
1. ___________—one that very few people are able to
2. ___________.

If you 3. ___________ Hawaii to most people, they will most likely think of hotels and beaches with lots of tourists. Parts of Hawaii are, in 4. ___________, like that. But the western part of Maui, Hawaii’s second largest island, is closed to tourists. It is a private scientific area owned by the Maui Land and Pineapple Company. Other than researchers and scientists, only 12 people can visit each year.

To get to hike on Pu’u Kukui, you first need to win a contest. Then you take a helicopter ride to the private area. After hiking for a 5. ___________ of kilometers, you finally 6. ___________ at the top of Pu’u Kukui. From the mountaintop, you can see a magnificent view of forests, mountains, and sea.

Randy Bartlett is the 7. ___________ of the hikes in Pu’u Kukui. His job is to 8. ___________ hikers to the various unusual plants and to explain why each one is important. Many of the plants can be found nowhere else in the world. That’s why so few people have the chance to experience this beautiful land.

* A contest is a competition or game.

**Words in Context.** Complete each sentence with the best answer.

1. If you **share** something, you use it _________.
   a. alone    b. together

2. If you **enjoy** hiking, you _________ going for a walk.
   a. like    b. don’t like

3. When you **arrive** somewhere, you _________ the place.
   a. get to    b. leave

4. When you **mention** something, you _________ it.
   a. talk about    b. don’t talk about

5. When you **provide** something, you _________ it.
   a. give    b. take

**Usage**

Use **enjoy** with the -**ing** form of the verb:

I **enjoy** watching baseball.  
My brother **enjoys** hiking.
Dubai World Cup

A. Preview. Read the information below. Then match each word in blue with a definition.

Horse racing is one of the world’s most popular sports. One of the greatest racehorses of all time was Secretariat. In 1973, he ran the Kentucky Derby in less than two minutes, breaking the track record. In a later competition, he became the fastest racehorse ever by running at nearly 60 kph, or 37.5 mph. (The fastest human athlete runs at about 43 kph, or 27 mph). Secretariat was part of a stable owned by Penny Chenery, one of the few female racehorse owners at that time.

1. a person who does a sport, such as running
2. a group of racehorses owned by the same owner; also a building in which horses are kept
3. an event in which people find out who is best at a certain activity
4. a piece of ground that is used for races

B. Summarize. Watch the video, Dubai World Cup. Then complete the summary below using words from the box. One word is extra.

activity available including provided
arrive enjoy manager team
attention foreign modern tradition

It’s still dark, but there is already a lot of 1. ____________ on the race track in Dubai. Racehorses start to 2. ____________ as early as 5:00 A.M. They are getting ready for the Dubai World Cup.

In the morning, the 3. ____________ of the stable and his 4. ____________ of trainers work with the horses. The trainers give each horse a lot of care and 5. ____________ . Each horse is 6. ____________ with special ice boots and is given a cool wash.

Horse racing is a very old 7. ____________ in Arabia, and many Arab people today still 8. ____________ watching horse races. During the Dubai World Cup, the large, 9. ____________ stadium has many people, 10. ____________ both local and 11. ____________ horseracing fans.

C. Think About It.

1. Do you believe it is OK to use animals in sports like horse racing?
2. What are the oldest sporting events in your country? Which provide the most money?

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UNIT 6

History and Legends

WARM UP

Discuss these questions with a partner.

1. Who were the first people in your country? Are there any stories or legends about them?
2. What stories or legends do you know from other countries?
3. Why do you think people like to listen to stories?

▲ A Native North American man holds up a gift to the gods.
More than 200 years ago, Meriwether Lewis and William Clark led a group of European-Americans on an expedition to explore the western part of North America. The group traveled from St. Louis to the Pacific Ocean. They traded with Native American people to get food, and they used a compass (right) to find their way.

Lewis kept a journal (left) of the expedition. In it, he wrote about a Native American woman who became a member of the expedition in 1805. The woman's name was Sacagawea, and she came from the Shoshone tribe. Today there are many statues of her, and her face is on an American coin (below).

Before You Read

A. Matching. Look at the information above. Match the words in blue with the definitions (1–4).

1. __________ to give something to someone and receive something in return
2. __________ group of people with the same language, customs, and traditions
3. __________ trip or journey to explore or discover something
4. __________ person that is part of a group, e.g., of a tribe

B. Predict. Read the first sentence of each paragraph on the next page. Check (✓) the information you think you'll read about. Then read the passage to check your answers.

- How Sacagawea helped the expedition
- How Sacagawea died
- How people remember Sacagawea today
There are more statues of her than of any other American woman. Her face is \textit{represented} on a U.S. one-dollar coin. \textbf{Clearly}, she was an important person in U.S. history. But what do we know about the \textit{identity} of the real Sacagawea?

Sacagawea was part of a Native American tribe called the Shoshone. At the age of 11, she was taken away by the Hidatsa people. She was living among the Hidatsa when Meriwether Lewis and William Clark met her in 1804. Lewis and Clark were mapmakers. They were exploring the \textit{land} in the west. Sacagawea spoke two different Native American languages, so they asked her to travel with them.

Sacagawea soon became an important member of the expedition. On May 14, 1805, a \textbf{strong} storm tipped over one of the boats. Sacagawea was able to reach many of the maps and other items in the water. Her quick actions saved important \textit{knowledge} from being lost.

Sacagawea helped Lewis and Clark find a way across the mountains to the Pacific. She helped them make peace and trade with Native Americans. She also took care of her baby son.

Today, a Native American woman named Amy Mossett teaches people about Sacagawea’s life. At the \textit{site} of an old Hidatsa \textbf{village}, Mossett says, “This is where I feel closest to Sacagawea.” Sacagawea died when she was about 25. Two hundred years later, she is remembered as an important woman in U.S. history.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. The reading is mainly about __________.
   a. why Sacagawea was able to speak several Native American languages
   b. why Sacagawea was an important woman in American history
   c. why Lewis and Clark went on an expedition to the west
   d. why Sacagawea left the Lewis and Clark expedition

Detail 2. Which sentence about Sacagawea is NOT true?
   a. Sacagawea was part of the Shoshone tribe.
   b. Sacagawea lived with the Hidatsa tribe after she turned 11.
   c. Sacagawea asked Lewis and Clark to take her on the expedition.
   d. Sacagawea took her child with her on the expedition.

Detail 3. Which person was NOT part of the expedition?
   a. Sacagawea
   b. Meriwether Lewis
   c. William Clark
   d. Amy Mossett

Vocabulary 4. The word tipped (line 12) could be replaced with __________.
   a. looked
   b. opened
   c. kept
   d. turned

Paraphrase 5. The phrase I feel closest to Sacagawea (line 20) is closest in meaning to __________.
   a. I can see Sacagawea
   b. I talk about Sacagawea
   c. I look like Sacagawea
   d. I understand Sacagawea

B. Sequencing. Match the phrases (a–f) to the events on the timeline.

- a. is taken from her people
- b. dies aged about 25
- c. saves maps and other items
- d. lives as a member of the Shoshone
- e. meets Lewis and Clark
- f. reaches the Pacific.

---

66   Unit 6 History and Legends
Vocabulary Practice

Completion. Complete the information with words from the box.

knowledge  represented  strong
land  site  village

THE WOMAN WHO WAS KING

On the west side of Egypt's Nile River is a small ancient site where thousands of workmen once lived. These were the people who helped build the tombs of Egypt's leaders. Nearby is the temple of one of Egypt's most magnificent buildings—the temple of Hatshepsut, Egypt's greatest female leader.

There are many stories and legends about Hatshepsut, but much of her life is a mystery. "Nobody can know what she was like," says Catharine Roehrig, author of Hatshepsut: From Queen to Pharaoh. But from the historical records, we do know that Hatshepsut was a leader. "She ruled for 20 years because she was capable of making things work," says Roehrig.

Much of our of Hatshepsut comes from statues and images created 3,500 years ago. In many of these, she is as a man wearing male clothing and a false beard. It seems that, although Hatshepsut was a woman, she ruled the of Egypt as a king.

Completion. Complete the information with words from the box. One word is extra.

among  clearly  different  identity  knowledge  land

MYSTERY OF THE MISSING MUMMY

For years, archeologists had no of what happened to Hatshepsut after her death. When archeologist Howard Carter found Hatshepsut's tomb in 1902, he discovered many of the queen's items, but her body (or "mummy") was missing. What happened to it?

More than 80 years later, the question was answered. In 1989, archeologists began studying a tomb called KV60, which was close to Hatshepsut's. The body of a woman was found in the tomb, but no one was sure of her . In 2006, archeologist Dr. Zahi Hawass decided to send the mummy for a CT scan. The scan showed the woman was missing a tooth. In Hatshepsut's tomb, a tooth had been found inside a royal box. The royal tooth was a close match for the mystery woman's missing tooth. The study showed that the woman was the lost queen. According to Dr. Hawass, the discovery of Hatshepsut's mummy is the most important finds in the history of Egypt.

Usage

A town is bigger than a village. A city is bigger than a town. About 90 people live in that village. My town has 7,000 people. Tokyo is the world's biggest city.
A. Labeling. Read the information below. Then label the pictures with the words in blue.

The Aborigines are a group of people who first came to Australia more than 40,000 years ago. They believe in the Dreamtime, or Dreaming, a “time before time” when great spirits walked the earth and created all living things. The Aborigines are great storytellers and artists. Their cave paintings go back more than 6,000 years and are some of the oldest art in the world.

Many Dreamtime stories are connected with nature. The stories often include animals like the frog, lizard, kangaroo, eel, a bird called a kookaburra, and a small bear-like animal called a wombat. The passage on the next page is about one such story.

* A spirit is a ghost or supernatural being.

B. Scan. Quickly scan the passage on the next page. In what order do the animals appear in the story? Order them (1–6).

_ eel     _ frog     _ kangaroo     _ kookaburra     _ lizard     _ wombat
One day, Tiddalik the frog was very thirsty. He drank the water in the rivers. Then he drank the water in the lakes. He drank and drank, and soon, all the water in the world was gone!
The land was dry and brown, and the plants were dying.
The other animals were thirsty, too. They looked for water, but all the water was inside Tiddalik. The animals had a meeting and discussed the problem among themselves. The wombat had an idea. They would make Tiddalik laugh, and then all the water would come out of the frog’s mouth. The animals agreed. What else could they do?

First the kookaburra told Tiddalik funny stories, but the frog did not laugh. Next the kangaroo jumped up and down. The frog watched patiently, but he still did not laugh. Then the lizard walked in circles. He stood on two legs. He tried everything to make the frog laugh. But Tiddalik didn’t laugh. In fact, he was bored.

Then the eel began to dance. He turned his body this way and that way. Tiddalik smiled. Then the eel rose up on his tail. But eels live in the water, so normally they do not stand up. The eel fell to the ground, and Tiddalik began to laugh. He laughed so hard that a flood of water came out of his mouth. The lakes and rivers filled with water. The land was green, the plants were healthy, and the animals were happy again.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist

1. The reading is mainly about __________.
   a. why Tiddalik drank all the water in the world
   b. how the wombat thought of a good idea
   c. how the animals made Tiddalik return the world's water
   d. why the eel was funnier than the other animals

Main Idea

2. What is the main idea of the third paragraph?
   a. The lizard could not make Tiddalik laugh.
   b. Tiddalik was patient, but did not like to laugh very much.
   c. Most of the animals could not make Tiddalik laugh.
   d. The kookaburra’s stories were not very funny to Tiddalik.

Paraphrase

3. In lines 17–18, turned his body this way and that way means __________.
   a. he was swimming
   b. he was dancing
   c. he was smiling
   d. he was laughing

Vocabulary

4. In line 21, the word hard could be replaced by ________.
   a. much
   b. fast
   c. tough
   d. difficult

Detail

5. Which animal was able to make Tiddalik laugh?
   a. the kangaroo
   b. the wombat
   c. the lizard
   d. the eel

B. Sequencing. Number the events in order from 1–7. Then retell the story of Tiddalik to a partner.

   a. ____ The animals had a meeting to talk about the drought.
   b. ____ The land was green again.
   c. ____ Tiddalik the frog drank all the water in the world.
   d. ____ The animals tried to make Tiddalik laugh.
   e. ____ The land became dry and brown.
   f. ____ Tiddalik the frog laughed hard.
   g. ____ The water came out of Tiddalik’s mouth.
Vocabulary Practice

Completion. Complete the information using words from the box. Two words are extra.

bored discussing else idea normally rise

discussing flood meeting patiently thirsty

AESOP WAS A FAMOUS STORYTELLER IN ANCIENT GREECE. THIS IS ONE OF HIS STORIES:

One day, the Body Parts decided to hold a(n) 1. ___________. They were unhappy that they did all the work while the Stomach got all the food. After 2. ___________ the problem, one of them had a(n) 3. ___________. “Why don’t we just stop working?” it said.

So the Hands didn’t pick up the food, the Mouth didn’t take in the food, and the Teeth didn’t chew the food. The Stomach waited 4. ___________. After a few days, the other body parts felt terrible. The Hands had nothing to do, so they were 5. ___________. The Mouth was very 6. ___________ as it had no water, and the Legs were so tired that they couldn’t walk. They didn’t know what 7. ___________ they could do, so they started working 8. ___________ again.

They learned that even the Stomach was important in its own quiet way, and everyone must work together, or the Body will fall to pieces.

Words in Context. Complete each sentence with the best answer.

1. If something is normal, it is _________.
   a. usual b. unusual

2. If people discuss something, they ________ about it.
   a. talk b. think

3. If something rises, it goes _________.
   a. down b. up

4. The opposite of bored is _________.
   a. tired b. interested

5. A flood of water means that there is ________ water.
   a. a lot of b. a little
Native Americans

A. Preview. Read the information.

What do you know about the native people of America?

When the first Europeans arrived in North America, they found about one million Native Americans already living there. The colors on this map represent the different language groups at that time. Several words from Native American languages are now part of the English language.

B. Summarize. Watch the video, Native Americans. Then complete the summary below using words from the box. Two words are extra.

among different else joined strong
land meeting represent sites villages

The first Native Americans arrived in North America about 30,000 years ago. They quickly moved out across their new 1. _____________. Over time, they became many 2. _______________ tribes, each with its own way of life. Some tribes lived 3. _______________ the buffalo on wide, open areas and lived by hunting; others made boats and lived by fishing.

But everything changed when the first settlers arrived from Europe. The settlers attacked the 4. _______________ in which the Native Americans lived. The native people tried to fight back, but the foreigners were too 5. _______________. In the end, there was nothing 6. _______________ that the Native Americans could do. They were made to leave their homes and live on 7. _______________ called reservations.

In the United States today, about 550 groups 8. _______________ the various native tribes. The purpose of these groups is to keep alive traditional ways of life and to create a better future for the Native American people.

C. Think About It.

1. Who were the people in your country? Can you still see their culture today?

2. Do you know other English words that come from other languages? Are there any in your own language that come from other languages?

To learn more about history and legends, visit elt.heinle.com/explorer
Use the definitions below to complete the missing words.

Across
4. person who heads or guides the group
5. who you are
6. If something has a _____ of happening, it is possible it will happen.
8. to go back to the place you were before
9. usual and ordinary
11. not the same as others
17. If something is ____, it is found in large numbers or happens often.
19. a group of houses in a country area

Down
1. to arrive somewhere
2. to talk about something to reach a decision
3. to make sure
6. two; a few
7. from another country
10. something that happens because of another thing
12. a large amount of water covering a dry area
13. to get up
14. feeling in need of water
15. to become part of a group
16. If you ____ to do something, you say that you will do it.
18. relating to the time we are in

B. Notes Completion. Scan the information on pages 74–75 to complete the notes.

Field Notes

Site: Uluru-Kata Tjuta National Park

Location: __________, Australia

Information:
- Uluru is not a mountain, but a big _____. It is a symbol of ________ for Australians.
- The land became a national park in __________. It is both a(n) ________ and a(n) ________ heritage site.
- The explorer William Gosse gave it the name __________.
- The land was returned to the Aborigines in __________. The Aborigine word Uluru means "__________," or "Great Stone."
- The Anangu Aborigines have lived in the desert around Uluru for over ________ years. There are only ________ of them living there now.
- The Anangu never walk on Uluru as it is a(n) ________ for them.
- More than __________ tourists visit Uluru every year.
For scientists, it's the biggest rock in the world. For tourists, it's a center for outdoor adventure. For Australians, it's a symbol of national identity. For Aboriginal people, it's a traditional holy place. For everyone who comes to this special place, Uluru has a different meaning.

From far away, Uluru looks like a mountain, but it's really one big rock in the middle of a desert, 348 meters (1,142 feet) tall. An explorer named William Gosse made the first map of the area in 1873. He named it Ayers Rock, for the prime minister of Australia. The first tourists started arriving in the mid-1930s, and in 1958, the land became a national park.

Uluru is one of the few places in the world that is both a Natural and a Cultural World Heritage Site. There are Aboriginal rock paintings on its sides, and many Aboriginal stories about its history and origin. In 1985, the government gave the land back to the Anangu Aboriginals, and changed the name back to the Aboriginal word Uluru, meaning “Great Pebble” (or “Great Stone”).

Glossary

**holy**: connected with God or religion

**law**: a rule agreed upon by a group of people or society

**origin**: beginning of something

**prime minister**: the head of a government

**symbol**: an object or sign that represents another thing

**tourist**: a traveler
At Home in the Desert

The land around Uluru is home to the Anangu Aborigine people. The Anangu have lived in the Australian desert for more than 20,000 years, but today there are only about 4,000 left. In the past, they lived by catching animals and finding desert plants. Now they live in small villages, but they still speak their traditional language, called Pitjantjatjara. About 20% of them can speak English.

There are more than 400 groups of Aboriginal peoples in Australia, with many different languages and traditions.

The climb up the rock is not easy, as temperatures often reach 40 degrees Celsius (104 degrees Fahrenheit) or more. More than 30 people have died climbing Uluru.

Should Visitors Climb Uluru?

The Anangu never walk on Uluru, because for them, it is a holy place. They ask visitors not to climb on the rock. But every year, more than 500,000 tourists come to Uluru, and about a third of them climb to the top. Some people believe there should be a law against climbing the rock. But tourists spend $75 million there every year, so there is no simple answer to the problem.
A. Dictionary Skills. Some English words can be used as different parts of speech, such as noun (n), verb (v), or adjective (adj). Use the dictionary entries to mark the part of speech (n, v, or adj) for each word below (1-6).

<table>
<thead>
<tr>
<th>n. = noun</th>
<th>v. = verb</th>
<th>adj. = adjective</th>
</tr>
</thead>
<tbody>
<tr>
<td>air</td>
<td>n. the gas that we breathe</td>
<td>v. to let air into a room or building</td>
</tr>
<tr>
<td>clear</td>
<td>adj. obvious, easy to see</td>
<td>v. to put things away</td>
</tr>
<tr>
<td>land</td>
<td>n. an area of ground</td>
<td>v. to arrive after traveling</td>
</tr>
<tr>
<td>plain</td>
<td>n. a wide area of flat land</td>
<td>adj. simple or easy to understand</td>
</tr>
<tr>
<td>share</td>
<td>n. a part of something</td>
<td>v. to use something together</td>
</tr>
<tr>
<td>work</td>
<td>n. a job</td>
<td>v. to do a job</td>
</tr>
</tbody>
</table>

How fast can you fly from France to England? In 2008, “Jet Man” Yves Rossy made the trip in only 13 minutes. He designed and used a special jet wing. With the jet wing on his back, he jumped from a plane 2,500 meters (8,200 feet) in the 1. air (______). Rossy had to be very careful as it was 2. clear (______) that the jet wing couldn’t 3. land (______) on water, but he came down safely on a 4. plain (______) near the city of Dover. He 5. worked (______) on the jet wing for more than 15 years, and people from several countries 6. shared (______) ideas with him.

B. Word Link. The suffixes -er and -or change a verb into a noun for a person who does these things. Complete the sentences with the -er or -or noun of a verb in the box. Use your dictionary to help you.

<table>
<thead>
<tr>
<th>design</th>
<th>direct</th>
<th>lead</th>
<th>manage</th>
<th>report</th>
<th>research</th>
</tr>
</thead>
</table>

1. The _____________ of a big football team usually gets a lot of money.
2. It takes a long time for a science _____________ to finish a project.
3. A good _____________ must make sure his/her product looks good and is easy to use.
4. Steven Spielberg is a famous _____________ who has done many movies.
5. The _____________ of a country has to make very big decisions.
6. A _____________ must check that facts are correct before publishing a story.
Discuss these questions with a partner.

1. What kind of dreams do you often have?
2. Do you think dreams have meanings? What are some examples?
3. What do you think it means when someone says your mind is playing tricks on you?
Before You Read

A. Discussion. Look at the picture above. Then answer the questions below.

1. What is unusual about this picture?
2. How can you explain what you see?

B. Predict. Look at the title and the pictures on the next page. What is unusual, or "impossible," about each picture? What do you think causes it? Read the passage to check your ideas.
Can you believe everything you see? Not always! You may see something one way, and then find out you were wrong. You might even “see” something that isn’t there at all. Errors like these are called optical illusions. Optical means related to sight, or vision—the way we see things with our eyes. An illusion is something that is not what we think it is.

Vision is also a personal thing. You may not see things in the same way as someone else. Look at these optical illusions, and compare what you see with your classmates. Do you see the same things?

1. Which red dot is larger?
Most people say it’s the dot on the left. Now measure the dots. They’re the same size. The red dot on the left seems larger in relation to the blue dots around it.

2. Do you see dark dots inside the white circles?
They’re not really there. The difference between the dark squares and the white circles confuses your brain. Therefore, your brain thinks you see the dark dots.

3. Look at this picture of a vase. Can you see the faces?
Look again! Your mind has to choose the correct image, so it keeps changing between the vase and the faces.

Vision is not always straightforward. Sometimes, your eyes see something, and your mind understands it easily. At other times, you may need to look twice. When this happens, you may be seeing an optical illusion.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea

1. What is the main idea of the first paragraph?
   a. Optical illusions are very common in everyday life.
   b. Optical illusions make us think we see something that’s not true.
   c. Optical illusions are the way we see things with our eyes.
   d. Optical illusions can only be seen by a few people.

Detail

2. What causes optical illusion 1?
   a. All of the blue dots are the same color.
   b. We can see the blue dots clearly, but not the red dots.
   c. The red dots are not close to each other.
   d. We compare each red dot with the blue dots around it.

Detail

3. What causes optical illusion 2?
   a. The white circles have small dark dots inside of them.
   b. The dark squares are much larger than the white circles.
   c. The difference between squares and circles confuses your brain.
   d. Your brain thinks that it can see white dots inside the dark squares.

Reference

4. The word They’re (line 13) refers to ________.
   a. dark dots  c. dark squares
   b. white circles  d. white dots

Paraphrase

5. Another way to say it keeps changing between the vase and the faces (lines 19–20) is ________.
   a. First you see the vase, then the faces, then the vase again, and so on.
   b. Your mind decides to see the faces, but it can’t see the vase anymore.
   c. The vase is the correct image, not the faces.
   d. The faces are really there, but the vase is not.

B. Summary. Complete the sentences below.
   Fill in each blank with one word from the reading.

Introduction: With optical illusions, you can be wrong about things you ________ with your eyes.

<table>
<thead>
<tr>
<th>Optical Illusion 1</th>
<th>Optical Illusion 2</th>
<th>Optical Illusion 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>The red dot on the left looks ________ than the red dot on the right. The dots are really the same _________.</td>
<td>You might see dark dots inside the white circles, but the dots are not really _________.</td>
<td>The picture shows two things: a ________ and two ________ Your mind has to decide which thing it sees.</td>
</tr>
</tbody>
</table>

Conclusion: Sometimes your eyes see something, but your mind can’t ________ it easily. That’s called an optical illusion.
Identical twins are born from the same egg. They are
1. _______ usually the same height and 2. _______, and also have the same eye and hair color.

Some researchers have found that the 3. _______ of identical twins are similar too. For example, twins report that they often 4. _______ to wear the same clothes on the same day, or say the same things at the same time. Identical twins may also have their own secret language, known only to each other. Because they are 5. _______ in this special way, identical twins usually feel closer to each other 6. _______ to other brothers and sisters.

**Completion.** Complete each sentence with the best answer.

1. If you make an error in a test, you write something _______.
   - a. right
   - b. wrong

2. If something is personal, it's _______.
   - a. for many people
   - b. only for you

3. If two things are related, they are _______.
   - a. close
   - b. not close

4. If something is straightforward, it's _______ to understand.
   - a. difficult
   - b. easy

5. If you have good vision, your _______ work well.
   - a. ears
   - b. eyes
Before You Read

A. Labeling. Read the definitions below. Label the picture with the words in blue.

- You have a **memory** when you think of something or someone from the past.
- A **thought** is an idea that you have.
- An **emotion** is a feeling such as happiness or sadness.
- You feel a **sensation** when you touch something.
- Visual **perception** helps you see and identify things.

B. Predict. Read the title and headings on the next page, and answer the questions below. Then read the passage to check your ideas.

1. How many dreams does the reading passage discuss?
2. What do you think the passage will tell you about those dreams?
Did you have any good dreams last night?

Dreams come from the part of the brain that contains memories, thoughts, and emotions. You dream during a stage of sleep called REM. You can have up to six dreams a night, and each dream usually lasts from 10 to 40 minutes.

Whether or not people remember dreams depends on the individual. Some people remember many of their dreams while others do not.

But what do your dreams mean? Alan Siegel is a scientist who studies dreams. “Dreams help us get in touch with our deeper feelings,” he says. “They can tell us a lot about ourselves, and may even help us figure out problems.”

Here are a few common dreams.

**Dream 1: You Meet Someone When You Are Wearing Your Pajamas (or Nothing at All!)**
This dream may be the result of an embarrassing event in your life. Your brain is trying to help you deal with the event.

**Dream 2: You’re Flying**
This is a good period in your life. You may feel that other people look up to you as a leader.

**Dream 3: You Didn’t Study for a Test**
This means you are under pressure. You are worried about a major event in the future. If you’re not prepared for the event, your dream could be telling you, “It’s time to get to work!”
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea

1. What is the main idea of the reading?
   a. Everyone has dreams, but not everyone remembers them.
   b. Dreams come from only one part of the brain.
   c. Most people don’t know what their dreams mean.
   d. Dreams can help us to understand ourselves and our feelings.

Detail

2. Which of the following will you probably NOT have?
   a. a dream that lasts 15 minutes  c. a dream that lasts 40 minutes
   b. a dream that lasts 25 minutes  d. a dream that lasts 60 minutes

Paraphrase

3. In line 8, another way to say get in touch with would be ________.
   a. talk to  c. stay away from
   b. remember and then forget  d. connect with and understand

Detail

4. According to the passage, which of the following is true about dreams?
   a. If you dream you’re wearing no clothes, something embarrassing probably happened to you.
   b. If you dream you are flying, this is probably a difficult time in your life.
   c. If you dream you didn’t study for a test, you are probably not getting enough sleep at night.
   d. If you dream you didn’t study for a test, then you have nothing to worry about.

Paraphrase

5. In line 17, another way to say look up to you would be __________.
   a. are careful when they’re with you  c. like to talk to you
   b. think good things about you  d. dream about you

B. Classification. Five people are describing an experience. Which dream from the passage will each person probably have? Write each answer (a–e) in the correct space (1–3).

a. “I have to finish this paper tonight! If I don’t hand it in on time, I’ll get a bad grade!”
b. “I felt terrible. I fell on the stairs, and everyone laughed at me!”

c. “My life is great! I don’t have any problems, and I’m really happy!”
d. “Everyone else was wearing the right clothes. I just came in jeans and a T-shirt!”
e. “The concert is in two days, and I haven’t had much time to practice my violin!”
Vocabulary Practice

Completion. Complete the information using words from the box. Two words are extra.

contains  
depend  
emotions  
events  
individuals  
major  
periods  
prepare  
pressure  
stages

We spend a(n) 1. ___________ part—about one-third—of our lives sleeping. During this time, our body grows stronger and our brain gets to rest. Humans need different amounts of sleep at different 2. ___________ of life. Children usually need more sleep compared to adults because they are still growing. Older people need to sleep for shorter 3. ___________ of time. Generally, most 4. ___________ need seven to eight hours of sleep a night.

A lot of people, however, don’t get enough sleep. Many of us are under a lot of 5. ___________ because of the busy nature of modern life. This causes problems for the part of the brain that controls our 6. ___________.

For example, without enough sleep we become angry or worried easily.

If you have trouble sleeping, you should 7. ___________ for your sleep by taking a warm bath, listening to slow music, or drinking warm milk. Milk 8. ___________ melatonin, a chemical which causes us to feel sleepy.

Definitions. Use the words in the box in A to complete the definitions.

1. ___________ are important things that happen.
2. If something is ___________, it is serious or important.
3. Another word for people is ___________.
4. If you ___________ for something, you make yourself ready for it.
5. When you ___________ on something, you need help from it.

Usage

The noun individual is often used in formal or scientific English, and person/people in everyday speech:

Twenty individuals took part in the experiment.
There were twenty people at my birthday party.
Individual is also used as an adjective, e.g., an individual decision.
Parasomnia

A. Preview. Read the definition of parasomnia. Have you, or has anyone you know, experienced this problem? What other sleep problems might someone have?

Parasomnia par-a-som-ni-a (n.) a type of sleep disorder, or sleep problem, in which people move or act in an unnatural way while they are asleep, for example, talking or walking in their sleep.

B. Summarize. Watch the video, Parasomnia. Then complete the summary below using words from the box. One word is extra.

<table>
<thead>
<tr>
<th>events</th>
<th>major</th>
<th>period</th>
<th>therefore</th>
</tr>
</thead>
<tbody>
<tr>
<td>individuals</td>
<td>mind</td>
<td>stages</td>
<td>vision</td>
</tr>
</tbody>
</table>

For people with parasomnia, getting a good night's sleep can be a 1. __________ problem. Parasomnia happens during the 2. __________ of time before REM sleep (the time when you dream). When you fall asleep, you go through four main 3. __________ before REM sleep. During this time, your heart and breathing relax, and your brain waves get slower. The thinking part of the brain—the 4. __________—is asleep. In some 5. __________, however, the part of the brain that controls the body is still awake. 6. __________, these people are able to walk, talk, and do other things while they are still asleep. Most of these people cannot remember these 7. __________ when they wake up the next day.

C. Think About It.

1. Do you get enough sleep? If you don't sleep well one night, do you feel different the next day?
2. What can people do to sleep better.

To learn more about the mind, visit elt.heinle.com/explorer

86 Unit 7 Mind's Eye
UNIT 8
Animal Wonders

WARM UP

Discuss these questions with a partner.

1. What’s your favorite animal? Why?
2. What animals are special to people in your country?
3. Do you think animals have similar feelings to humans? Why do you think so?
Emperors of the Ice

Before You Read

A. Quiz. What do you know about emperor penguins? Circle True or False for the sentences below. Then check your answers at the bottom of the page.

1. The emperor penguin is one of five kinds of penguins in Antarctica. True False
2. After the mother penguin lays an egg, she walks to the ocean. True False
3. As soon as the egg hatches, the baby penguin walks to the ocean. True False
4. Emperor penguins learn to fly when they're about one year old. True False

* If a baby animal hatches, it comes out of an egg.

B. Predict. Look quickly at the photos, title, and headings on the next page. Check (✓) the information you think you'll read about. Then read the passage to check your answers.

- adult penguins and their babies
- young penguins getting older
- global warming and penguins

Emperor penguins live in large groups called colonies.
Saturday, May 23: The Penguin Couple
I've arrived at the colony—a community of about 3,000 penguins. I'm studying two emperor penguins. I call the male "Scar" (because of a mark on his back) and the female "Sunrise." They walked over a hundred kilometers from the ocean to get here. Soon Sunrise will lay an egg. Then she'll walk back to the ocean to eat.

Tuesday, July 29: Sharing the Work
Penguin parents work together to raise a baby. For two months, Scar has been keeping the egg warm. It's on top of his feet and under a special piece of skin called the "brood patch."

Sunrise returned yesterday, and the couple moved their egg from Scar's feet to hers. This is difficult for penguins. If the egg falls, it can freeze quickly.

In this cold environment, Scar has lost almost half of his body weight. He needs to reach the ocean soon to catch and eat fish.

Wednesday, September 9: New Life
The baby has hatched! Scar returned yesterday. Now it's necessary for Sunrise to go to the ocean again.

Monday, October 19: Growing Up
The parents have made several trips to the ocean for food. The baby is growing quickly.

Sunday, December 27: Into the Water
The baby is now on its own. Soon it will enter the water for the first time. It will swim and eat until next April, and then return here. After a few more years, it too will start its own family.

---

1 A colony is a group of people or animals of the same kind living together.
2 A scar is a mark on the skin which is left after a cut has healed.
3 If a liquid or something containing a liquid freezes, it becomes solid because of low temperatures.
4 A trip is a journey that you make to a particular place.
**Reading Comprehension**

**A. Multiple Choice.** Choose the best answer for each question.

1. Another good title for this reading would be _________.
   - a. A Study of a Penguin Family
   - b. Penguins Around the World
   - c. The Future of Wildlife in Antarctica
   - d. The Life and Death of a Penguin

2. When does the male penguin care for the egg without the female?
   - a. from May to July
   - b. from July to September
   - c. from September to October
   - d. from October to December

3. The word hers (line 13) refers to _________.
   - a. her movement
   - b. her egg
   - c. her feet
   - d. her return

4. What will probably happen if the egg falls onto the ice?
   - a. The parents will not be able to find the egg.
   - b. The egg will break open and the baby will fall out.
   - c. Another penguin will take the egg.
   - d. The baby in the egg will die because of the cold.

5. Another way to say on its own (line 24) would be _________.
   - a. staying with its parents
   - b. protecting its own egg
   - c. living without its parents
   - d. able to communicate

**B. Completion.** Complete the flow chart below. Fill in each blank with one or two words from the reading.

**From Egg to Baby Penguin**

1. A baby penguin's life begins when the mother penguin lays _________.

2. Penguin parents keep the egg warm on top of their _________.
   under a piece of _________.

3. It's difficult to do, but penguins must ________ their egg from one parent's feet to the other's, without letting it _________.

4. While one penguin parent keeps the egg warm, the other parent walks to _________.
   to eat.

5. When the egg hatches, the penguin parents see their _________.
   for the first time.
Vocabulary Practice

A. Matching. Read the information below and match each word in red with a definition.

1. Siberian tigers grow to three meters (ten feet) in length and are the largest tigers in the world.
2. They have thick fur because they live in a cold environment—the frozen forests of east Asia.
3. Each tiger has a special pattern of black and orange marks on its fur. These make the tiger difficult to see when it is hunting.
4. Tigers generally like to live alone. Male tigers leave their parents when they are still young.
5. Most other types of cats do not like to enter water, but tigers love to swim.

1. father and mother
2. natural conditions around a person or thing
3. unusual; not like other kinds
4. go into (something)

B. Completion. Complete the information with words from the box. Two words are extra.

By the 1940s, the Siberian tiger had 1. disappeared. Hunting had left only 40 tigers living in the wild. Today, there are about 500 Siberian tigers in Asia, but only a few live in the wild. Most Siberian tigers today are 2. ________ in zoos.

One problem is that in some Asian countries tiger body parts are used to make traditional medicines.¹ Some people therefore 3. ________ and kill tigers to sell their body parts. Also, the Siberian tiger’s forest home is under pressure from tree-cutting. As trees are cut down, the tiger’s hunting ground gets smaller.

Many people believe it is 4. ________ to create more laws to keep the tiger’s natural 5. ________ safe. Saving the tigers might also help the people who live around the area. When tourists come to see the tigers, they bring money and jobs to the local 6. ________.

¹ Medicine is any kind of drug used to treat a disease.
Before You Read

A. Discussion. Look at the photos. Which word(s) in the box would you use to describe each picture? Do you think animals really have these feelings?

anger  boredom  confusion  fear
happiness  love  surprise

B. Scan. Quickly scan the passage on the next page. How many names can you find? Which are pets and which are humans? Read the passage to check your answers.
We know animals can feel fear. They may also feel love since they have strong relationships with each other. So are animal emotions similar to our own? And do animals have a sense of humor?

**A PARROT NAMED BONGO**

Sally Blanchard’s parrot Bongo Marie didn’t get along with her other parrot, Paco. In fact, it was obvious that Bongo Marie didn’t like Paco at all! One day, Blanchard cooked a chicken for dinner. She started to cut the chicken with a knife. “Oh! Paco!” said Bongo Marie loudly. Blanchard laughed and said, “That’s not Paco.” “Oh . . . no,” said Bongo Marie. This time, she sounded disappointed. Then the parrot laughed at her own joke.

**YOGA DOG**

Jean Donaldson enjoys doing yoga—and so does her dog Buffy. While Jean sits in her yoga positions, Buffy carefully places her toys on Donaldson’s body. If a toy falls, Buffy runs to put it back on. Does this behavior have any real function? According to Donaldson, “She thinks it’s hilarious!”

**ANIMAL LAUGHTER**

Can dogs “laugh”? Recent research shows that dogs tell each other when they want to play. In that situation, they make a special sound—a kind of “laugh.” Psychologist Patricia Simonet recorded the sound. Then she played it back to dogs to assess their response. “All the dogs responded positively to the laugh,” says Simonet.

So do animals have a sense of humor? If laughter is a clue, then perhaps the answer is “yes!”
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Vocabulary 1. In line 8, the phrase *get along* is closest in meaning to ________.
   a. like to be       c. travel
   b. do things       d. stay close

Detail 2. Which of the following is NOT true?
   a. Paco and Bongo Marie are both parrots.
   b. Paco and Bongo Marie are good friends.
   c. Bongo Marie is Blanchard’s parrot.
   d. Blanchard thinks Bongo Marie is funny.

Reference 3. The word *she* (line 19) refers to ________.
   a. the chicken       c. Paco
   b. Bongo Marie       d. Blanchard

Detail 4. Which of the following is true?
   a. Buffy laughs at Donaldson when she does yoga.
   b. Buffy feels sad when Donaldson does yoga.
   c. Donaldson thinks Buffy has a sense of humor.
   d. Buffy is worried that Donaldson doesn’t like her.

Main Idea 5. What is the main idea of the last two paragraphs (from line 32)?
   a. A scientist showed that dogs talk to each other, so they seem to be funnier than most animals.
   b. A scientist showed that dogs make a laughing sound, so some animals might really have a sense of humor.
   c. A scientist recorded dogs making an unusual sound, but no one knows what it means.
   d. A scientist played with some dogs, and the dogs responded positively.

B. Completion. Complete each sentence in the chart with one or two words from the reading.

Do Animals Have a Sense of Humor?

Sally Blanchard: parrot owner
1. My parrot Bongo Marie told a ________ and laughed.

Jean Donaldson: dog owner
2. My dog likes to ________ on my body while I’m doing yoga.

Patricia Simonet: psychologist
3. Dogs make a sound that is similar to a ________.
   4. The sound lets other dogs know when they want ________.
Monkeys are 1. _similar_ to humans in many ways. For example, the 2. _relationships_ in a monkey family, such as between brother and sister, are often very close.

A team of researchers studied a pair of bonobo monkeys called Kanzi and Panbanisha. The brother and sister team had learned how to make knives from stone. So the researchers decided to 3. _assess_ how good they were.

The researchers put a banana inside a box. Then they gave the bonobos what they needed to make a knife. The 4. _function_ of this knife was to cut open the box to get the banana. Kanzi made a very good knife, but his sister Panbanisha could not. Kanzi saw that his sister was feeling 5. _disappointed_, and so he tried to give his knife to her. However, the scientists did not let him. Even in this 6. _situation_, Kanzi knew what to do. When no one was looking, he put his knife where his sister could easily find it, and she finally got her banana. To the researchers, it was 7. _obvious_ from Kanzi’s 8. _behavior_ that he really wanted to help his sister.

1. Definitions. Use the words in the box in A to complete the definitions.

1. If two things are _____________, they are the same in some ways.
2. If something is _____________, it is easy to see or understand.
3. A(n) _____________ of something is a feeling or understanding of that thing.
4. If you _____________ something, you test or measure it.
5. The _____________ of a thing is what it is used for.

Word Partnership

Use similar with:

be + similar + to, e.g., Animals are similar to humans in some ways.
Penguins in Trouble

A. Preview. Read the information. What else do you know about penguins?

**Emperor penguins** are the largest of all penguins. An adult penguin stands about 115 cm (45 in), and weighs about 40 kg (88 lbs). Emperors live for about 15-20 years and stay together in groups called colonies. The male emperor penguin is the only animal that stays through the winter on Antarctica’s open ice, where temperatures have been recorded as low as -60°C (-76°F)!

B. Summarize. Watch the video, *Penguins in Trouble*. Then complete the summary below with words from the box. Two words are extra.

<table>
<thead>
<tr>
<th>assess</th>
<th>community</th>
<th>obvious</th>
<th>raise</th>
<th>similar</th>
</tr>
</thead>
<tbody>
<tr>
<td>catch</td>
<td>loss</td>
<td>parents</td>
<td>sense</td>
<td>situation</td>
</tr>
</tbody>
</table>

In Antarctica, a(n) 1. ___________ of emperor penguins is going home after fishing. The penguin 2. ___________ need to look for food every day so that they can 3. ___________ their young. But a hungry leopard seal is also looking for food—penguins.

The seal decides to wait in the water and 4. ___________ its chances. Most of the penguins can 5. ___________ the danger, and they try to get away. The seal attacks and is able to 6. ___________ a penguin. But in this 7. ___________, the penguin does not fight back. Instead, it relaxes its body and waits for the seal to drop it. It gets away.

Later, another penguin is not so lucky. It’s a(n) 8. ___________ for the penguin colony, as the seal swims away with its meal.

C. Think About It

1. The video says “For animals Antarctica, every day is like the Olympic games!” Why?

2. Which animal do you think lives in the most difficult environment?
WARM UP

Discuss these questions with a partner.

1. What’s the most valuable thing you have ever found?
2. Do you know of any famous discoveries?
3. Why do you think people like looking for treasure?
9A Gold Fever

Empire of the Inca

A royal son named Pachacuti, "Earth Shaker," becomes leader of the Inca tribes in 1438. Over time, the Inca under Pachacuti build roads and develop great cities like Cusco and Machu Picchu.

The Inca move north into land that is now part of Ecuador. They create many pieces of jewelry and other objects made of gold.

The Inca enlarge their empire until it measures nearly 4,000 km (2,500 miles) from north to south and includes as many as 16 million people.

After his father dies in 1527, a leader named Atahualpa fights to become king. In 1532, Spanish soldiers under commander Francisco Pizarro arrive in Peru. Pizarro asks Atahualpa to meet him in the town of Cajamarca. Atahualpa thinks he is safe, but he is walking into a trap...

Before You Read

A. Matching. Read the information above and match each word in blue with its definition.

1. _______ yellow metal that is very valuable
2. _______ items; things that have a certain shape or form
3. _______ a person in charge of a military unit, e.g., an army
4. _______ members of an army

B. Predict. Read the title and first paragraph on the next page. What do you think happened next? What was the "treasure"? Read the passage to check your ideas.
The legend of the Inca gold begins in 1533, when the Inca were at war with the Spanish. The Spanish commander Francisco Pizarro captured the Inca king Atahuallpa at his palace in Cajamarca—now part of Peru.

Pizarro made a deal with the Inca. He would let Atahuallpa go, but he demanded a huge amount of gold. Pizarro received some gold, but then he told his soldiers to kill Atahuallpa. Angry at the murder of their king, the Inca put the rest of the gold in a secret mountain cave.

Fifty years later, a poor Spanish soldier named Valverde fell in love with an Inca woman. The woman’s family took him to see the treasure. He wrote an account of the trip and explained how to find the gold.

With Valverde’s instructions, a Canadian named Barth Blake may have found the gold in 1886. In a letter, he wrote, “There are thousands of gold and silver pieces . . .” He also described “. . . the most incredible jewelry.” Blake says he took a few of the objects. “I could not remove it alone,” he said, “nor could thousands of men.”

No one knows whether Blake’s story is true, as he disappeared soon afterwards. Mark Honigsbaum, author of Valverde’s Gold, thinks the gold was likely taken out centuries ago. “If not,” he says, “and [if] it’s still there, I think it’s lost forever.”

---

*If you capture someone or something, you catch them.*

*A palace is a very large impressive house, usually the home of a king or queen.*

*Murder is the crime of killing someone intentionally.*

*A cave is a large hole in the side of a cliff or hill or under the ground.*

*If you remove something from a place, you take it away.*

*If someone or something disappears, they go or are taken away where nobody can find them.*
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

1. What is the main idea of this reading?
   a. The story about the Inca gold came to us from Valverde.
   b. We may never know the truth about the Inca gold.
   c. Pizarro was the only person who ever saw the Inca gold.
   d. Barth Blake wrote a letter about finding the Inca gold.

2. The Inca king was named ________.
   a. Pizarro
   b. Atahualpa
   c. Cajamarca
   d. Valverde

3. In line 5, his refers to ________.
   a. Pizarro's
   b. Atahualpa's
   c. the Inca's
   d. Valverde's

4. The rest of the gold (line 6) means the gold that ________.
   a. was still underground
   b. the Inca gave Pizarro
   c. Pizarro's soldiers had found
   d. the Inca had not given Pizarro

5. What is Mark Honigsbaum's opinion on the gold (lines 17-19)?
   a. People will probably find it in the future.
   b. People may have found it in the past.
   c. The story about the gold is almost certainly not true.
   d. Barth Blake probably took all of the gold.

B. True or False. According to the passage, are the sentences below true or false? Circle T (true), F (false), or NG (not given in the passage).

1. Pizarro wanted to live in the palace in Cajamarca.  T  F  NG
2. The Inca gave Pizarro some of the gold.         T  F  NG
3. Valverde was helped by an Inca family.         T  F  NG
4. Blake says he took away hundreds of valuable items.  T  F  NG
5. Honigsbaum wrote a book about the Inca gold.    T  F  NG
Vocabulary Practice

Matching. Read the information below. Then match each word in red with a definition.

The disappearance of the Amber Room is one of the greatest mysteries in the art world. The room was built using large amounts of precious stone called amber, which was then covered in gold and jewels. Visitors described the room as so beautiful that it could be the Eighth Wonder of the World.

In 1716, Tsar Peter the Great received the room as a gift from the King of Prussia (now part of Germany) after the two countries made a peace deal. Over the years, the Russians made the room even bigger, using up to six tons (6,000 kilograms) of amber. In 1941, Germany took over parts of Russia. The Germans demanded that the Amber Room be given back to them. It was returned to Germany, where it was placed in a museum. By 1945, after the war had ended, the Russians found nothing left of the Amber Room. It had simply disappeared, never to be found again.

1. to get something from someone who gives it to you __________
2. how much there is of something __________
3. an agreement with someone __________
4. to ask for something in a strong, forceful way __________
5. to say what something is like __________

Completion. Complete the information using words from the box. Two words are extra.

accounts    author    instructions    letters    amount    incredible    killed    receives

Near the end of World War II, Germany knew that it was losing. Its towns were being bombed, and many German soldiers had been 1. _____________.

Fearing the Russians would take back the Amber Room, the government gave 2. ____________ to cut the room into pieces and hide them in boxes.

However, the boxes went missing, and the Amber Room has not been found since.

What happened to the room? According to some 3. ____________, it was destroyed when the area was bombed. Some people believe that the boxes containing the treasure sank to the bottom of the ocean while being shipped. Others believe the room is hidden underground. If that is true, it would be a(n) 4. ____________ find for treasure hunters.

Larisa Bardovskaya is director of the Tsarskoye Selo museum, which housed the original Amber Room. Every year she 5. ____________ many 6. ____________ and emails about the Amber Room from people around the world. "We hear people saying they found the Amber Room three or four times a year," she says. Today visitors to the museum can see a copy of the room. That way, they can imagine what this incredible—and mysterious—room really looked like.

1. Tsar was the name given to male rulers of Russia before 1917 (sometimes spelled tsar or czar).
Diamond deposits\(^1\) are found by mining\(^2\) underground. The world's diamond mines produce about 800 million stones a year, but not all are good enough for jewelry. Eighty percent of jewelry diamonds pass through Antwerp, an important trading center. They are then cut and polished, mostly in India. About half are then sold in the United States.

\(^1\) A deposit is an amount of something that is left somewhere.
\(^2\) When something is mined, it is taken from the ground by digging deep holes and tunnels (called mines).

If you polish something, you make it shine, usually by rubbing it with a cloth.

Most diamonds are colorless, but some are orange, red, pink, blue, or other colors.

**Before You Read**

A. **Reading Maps.** Look at the map and caption above and answer the following questions.

1. Which continent has the most diamond deposits?
2. In which country are most jewelry diamonds traded?
3. Other than India, where else are diamonds cut?
4. About one in five diamonds are sold in which country?

B. **Scan.** You are going to read about a famous diamond curse (something that causes bad luck). Quickly scan the reading to answer the questions below. Then read again to check your answers.

1. How many people are mentioned in the reading?
2. Which of these people have had bad luck?
Diamonds have many special qualities. They’re the hardest material on Earth. They sparkle\(^1\) in the light. Some are incredibly expensive. But could a diamond bring 300 years of bad luck?

- In 1668, the French royal family bought a large diamond from India. It became known as the “French Blue.” When King Louis XVI and his wife were executed\(^2\) in 1797, some people linked their deaths with the diamond’s curse. (However, two earlier kings had worn the diamond and not had bad luck.)

- The Hope family bought the diamond in the 1830s. Soon after, Francis Hope’s wife left him and he had to sell the diamond because of financial problems. The diamond then became known as the Hope Diamond.

- Millionaire\(^3\) Evalyn McLean loved jewelry—and stories of bad luck. In 1911, she had the opportunity to buy the Hope Diamond. Afterwards, two of her children died, and her husband became ill.

- In 1958, a mailman\(^4\) named James Todd brought the diamond to its present home at the Smithsonian Institution. Soon after, his wife died and his house burned down.

So is there any truth to the supposed curse? Richard Kurin is the author of a book about the Hope Diamond. He rejects the idea of a curse. He believes the curse could be explained by chance. But other people don’t accept that. For them, the Hope Diamond may just be waiting for its next victim.\(^5\) . . .

---

\(^{1}\) If something sparkles, it is clear and bright and very shiny.  
\(^{2}\) To execute someone means to kill them as punishment.  
\(^{3}\) A millionaire is a person who is worth at least a million dollars.  
\(^{4}\) A mailman is someone who delivers letters and packages.  
\(^{5}\) A victim is someone who has been hurt or killed.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist
1. Another good title for the reading could be _________.
   a. The Hope Diamond and the French Royal Family
   b. The Hope Diamond: A Story of Bad Luck?
   c. The Hope Diamond's Next Victim
   d. History of the Hope Family

Sequence
2. Which of the following happened first?
   a. Francis Hope's wife left him.
   b. Evalyn McLean's husband became ill.
   c. James Todd took the diamond to the Smithsonian Institution.
   d. The Hope family bought the diamond.

Detail
3. For how long has the Hope Diamond been at the Smithsonian Institution?
   a. since 1797
   b. since 1830
   c. since 1911
   d. since 1958

Paraphrase
4. Another way to say burned down (line 19) would be _________.
   a. was lost in a storm
   b. was taken by the government
   c. was completely destroyed by fire
   d. was cursed by a diamond

Inference
5. Which statement would Richard Kurin probably agree with?
   a. All of the bad luck can be explained by chance.
   b. The curse probably made Evalyn McLean's husband ill.
   c. Several deaths have been caused by the curse.
   d. The Smithsonian Institution will probably have bad luck in the future.

B. Matching. Match each statement to the person who might have said it. One person is extra.

1. ____ “Maybe I’m lucky. The diamond was named for my family.”
   a. King Louis XVI
   b. Francis Hope
   c. Evalyn McLean
   d. James Todd
   e. Richard Kurin

2. ____ “The diamond wasn’t even mine! I just carried it for one day!”

3. ____ “I don’t believe that bad things happen because of the diamond.”

4. ____ “Why me? My family bought the diamond over 100 years ago!”
A. **Completion.** Complete the information using words from the box. One word is extra.

**accepted** | **financial** | **presently** | **expensive** | **opportunity** | **supposed**

People find treasures in some very unusual places. Dutch teacher Paul van den Heuvel was teaching his class about World War II, so he visited an antique store to look for items from the 1940s. As he was looking at some old postcards, Paul was surprised to find one signed with the name “Anne Frank.” At first, van den Heuvel

1. ____________ that the postcard wasn’t real. Some experts examined the postcard carefully. They finally

2. ____________ that the real Anne Frank had written it. The postcard became very 3. ____________ and is

4. ____________ worth over $165,000. But perhaps it is really the postcard’s historical, rather than

5. ____________, value that is the most important.

---

1 An antique is an item that has special value because of its age.
2 Anne Frank (1929-1945) was a Dutch girl who wrote about her experiences in the war in a famous book that became known as *The Diary of a Young Girl*. She died in 1945, aged 15.

B. **Matching.** Read the information below. Then match each word in red with its definition.

One man found a treasure in his own house. Matt Rodgers was working on the electric wires of his house when he found a box inside the wall. It was full of coins—and a letter from a man to his family. The coins were made of silver and the material was of very good quality. Although Matt had the opportunity to keep the money for himself, he rejected that idea. The letter provided him with a link to the man’s family, and finally he was able to find them. The family were very surprised at receiving the letter and very happy to accept the coins! Matt said: “It was the right thing to do.”

1. how good or bad something is ____________
2. to say yes or agree to take something ____________
3. a chance ____________
4. a connection between two things ____________
5. to say no or disagree to something ____________
6. a hard object, e.g., a metal ____________
7. in the end; at last ____________

---

**Usage**

*We use *indeed* mostly in formal English.*

Informally, we use *really.*

*The postcard was *indeed* from Anne Frank.* (formal)

*The letter was *really* from my friend.* (informal)
Lost Treasure of Afghanistan

A. Preview. Look at the photo and read the quotes. What do you think is happening?

"My heart was trembling. I was worried about the gold . . . I was worried about everything."

— Archeologist Fred Hieberl

"It's like seeing an old friend again after 25 years."

— Archeologist Viktor Sarianidi

B. Summarize. Watch the video, Lost Treasure of Afghanistan. Then complete the summary below with words from the box. Two words are extra.

<table>
<thead>
<tr>
<th>amount</th>
<th>demanded</th>
<th>incredible</th>
<th>instructions</th>
<th>opportunity</th>
<th>quality</th>
<th>receive</th>
</tr>
</thead>
<tbody>
<tr>
<td>described</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 1978, an archaeologist named Viktor Sarianidi discovered a(n) 1. ________________ treasure in Afghanistan—the Bactrian Hoard. He found more than 20,000 gold coins of very good 2. ________________. This was a very large 3. ________________ of gold, so it was put safely in the National Museum of Kabul. But when war came to Afghanistan, the Bactrian Hoard disappeared. Some people thought the army 4. ________________ the gold and took it out of the country. Others thought Sarianidi stole it. After the war ended, the new president of Afghanistan heard about a secret room in his palace with many boxes. Sarianidi and another archeologist Fred Hieberl had the 5. ________________ to go to Kabul for the opening of the boxes. The president gave 6. ________________ for the box to be cut open. Inside was the Bactrian Hoard. Sarianidi 7. ________________ it as one of the happiest moments of his life.

C. Think About It.

1. What might have happened to the people who had keys to the box?

2. Viktor Sarianidi described finding the treasure as one of the luckiest and happiest moments of his life. Has there been a time in your life when you were very lucky?

To learn more about the treasure hunters, visit elt.heinle.com/explorer
A. Crossword. Use the definitions below to complete the missing words.

Across
7. easy to see or understand
8. Things that are ____ are like each other in some ways.
11. If something is ___, it is needed.
12. to go into
14. to disagree or say no to something
16. feelings like anger and sadness
18. as a result, in conclusion
19. mistake
20. costs a lot of money

Down
1. The ____ of a piece of writing is the person who wrote it.
2. a length of time
3. important, serious
4. how good or bad something is
5. to test how good something is
6. information on how to do something
9. to get ready for an event or action
10. to agree or say yes to something
13. If you ____ between two things, you decide which one you want.
15. to get something after someone gives or sends it to you
17. mother or father

B. Notes Completion. Scan the information on pages 108-109 to complete the notes.

Site: The Taj Mahal
Location: ___________, India

Information:
- The Taj Mahal is one of the _________ of the World.
- It was built in the mid-17th century by Emperor _________ for his wife _________ to remember her after she died.
- It took over _________ years and _________ people to complete the Taj Mahal.
- The white stone has started to turn yellow because of bad _________.
- People are not allowed to drive cars near the monument. They must _________ or take the _________.
- According to legend, the emperor wanted to build a second Taj Mahal that was _________ in color.
The Taj Mahal in Agra, India, is often called "a poem in stone." If so, it is really a love poem—and perhaps the most beautiful expression of love in the world.

The Taj Mahal was created by the emperor Shah Jahan in the mid-17th century for his favorite wife, Mumtaz Mahal. The royal couple lived happily together for 18 years, until Mumtaz died while giving birth to their 14th child. The emperor promised his wife before she died that he would build the most beautiful monument in the world to remember her.

More than 20,000 people, and a thousand elephants, worked for over 20 years to make the emperor’s dream a reality. Soon after the Taj Mahal was finished, Shah Jahan’s son took control of the country and became emperor. Shah Jahan was put in prison, where he lived until his death in 1666. The love story had a sad end, but the emperor’s monument remains today, in the words of writer Salman Rushdie, “a lovely thing, perhaps the loveliest of things.”

Taj Under Pressure

Up to four million people visit the Taj Mahal every year. As a result, air quality has become worse, and the white stone has started to turn yellow. To keep the environment clean, visitors are no longer able to drive cars near the monument, and instead have to walk or take an electric bus. It is hoped this will ensure a bright future for this incredible monument.

Glossary

emperor: the male ruler of an empire
monument: a large building to remind people of an event in history or a famous person
poem: an imaginative expression of ideas, experiences, and emotions, usually in the form of written or spoken words
prison: a building where people are kept for punishment
promise: say that you will do something
Wonder of the World

In 2007, the Taj Mahal was named as one of the Seven Wonders of the World by the New7Wonders Foundation. The list was the result of more than 100 million votes received online and by telephone from people around the world. The last remaining Wonder of the Ancient World—the Pyramids of Giza in Egypt—was included as a special “Eighth Wonder.”

<table>
<thead>
<tr>
<th>Truth or Legend?</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are many legends about the Taj Mahal. One legend says that after building was complete, Shah Jahan cut off the hands of the builders and put out the eyes of the designers. He supposedly didn’t want them to make another building as beautiful as the Taj Mahal. Another legend says the emperor also planned to build a similar, black Taj Mahal on the other side of the river. Although interesting tales, most historians believe they are not true.</td>
</tr>
</tbody>
</table>

The New “Wonders of the World”

<table>
<thead>
<tr>
<th>Wonder of the World</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chichen Itza</td>
<td>Yucatan, Mexico</td>
</tr>
<tr>
<td>The Colosseum</td>
<td>Rome, Italy</td>
</tr>
<tr>
<td>The Great Wall of China</td>
<td>China</td>
</tr>
<tr>
<td>Machu Picchu</td>
<td>Cusco, Peru</td>
</tr>
<tr>
<td>Petra</td>
<td>Jordan</td>
</tr>
<tr>
<td>Statue of Christ the Redeemer</td>
<td>Rio de Janeiro, Brazil</td>
</tr>
<tr>
<td>The Taj Mahal</td>
<td>Agra, India</td>
</tr>
<tr>
<td>The Giza Pyramids</td>
<td>Giza, Egypt</td>
</tr>
</tbody>
</table>
A. **Dictionary Skills.** In English, there may be different meanings for the same word. Read the definitions for each word in the box. Then write 1 or 2 next to the words in red below.

- **account** (*n.*) 1. money deposited with a bank 2. a written or spoken report of something that has happened
- **catch** (*v.*) 1. to get or take something 2. to get on a train, bus, or plane
- **raise** (*v.*) 1. to move something so that it is in a higher position 2. to take care of a baby until it is grown up
- **stage** (*n.*) 1. one part of an activity or a process 2. the area in a theater where actors act
- **vision** (*n.*) 1. what you imagine or hope things will be like 2. your ability to see with your eyes

1. Tigers usually hide in long grass before they try to catch ____ their prey.
2. The Inca leader's vision ____ was to have most of South America under his control.
3. Countries like Japan have low birth rates because it is expensive to raise ____ a child.
4. It takes a lot of training before an animal can appear in a movie or on stage ____.
5. Several Titanic passengers gave an account ____ of what happened on that night.

B. **Word Link.** The suffix *-able* changes a verb into an adjective. For example, if something is *acceptable*, you can accept it. Complete the sentences with the *-able* adjective of a verb in the box. Use your dictionary to help you.

<table>
<thead>
<tr>
<th>accept</th>
<th>depend</th>
<th>enjoy</th>
<th>knowledge</th>
<th>value</th>
</tr>
</thead>
</table>

1. Gold is _____________ mainly because there is not much of it available.
2. Penguin parents are very _____________ when it comes to finding food for their baby.
3. Scientist Alan Siegel is very _____________ about dream psychology.
4. Richard Kurin thinks the Hope Diamond curse can be explained by chance, but some do not find that theory _____________.
5. Theme parks and funhouses are popular because they are _____________ for both children and adults.
Discuss these questions with a partner.

1. What do you think is the most important skill you learn in school?
2. What are schools like in your country? How are they different from schools in other countries?
3. If you could create your dream school, what would it be like?
Before You Read

A. Labeling. Read the information and label the animals pictured above (1–4).

Kruger National Park is one of the oldest and largest parks in Africa. It was first set up in 1898 to control hunting and to protect the wildlife living there. Today it is home to an incredible variety of species, including more than 500 types of birds and about 150 different types of mammals. Among these are deer-like (1) antelope (like the steenbok and impala), (2) elephants, (3) giraffes, and a wild pig known as a (4) warthog.

If you control an activity, you have power over how it is done.

B. Skim for the Main Idea. Look at the photos of Southern Cross School on the next page, and quickly skim the reading. What is unusual about this school? Read the passage again to check your ideas.
Look around your classroom. Do you see students sitting at desks? Are teachers writing on a board and giving lectures? At Southern Cross School, near the famous Kruger National Park in South Africa, things are different. Here, nature is the classroom.

Both the park and the school are home to wild animals such as giraffes, impalas, and warthogs. Students at the school study the same subjects as other students in South Africa. But at Southern Cross, the staff and students go out into the wild to learn.

In one lesson, students apply the principles of mathematics to the study of local wildlife. Younger students count how many kinds of animals drank at the nearby water troughs during the night. Older students measure the amount of water the animals drank, and calculate how much water the animals will need over weeks or months.

In language classes, a common topic is conservation. In one recent debate, students discussed an important question: should people give water to wild animals during a drought? Another project might consist of finding out how an animal died.

The director of the school is Ant de Boer. His aim is for students to learn the importance of caring for the environment. De Boer says, “When they leave school, we want them to be champions of the natural environment.” As the school motto says, Southern Cross aims to be a “School for the Planet.”

---

1 A trough is a long, narrow container from which farm animals eat or drink.
2 A debate is a discussion about a subject on which people have different views.
3 A drought is a long period of time with no rain.
4 A motto is a short sentence or phrase that describes the aims and beliefs of a group.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea 1. Southern Cross is a special kind of school because its students _________.
   a. don’t study normal school subjects
   b. listen to a lot of lectures about nature
   c. use nature to study school subjects
   d. take care of animals in their classroom

Paraphrase 2. Which of the following is closest in meaning to go out into the wild (line 8)?
   a. go camping  c. go away
   b. go outdoors  d. go to school

Purpose 3. What is the purpose of the third paragraph (from line 9)?
   a. to give examples of how Southern Cross students study mathematics
   b. to describe the various subjects that students study at Southern Cross
   c. to explain how much water South African animals drink
   d. to show why it’s important to learn about mathematics

Vocabulary 4. Which of these is a kind of wildlife (line 10)?
   a. students  c. animals
   b. mathematics  d. troughs

Detail 5. Which type of lesson goal is NOT mentioned?
   a. measuring how much water animals drink
   b. learning how an animal died
   c. talking about a conservation topic
   d. calculating how many animals there are in the park

B. Matching. Match the ending of each sentence (a–e) to its beginning.

1. _____ Southern Cross is close to
   a. might have a debate about conservation.
   b. take care of the environment after they leave.
   c. Kruger National Park in South Africa.
   d. might count how many animals drank at the troughs.
   e. because students often have lessons in the wild.

2. _____ Southern Cross is different from most schools

3. _____ To learn mathematics, students at Southern Cross

4. _____ To improve their language skills, students at Southern Cross

5. _____ The Southern Cross school wants students to
Utah in the United States is famous for its beautiful desert and national parks—and an unusual school called Boulder Outdoor Survival School (BOSS). The teaching 1. ____________ at BOSS follow an unusual 2. ____________: “know more, carry less.” Their 3. ____________ is to teach people to survive in wild areas with no camping equipment. Teachers don’t give 4. ____________ on math or science, nor do they teach students by writing on 5. ____________. Instead, BOSS brings students outside, where they learn about 6. ____________ like making fires, finding water in the desert, and learning about 7. ____________ plants. Students then 8. ____________ the lessons they have learned during 30-mile (48-km) hikes. A student’s final exam 9. ____________ of going into the desert alone for three days with only a few simple tools. Even though it’s difficult, students say it’s an incredible and valuable experience.

B. Definitions. Use the words in the box in A to complete the definitions.

1. If you ____________ something, you use it in an activity.
2. A(n) ____________ is a belief about the way you should act.
3. A(n) ____________ is a study or piece of research.
4. The ____________ of something is your purpose for doing it.
5. The ____________ of an organization is all the people who work for it.

Usage:

Staff is a singular noun for a group of people: The staff was very happy about the holiday party.
Use a member of the staff to talk about one person: A member of the staff thanked the boss for the party.
WHAT DOES IT MEAN TO BE A STUDENT TODAY? That's one question Michael Wesch is always asking. Wesch is a professor at Kansas State University, U.S.A. In 2008, he was named U.S. Professor of the Year. He explores how the Internet and new media are changing the way we learn. “Technology is connecting us in ways never seen before in human history,” he says. In 2007, he created a video called “Web 2.0 . . . The Machine is Us/ing Us.” The video quickly got over 10 million views on YouTube.

Before You Read

A. Discussion. Look at the timeline and information above. Discuss the questions with a partner.

1. Which of the services above in blue have you used before? How often do you use them?
2. How do you use the web for learning? Is the way you learn different from how you learned five years ago?

B. Predict. Read the interview questions on the next page. How do you think Michael Wesch will answer them? Read the interview to check your ideas.
HOW HAS TECHNOLOGY CHANGED THE WAY WE LEARN?

Most importantly, the web now gives us the opportunity to publish our own work. Instead of simply watching TV, we can create and edit our own videos. Instead of just reading a magazine, we can write our own articles and documents and publish them. There are now 1.4 billion people connected online, so we can use the work we create to reach out and connect with large numbers of people.

WHAT ADVICE WOULD YOU GIVE TO TODAY'S STUDENTS AND TEACHERS?

Now is the time to rethink the meaning of the word "literacy." We used to think of literacy as the ability to read and write. Now we need to think beyond reading and writing. We all need to learn how to create and collaborate on videos, photos, blogs, wikis, online forums, and other kinds of digital media.

This can be difficult when teachers and students do not have access to the Internet, but the core skills can be practiced in classrooms without technology. One of the most important skills we must now learn is collaboration, and this can be practiced on a chalkboard, whiteboard, or even a simple piece of paper. We can learn to listen to one another, use each other's strengths, and practice working together in any environment.

---

1 When people collaborate, they work together on a particular project.
2 A forum is a place or group in which people exchange ideas and discuss issues.
3 If you have access to something, you are able to see it or use it.
Read the text from Unit 10 Education and answer the questions:

**A. Multiple Choice.** Choose the best answer for each question.

**Main Idea**

1. What is the main idea of the first paragraph (from line 2)?
   a. Most people now watch a lot of movies and TV on the Internet.
   b. People used to read a lot of articles in the past, but not anymore.
   c. People now spend too much time connecting with other people using the Internet.
   d. The Internet allows us to create our own work and connect with many people.

2. The word *them* (line 5) refers to __________.
   a. TV and video
   b. articles and documents
   c. 1.4 billion people
   d. students and teachers

3. What is Michael Wesch’s main idea in the second paragraph (from line 8)?
   a. Most teachers today do not teach literacy.
   b. Today’s students no longer need to learn how to read and write.
   c. Today’s students need to learn more than just reading and writing.
   d. Schools should teach digital literacy and not reading and writing.

**Detail**

4. What kind of digital media is NOT mentioned in the passage?
   a. blogs
   b. photos
   c. e-mail messages
   d. online forums

**Inference**

5. What would Michael Wesch probably say to a teacher without Internet access?
   a. “Teach your students how to collaborate in other ways.”
   b. “Teach your students how to use other kinds of technology.”
   c. “Teach your students how to write on a whiteboard.”
   d. “Teach your students how to get access to the Internet.”

**B. Completion.** Complete the diagram below. Fill in each blank with one word or number from the reading.

Changes in the Way We Learn

- We can now _______ our own work.
- We can now _______ out and _______ with many people online.

Advice for Students and Teachers

- Learn to use different kinds of digital _______
- Learn to _______ on the Internet or in _______

Unit 10 Education
Vocabulary Practice

Completion. Complete the information using words from the box. One word is extra.

ability
digital
documents
connect
edit
practice
skills

Computer 1. ____________
are becoming increasingly
important for students around
the world. But this new kind of
2. ____________ education
has not yet reached children in
poor countries. A group called
One Laptop Per Child (OLPC) is
trying to change this. It was able
to 3. ____________ a very small, simple laptop computer that costs only US$100.
It gives these computers to schools in poor countries. This gives young children the
4. ____________ to use computers and go on the Internet. Computers help them learn
about the world around them. It also lets them 5. ____________ their English or other
foreign languages. Instead of using pen and paper, they can 6. ____________ their work
easily on the computer and with other students. The aim of OLPC is to 7. ____________
children in every country around the world.

3. Words in Context. Complete each sentence with the best answer.

1. You can see articles in a ____.
   a. magazine
   b. movie

2. If you connect two things, you ____.
   a. move them away from each other
   b. put them together

3. The core of something is the ____ part.
   a. expensive
   b. important

4. If you edit some writing, you ____ it.
   a. read
   b. change

5. A skill is something that you ____.
   a. buy
   b. learn

Word Partnership

Use document with:
create a document, edit a document,
save a document, delete a document.
Maasai Teacher

A. Preview. Read the quote below.
What do you think Joseph Lekuton means by “we all have our own lions”?

“The symbol of bravery in my community is the lion. Having faced that lion when I was 14... changed everything for me. So... I think we all face challenges in life and we all have our own lions.”

– Joseph Lekuton, teacher and Maasai tribesman

B. Summarize. Watch the video, Maasai Warrior. Then complete the summary below with words from the box. Two words are extra.

<table>
<thead>
<tr>
<th>ability</th>
<th>apply</th>
<th>core</th>
<th>lectures</th>
<th>project</th>
<th>skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>aim</td>
<td>apply</td>
<td>core</td>
<td>document</td>
<td>principles</td>
<td>skills</td>
</tr>
</tbody>
</table>

Joseph Lekuton is a teacher in Northern Virginia. He gives
1. _______________ to his students about American history. But his own country, Kenya, is very different. Joseph is a Maasai tribesman. Maasai children lead a very different life from American children. A ten-year-old’s day 2. _______________ of taking care of cattle all day long. Maasai children also learn 3. _______________ like how to survive in the wild. Unlike many Maasai children, Lekuton was very lucky and went to school. With his 4. _______________ to speak English, he was able to study and teach in America. Lekuton wrote a book about his childhood called Facing the Lion. His 5. _______________ is to help children learn about a culture that’s very different from their own. He also wants to teach them 6. _______________ like strength and hope, which they can 7. _______________ in their own lives. Joseph hopes that his first 8. _______________ will help children face their own lions.

C. Think About It.
1. Would you rather lead the life of a Maasai child or an American child? Why?
2. What “lions” do you face in your life?

To learn more about the future of education, visit elt.heinle.com/explorer
Discuss these questions with a partner.

1. What is the biggest animal in your country?
2. Do you know of any animals that are extinct (no longer living)?
3. If you could bring back an extinct animal, what would you bring back?
Mammoth!

Before You Read

A. Matching. Read the information below. Match each word in blue with its definition.

Tens of thousands of years ago, elephant-like creatures called woolly mammoths walked the Earth. They were related to modern elephants, but were different in some ways:

<table>
<thead>
<tr>
<th>Woolly mammoth</th>
<th>Modern elephant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td></td>
</tr>
<tr>
<td>Long thick hair</td>
<td>Thick skin but very little hair</td>
</tr>
<tr>
<td>Long curved tusk</td>
<td>Short and straight tusk</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
</tr>
<tr>
<td>Lived during the Ice Age in North America and Siberia</td>
<td>Lives in hot environments like India and Africa</td>
</tr>
<tr>
<td>Status</td>
<td></td>
</tr>
<tr>
<td>Became extinct 8,000–12,000 years ago</td>
<td>Total population today: 470,000–690,000 African elephants, and about 60,000 Asian elephants (pictured left)</td>
</tr>
</tbody>
</table>

1. ________ a long, pointed tooth used to fight or to find food
2. ________ a period when much of the earth was covered in ice
3. ________ no longer existing or living; completely died out

B. Predict. Look at the photo, illustrations, and captions on the next page. What do you think happened after this mammoth died? Read the passage to check your ideas.
Imagine finding a body that had been lost for 40,000 years...

The strange animal in the ice looked like it was sleeping. Ten-year-old Kostia Khudi and his brother had never seen anything like it before. But they had heard stories of the *mamont*, an imaginary animal that lived in the frozen blackness of the Siberian underworld. Their father, a reindeer herder named Yuri Khudi, went to ask a friend for advice. But when he returned, the body had disappeared...

Yuri soon found the animal’s body leaning against a store in a nearby town. (While he was away, his cousin had sold it to the store owner for two snowmobiles.) Dogs had eaten part of the tail and ear, but overall, it was still “as close to perfect condition as you can imagine,” says scientist Daniel Fisher. With help from the police, the body was taken by helicopter to a museum. The animal was a baby mammoth, and scientists called it Lyuba, after Yuri’s wife.

From Siberia, the mammoth was sent to the Netherlands and Japan for analysis. Detailed studies of her teeth showed she was just one month old when she died. Ongoing research has also showed us the sequence of events that led to her death. Lyuba fell to her death near a muddy river. The mud helped keep her body frozen until she was found 40,000 years later. Scientists hope that further analysis will help explain how mammoths such as Lyuba lived—and why they finally all died out.

* The *underworld* is an imaginary underground world.
* A *herder* looks after a large group of animals of one kind.
* If you give someone *advice*, you tell them what you think they should do in a particular situation.
* If you *lean* on or against something, you rest against it.
* A *snowmobile* is a small vehicle for driving in snow.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. The article is mainly about
   a. Yuri Khudi's life in Siberia
   b. animals that are now extinct
   c. an important discovery
   d. what life was like for Lyuba

Detail 2. What happened first?
   a. Yuri's cousin sold the mammoth to a store owner.
   b. Yuri went to ask a friend for advice.
   c. Lyuba's body was taken to a museum.
   d. The police arrived to take Lyuba's body away.

Purpose 3. What is the purpose of the second paragraph?
   a. to describe the condition of Lyuba when she was found
   b. to describe the difficulties of analyzing a mammoth body
   c. to explain how Lyuba was found again and taken to a safe place
   d. to explain how scientist Daniel Fisher came to Siberia to study Lyuba

Reference 4. The word it (line 11) refers to a(n)
   a. body
   b. store
   c. tail
   d. ear

Paraphrase 5. Which of the following is closest in meaning to all died out (line 23)?
   a. became extinct
   b. killed each other
   c. moved to another place
   d. died at a young age

B. True or False. According to the passage, are the sentences below true or false? Circle T (true), F (false), or NG (not given in the passage).

1. Yuri Khudi's job is to take care of a group of animals.  
   T  F  NG
2. Yuri Khudi has more than two sons.  
   T  F  NG
3. Yuri Khudi's wife is also named Lyuba.  
   T  F  NG
4. Lyuba's body has been in at least three countries.  
   T  F  NG
5. Lyuba's teeth showed that she was a year old when she died.  
   T  F  NG
Vocabulary Practice

A. Completion. Complete the information using words from the box. Two words are extra.

Vocabulary:
- analysis
- details
- imagine
- nearby
- ongoing
- overall
- perfect
- sent

1. __________ a crocodile with more than 100 teeth and so big that it eats dinosaurs! Scientists say such a crocodile really did live 110 million years ago in Africa. It was so huge that they called it “SuperCroc.”

For a long time not much was known about SuperCroc, as scientists only had a few bones and teeth. But, in 2000, Paul Sereno and his team found an area in the Sahara Desert that was full of SuperCroc bones. __________, they had enough bones to put together about 50 percent of SuperCroc’s body.

From their work, the team learned many __________ about SuperCroc’s life. For example, they now know that it grew to the size of a bus and weighed about 8,000 kilograms (17,500 pounds). Its strong jaws and big teeth were __________ for catching and holding prey. After his examination, Sereno __________ SuperCroc’s bones to the U.S. for further __________.

The bones are now on display in museums to teach people about this amazing animal.

B. Words in Context. Complete each sentence with the best answer.

1. If something is ongoing, it is _____.
   a. finished  b. not finished

2. If something leads to another, it goes _____ it.
   a. toward  b. away from

3. If something is nearby, it is _____.
   a. close  b. far

4. If something is in sequence, it happens _____.
   a. one after another  b. at the same time

5. If you send something, you _____ it.
   a. get  b. give

Usage

Analyses is the plural form of analysis:
Scientists did an analysis of the animal’s bones. They also did analyses of the animal’s skin and hair.
Before You Read

A. Labeling. Read the information below. Then label the picture with the words in blue.

At 14 meters (45 feet) long, *Tylosaurus* was one of the biggest sea monsters of all time. By looking at fossils, scientists know that *Tylosaurus* was a strong predator with great jaws and sharp teeth. Analysis of its stomach contents shows that its prey included fish, seabirds, and even sharks. It used its long tail to push itself through the water and its two shorter fins to change direction. Although *Tylosaurus* was not related to the dinosaurs, it lived and became extinct around the same time.

B. Predict. Look quickly at the title, headings, pictures, and captions on the next page and answer the questions below. Then read the passage to check your answers.

1. How many sea monsters does the passage mention?
2. What do you think was unusual about each animal?
Sea monsters are not just imaginary creatures. Real ones did indeed live on Earth millions of years ago. Fossils have helped scientists make very real-looking models of these huge creatures. The fossils also help us understand some of the animals’ unusual characteristics.

**Eyes in the Dark**

*Temnodontosaurus* was certainly an unusual animal. It had some of the largest eyes in nature—more than 25 cm (10 inches) across! With a name that means “cutting tooth lizard,” *Temnodontosaurus* could easily pick out its prey in the dark water.

**Terror of the Deep**

*Kronosaurus* lived in the seas that covered Australia, but it probably left the water to lay its eggs on land. Its head was seven feet (2 m) long and its teeth were as big as bananas! The prime function of a set of teeth like this, says paleontologist Colin McHenry, was to grab and crush its prey. In fact, *Kronosaurus* was one of the most powerful predators of all time.

**The Stalker**

*Thalassomedon* was a sea monster with a very long neck. It also had a special means of catching fish: it carried stones in its stomach! These helped keep the largest portion of its body down in the dark water while the long neck slowly rose up toward the fish. The fish had no defense against *Thalassomedon*—they didn’t see the huge animal until it was too late!

---

1 A *creature* is any living thing that is not a plant.
2 Fossils are the hard remains of animals or plants that lived millions of years ago.
3 To *stalk* someone or something is to follow slowly and quietly.
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Main Idea 1. What is the main purpose of the passage?
   a. to describe the three most dangerous sea predators of all time
   b. to describe three ancient sea animals with unusual characteristics
   c. to explain how and when the fossils of three sea animals were discovered
   d. to explain the main stages for creating a model of an ancient sea creature

Reference 2. The word ones (line 1) refers to ________.
   a. sea monsters        c. millions of years
   b. imaginary creatures d. fossils

Detail 3. Which statement about Kronosaurus is NOT true?
   a. It lived in the sea that used to cover Australia.
   b. It stayed in the water all the time.
   c. Its teeth were very large.
   d. It was a very dangerous predator.

Vocabulary 4. In line 19, the word means could be replaced by ________.
   a. hunger          c. hope
   b. image           d. way

Inference 5. Why were fish probably not very afraid of Thalassomedon?
   a. The fish didn't see Thalassomedon as it came near.
   b. The fish were friendly with Thalassomedon.
   c. The fish were also predators, not just prey.
   d. The fish did not have very long necks.

B. Classification. Complete the notes using information from the reading. Write one word in each space.

<table>
<thead>
<tr>
<th>Unusual characteristics</th>
<th>had very large</th>
<th>teeth were the size of</th>
<th>had a very long and had</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>inside its stomach</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Special abilities</th>
<th>could easily see its</th>
<th>could grab and</th>
<th>was able to reach</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in the dark</td>
<td>other animals</td>
<td>without being seen</td>
</tr>
</tbody>
</table>
Vocabulary Practice

A. Completion. Complete the information using words from the box. Two words are extra.

characteristics  models  crush  portions  defense  prime  indeed  probably  grab

For hundreds of years, people have reported monsters attacking ships out in the ocean. Now we know that these "monsters" were

1. __________ giant squid.

Giant squid share many of the same

2. __________ as other types of squid, like having eight arms and two longer tentacles. But giant squid are much, much bigger—females can grow up to 13 meters (43 feet) and males grow up to 10 meters (33 feet). They also have the biggest eyes of any animal in the world. Giant squid normally eat deep-sea fish and other types of squid. They use their large

3. __________ of arms to quickly

4. __________ their prey as it swims by. Their only natural enemies are certain kinds of whales. As a

5. __________ against such attackers, squid shoot ink into the water before they swim away.

For many years, scientists were unable to catch a giant squid on film. Instead, they found

6. __________ of its body in the stomachs of whales that eat squid. The scientists were able to use these body parts to make

7. __________ of what the squid might look like. The first photos of a live giant squid were taken in 2004, and it is

8. __________ as monstrous as people believed!

B. Definitions. Use the words in the box in A to complete the definitions.

1. If you __________ something, you press it very hard so that it breaks.

2. __________ are features that are usual for someone or something.

3. __________ are representations that show how something looks.

4. Something that is __________ is the most important.

5. A __________ is something you use or do to protect yourself from attack.

Usage

Means is a singular noun, so we use it with "a" or with numbers. For squid, changing colors is a means of defense. Cats have two means of defense: their teeth and their claws.
Dinosaurs

A. Preview. Look at the picture and read the caption. Can you see any similarities between the three animals?

B. Summarize. Watch the video, Dinosaur. Then complete the summary below with words from the box. Two words are extra.

characteristics led crush defense ongoing details indeed prime sequence

Dinosaurs lived on Earth for about 150 million years, far longer than humans have been around. Some were very large, such as a long-necked sauropod called Jobaria. It weighed 25 tons (50,000 pounds) and ate a large amount of plants every day. Jobaria lived together in groups for 1. ____________ against meat-eating dinosaurs.

No one really knows about the 2. ____________ of events that 3. ____________ to all dinosaurs dying out 65 million years ago. Some scientists believe the 4. ____________ reason is that a rock from space hit the earth and created a lot of dust in the air. The dust stopped the sun’s heat and light from reaching the earth, and dinosaurs died from the cold.

But, in a way, perhaps dinosaurs are still with us today. Many scientists believe that birds are related to dinosaurs. Birds have a lot of the same 5. ____________ as dinosaurs—for example, they lay eggs and keep them warm by sitting on them. Their bones are also very similar. 6. ____________ research is being carried out to discover more 7. ____________ about how these two kinds of animals are connected. In this way, scientists hope to find out whether birds are 8. ____________ living dinosaurs.

C. Think About It.

1. What are some other ways that birds and dinosaurs are similar?
2. Why do you think people like to watch movies and read stories about monsters?
Discuss these questions with a partner.

1. What kinds of technology do you often use?
2. How will life 30 years from now be different from today?
3. What do you think life will be like 100 years from now?
At a research center in Utah, scientists train robots to play table tennis using human-like movements.

At Pittsburgh Shadyside Hospital, doctors show how they use a robot called ROBODOC to help in operations.

For more than 30 years robots have worked on car production lines in Japan.

**Before You Read**

**A. Discussion.** What things can robots do that humans can't? What can humans do that robots can't? Use the words from the box or your own ideas.

- run
- climb stairs
- play soccer
- show emotions
- feel emotions
- jump
- write poems
- work in space
- walk on water
- walk upside down

**B. Scan.** Look quickly at the reading. Which of the things above are mentioned in the reading? Do you think today's robots can do them? Read the passage to check your ideas.
It’s 2035. You’re at a soccer game when suddenly . . . it’s a goal! A robot player has scored!

A robot? Is this possible? Maybe. Scientists are working to create robots that can play sports like soccer. A robot with these skills might also be able to aid humans—for example, by doing dangerous or difficult jobs, like putting out fires or catching criminals.

Robots have changed greatly since they were first developed for use in industry. Whereas earlier machines were unable to operate by themselves, a modern robot like Asimo can walk by itself, climb stairs, and even run slowly.

Then there is Kismet. It has eyes, lips, and ears that move in different ways to show surprise, happiness, anger, and other emotions. Robots like Kismet could show us how they “feel” about learning new things.

**ANIMAL-BOTS**

Scientists are also working on robots that look and act like animals. NASA has researched using robot snakes as an alternative to vehicles with wheels. Snake-bots can’t run or jump, but they can enter holes and move over rough ground. They might one day help scientists look for signs of life on Mars.

Other robots are designed to do a single task. The frog-bot can jump over objects. The sticky-bot can walk upside-down on the ceiling. There’s even a robot called Water Runner that can walk on water.

But will a robot soccer team exist by 2035? They may even be world champions!
**Reading Comprehension**

**A. Multiple Choice.** Choose the best answer for each question.

**Gist** 1. The article is mainly about _________.
   a. things robots can do  
   b. why people need robots  
   c. how to make your own robot  
   d. robots of the future

**Purpose** 2. What is the main purpose of the third paragraph (from line 7)?
   a. to describe how the earliest robots were used in industry  
   b. to explain why today's robots are different from early robots  
   c. to explain why early robots could not do things by themselves  
   d. to describe how the robot Asimo is able to walk by itself

**Detail** 3. Which robot is most able to show its feelings?
   a. Asimo  
   b. Kismet  
   c. Snake-bot  
   d. Water Runner

**Reference** 4. The word they (line 17) refers to _________.
   a. vehicles  
   b. wheels  
   c. snake-bots  
   d. holes

**Inference** 5. Which statement would the author probably agree with?
   a. It is not fair that robots have to do difficult jobs for humans.  
   b. The robot Kismet can really feel human emotions.  
   c. A frog-bot can do more tasks than a sticky-bot.  
   d. Robot soccer players really could exist by 2035.

**B. Completion.** According to the article, does each sentence describe human-like robots, animal-bots, or both? Write each answer (a–e) in the correct place on the diagram.

**Diagram**: Human-like Robots and Animal-bots

- a. It can run slowly.  
- b. It can walk upside down.  
- c. It can show emotions.  
- d. It might one day be able to help humans.  
- e. It can walk on water.
**Vocabulary Practice**

**A. Completion.** Complete the information using words from the box. One word is extra.

<table>
<thead>
<tr>
<th>aid</th>
<th>operate</th>
<th>alternative</th>
<th>rough</th>
</tr>
</thead>
<tbody>
<tr>
<td>dangerous</td>
<td>signs</td>
<td>exist</td>
<td>single</td>
</tr>
<tr>
<td>industries</td>
<td>whereas</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Scientists in South Korea have developed a new robot called EveR-1 that can do many amazing things. Most robots that 1. ______ today are used in heavy 2. ______ like car-making. They 3. ______ machines and do jobs that are boring or too 4. ______ for people. In contrast, EveR-1 is a new kind of robot called a service robot. It does not look like your average robot—its face can show 5. ______ of emotions like happiness and sadness, and it can even talk to people. Most robots look like machines, 6. ______

EveR-1 is made to look as close to a living, breathing human as possible. It was created as a(n) 7. ______ to human workers. It could 8. ______ children who are learning to read or give guided tours in museums. The designers of EveR-1 also aim to put a service robot in every home. A(n) 9. ______ service robot can be used for many things, like cleaning the house and providing entertainment.

**B. Words in Context.** Complete each sentence with the best answer.

1. If something is **dangerous**, it isn’t _____.
   a. quiet  
   b. safe

2. If you **operate** a machine, you __ it.
   a. use  
   b. fix

3. If you **aid** a person, you __ that person.
   a. hurt  
   b. help

4. If ground is **rough**, it is ____ to walk on.
   a. difficult  
   b. easy

**Word Partnership**

Use **operate** with:
- operate a machine, operate a business,
- operate a company.
Before You Read

A. Matching. Read about things you might find in your future home. Use the information to label the picture (1–5). Which do you think will really happen?

5 Cool Things in Your Future Home

1. Fashion Helper: What should you wear today? Is it warm or cold outside? Which shirt matches your pants? Your computer can help you decide.

2. Virtual Chef: Need to bake a cake for a party? The computer gives you instructions—and a virtual (not real) chef shows you how to make it!

3. Kitchen Robots: Oops, you spill some juice! Don't worry—a robot helper quickly comes to clean the floor.

4. Easy Shopping: Your milk is getting old. The kitchen computer sends a message to the store. You don't have to do a thing!

5. Smart Clothes: Feel like dancing? Your shirt changes its color and pattern to match the music.

B. Predict. Look at the picture on the next page. What other things will be different in the future? Read the passage to check your ideas.
Welcome to your future life!

You get up in the morning and look into the mirror. Your face is firm and young-looking. In 2035, medical science is better than ever. Many people your age could live to be 150, so at 40, you're not old at all. And your parents just had an anti-aging nanotechnology treatment. Now, all three of you look the same age!

You say to your shirt, "Turn red." It changes from blue to red. In 2035, "smart clothes" contain particles much smaller than the cells in your body. The particles can be programmed to change your clothes' color or pattern.

You walk into the kitchen. You grab the milk, but a voice says, "You shouldn't drink that!" Your fridge has read the RFID chip on the milk's label, and it knows the milk is old. In 2035, every food item in the grocery store has an RFID chip.

It's time to go to work. In 2035, cars drive themselves. Just tell your "smart car" where to go. On the way, you can call a friend using your jacket sleeve. Nano-sized "smart technology" is all around you. "Your whole body and surroundings [will] become part of the same network," says scientist Ampy Buchholz.

So will all these predictions come true? For new technology to succeed, says futurist Andrew Zolli, "it has to be so much better that it replaces what we have already." The Internet is one example—what will be the next?
Reading Comprehension

A. Multiple Choice. Choose the best answer for each question.

Gist 1. The article is mainly about ________.
   a. which kinds of technology people in the future will enjoy most
   b. why medical treatments of the future will improve our lives
   c. how future technology could affect everyday life
   d. what people will eat and wear in the future

Main Idea 2. What's the main idea of the third paragraph (from line 11)?
   a. In the future, people will not drink real milk.
   b. In the future, milk will stay fresh for a longer time.
   c. In the future, you will drink many things besides milk.
   d. In the future, all food items will carry information.

Reference 3. The word that (line 12) refers to ________.
   a. the kitchen   c. the fridge
   b. the milk    d. the label

Inference 4. Which statement would Ampy Buchholz probably agree with?
   a. People's bodies may become less strong because of nanotechnology.
   b. Nanotechnology will become very common in the future.
   c. Nano-sized particles may be dangerous to people's health.
   d. Life will be less interesting because everyone will look the same.

Detail 5. Which prediction is NOT mentioned in the article?
   a. You'll be able to use your clothes to call a friend.
   b. Clothes will be able to change their pattern.
   c. You'll be able to use your clothes to watch a video.
   d. Cars will be able to drive by themselves.

B. Labeling. Complete each label using one or two words from the reading or footnotes.

People use nanotechnology to make their ________ seem young and ________.

In 2035, ________ cars can drive themselves.

Nano-sized robots (nanobots) are so ________ that you can't see them.

You can easily change the ________ or ________ of your clothes.

You can call a friend using the ________ of your shirt or jacket.
Science fiction writers have long dreamed of metal bodies—people using machines to help them when their bodies fail. Now that dream is slowly becoming a reality.

Scientists discovered that even though a body part is gone, the 1. _______ of nerves which connect it to the brain still works. With this knowledge, they can 2. _______ machines to pick up signals from the brain, so people can operate them just by thinking about the action itself. After losing her arm in a car accident in 2006, Amanda Kitts couldn’t pick up items, 3. _______ a car, or do other everyday things. Now she has the opportunity to 4. _______ the missing arm with a robotic one. The same principles apply to deaf or blind people. Jo Ann Lewis, a blind woman, can now see the shapes of trees using a tiny camera that connects to the nerves around her eyes.

However, this technology is still very new. Some people do not respond well to the 5. _______ and have to stop. Jo Ann Lewis, for example, still cannot see 6. _______ clearly, or even cross a road. But it won’t be too long before scientists 7. _______ in joining man and machine.

B. Definitions. Use the correct form of the words in the box in A to complete the definitions.

1. A(n) _______ is a set of instructions for a computer to do something.
2. A(n) _______ is the smallest part of your body.
3. A(n) _______ is attached to an object and gives information about it.
4. If something is _______, it is strong and not soft.
5. A(n) _______ is a design of lines or shapes.
Mars Rovers

A. Preview. Read the information. Then match each word in blue with a definition.

Some people call Mars “the Red Planet.” It’s close to Earth, and some scientists think there might be life there. To get more information about Mars, robot explorers have landed on its surface. We have learned some surprising things from their work.

1. things that are alive 
2. a large, round object in space that moves around the sun 
3. the top or outside part of something 
4. arrive somewhere after a trip 

B. Summarize. Watch the video, Mars Rovers. Then complete the summary below with words from the box. Two words are extra.

aid alternative drive existed operate patterns rough signs single whereas

The planet Mars is very interesting to scientists because it is the closest and most similar to Earth. For example, Mars has seasons with different weather, 1. _____________ other planets have the same temperatures all year round. Did life exist on Mars? To find out, scientists need to know if Mars ever had water. In 2004, two robot explorers, or “rovers,” called Spirit and Opportunity were sent to Mars to look for 2. _____________ of water. These rovers can 3. _____________ over rocks and all kinds of 4. _____________ ground. They can also 5. _____________ cameras and send photos back to Earth. First, the two rovers found chemicals and 6. _____________ in the rocks that were probably made by water. Then they moved to a(n) 7. _____________ area and found other rocks which may have been created by water. Now scientists think there was probably water on the planet long ago. They still don’t know if life ever 8. _____________ on Mars. But they received a lot of important information that will help them in the future.

C. Think About It.

1. Do you think governments should spend money for space projects like the Mars rovers? Why or why not?

2. How will technology make our lives better in the future?

To learn more about technology, visit elt.heinle.com/explorer
A. Crossword. Use the definitions below to complete the missing words.

Across
1. uneven, not smooth
4. only one
6. smallest part of an animal or plant
8. able or likely to hurt you
9. to help
10. to reach a goal or do well at something
13. a short distance away
15. to do something often to get better at it
17. to join together
18. medical attention given to sick or injured people
19. as good as it can possibly be

Down
2. to make a machine work, e.g., a robot
3. If you _____ to do something, you plan or hope to achieve it.
5. A _____ of something is a part of it.
6. to press something hard until it breaks
7. A _____ store is one that is in your area or town.
11. action taken to protect against attack
12. a belief about the way people should behave
14. central or most important part of something
16. The _____ of an organization are the people who work for it.

B. Notes Completion. Scan the information on pages 142-143 to complete the notes.

Site: Yellowstone National Park

Location: Wyoming/Montana/Idaho, ____________

Information:
- Yellowstone became America’s first national park in ____________.
- More than ____________ people visit Yellowstone every year.
- The park has over 300 ____________, which throw out hot water and gas. The most famous one is called ____________.
- Yellowstone is home to wolves, bears, and even ____________.
- The last wild gray wolf in Yellowstone died in ____________. New wolves were brought from Canada, and there are now about ____________ of them.
- There is a lot of heat coming from Yellowstone because it sits on top of one of the biggest ____________ on earth. The last great eruption was about ____________ years ago
In the early 1800s, explorers in North America came back from the west with stories about a strange land with boiling mud, steaming lakes, and trees made of stone. The stories seemed incredible—but they were true. The explorers had discovered Yellowstone. In 1872, it became America's—and the world's—first National Park.

Today, more than two million people visit Yellowstone National Park every year. One of the most popular sights is its famous geyser called Old Faithful, which erupts every 90 minutes, day and night. The park has more than 300 other geysers—more than 60% of all the geysers in the world. There are also pools of hot mud, and hot blue lakes with steam above them.

Because Yellowstone is full of warm places in the winter, it is the home of many kinds of animals and plants. Visitors to the park have the opportunity to see wolves, bears, and, if they are lucky, a mountain lion. Just be careful where you walk: every year, some visitors are burned by hot mud or water.
Ready to Blow?
Where does all Yellowstone’s heat come from? The national park sits on top of one of the largest—and most dangerous—volcanoes on Earth.

Yellowstone’s largest eruption 640,000 years ago was a thousand times stronger than the 1980 eruption of Mt. St. Helens. Winds carried ash across much of the western United States, and the Earth’s climate became darker and cooler. Scientists believe that Yellowstone’s “super-volcano” will erupt again, but it could be 100,000 years in the future.

Beneath Yellowstone is an area of super-heated rock called a magma chamber (A). Pressure deep within the earth causes the magma to rise (B). When the volcano erupts, it can cause ash and other material to rise 40 kilometers (25 miles) into the air (C). The result, says scientist Bob Christiansen, is like “opening the Coke bottle after you’ve shaken it.”
A. **Word Partnership.** Read the passage below and underline any phrases containing the word *set*. Then use the phrases to complete the sentences (1–6).

1. If you **set** something, you keep or save it for a purpose.
2. If you **set** on a journey, you start it.
3. If you **set** something, like an organization, you create it.
4. If you **set** for something, you are the best at it.
5. If you **set** rules for something, you decide what can and can’t be done.
6. If you **set** something, you see it, usually for the first time.

On September 3, 2007, wildlife conservationist Mike Fay set out on a year-long hike through California’s redwood forests. Fay decided to do the 1,000-kilometer (620-mile) walk for a clear purpose: he hoped to find a way to balance timber production with redwood conservation.

Redwoods are the oldest, tallest trees on the planet, and the Redwood National Forest contains half of them. One tree called Hyperion even set the record for the tallest known living thing at 115 meters (375 feet). The first European to set eyes on the forests was Fray Juan Crespi in 1769. Just 80 years later, people started cutting down trees as the need for timber rose. Over the next hundred years, most of the 800,000 hectares (two million acres) of old redwood forest were cut down.

In 1904, President Theodore Roosevelt agreed to set aside redwood land in California as a public park. However, people still cut down the trees. The Save-the-Redwoods league was set up in response. They offered to buy over land for conservation, with the help of National Geographic Society and Sierra Club. In 1968, the U.S. government finally set down laws to create what is now the Redwood National Park. They plan to enlarge the park further to protect more trees.

*Timber* is wood used for building houses, tables, chairs, etc.

B. **Word Partnership.** Read the passage again and note the five verb + to combinations in red. Use the combinations to complete the sentences below. Some sentences can use more than one combination.

1. When Robert Ballard returned to *Titanic*, he **set** find the wreck in good condition, but he was disappointed.
2. NASA **set** use robot snakes as an alternative to vehicles with wheels.
3. A group called OLPC has **set** give free laptops to children in poor countries.
4. Sacagawea **set** help Lewis and Clark by joining their expedition.
5. Christopher Duffy **set** climb Mt. Bukhansan even though it was crowded.
6. While on Mt. Bukhansan, Duffy met some people who **set** share their food with him.
Target Vocabulary

ability .................. 10B
accept .................. 9B
account ................ 9A
activity ................. 5B
adult .................... 3A
adventure .............. 3A
agree ..................... 4A
aid ....................... 12A
aim ...................... 10A
almost ................... 8A
alternative .............. 2A
among ................... 6A
amount .................. 9A
analysis ................ 11A
apply .................... 10A
area ..................... 1A
arrive ................... 5B
article .................. 10B
assess ................... 8B
attention ................ 5A
author ................... 9A
available ................. 5A
behavior ................ 6B
believe .................. 4A
board ..................... 10A
bored .................... 6B
break ..................... 2B
build ..................... 1A
care ...................... 3A
catch ..................... 8A
cause .................... 2B
cell ....................... 12B
center ................... 1B
certain .................. 1B
chance ................... 4B
characteristic .......... 11B
choose ................... 7A
clear ..................... 6A
common .................. 4B
community ................ 8A

compare ................ 7A
condition ................ 4A
connect .................. 10B
consist ................... 10A
contain ................... 7B
contract .................. 5A
core ...................... 10B
couple .................... 5B
cover ..................... 2A
create ................... 10B
crush ..................... 11B
dangerous ............... 12A
deal ....................... 9A
death ..................... 4A
decide .................... 1A
defense ................... 11B
demand ................... 9A
depend (on) ............. 7B
describe ................... 9A
design .................... 1A
detail ..................... 11A
develop ................... 2A
different ................ 6A
difficult .................. 3A
digital .................... 10B
director ................... 3B
disappointed ............ 8B
discuss ................... 6B
document ................ 10B
drive ..................... 12B
edit ...................... 10B
else ...................... 6B
emotion ................ 7B
enjoy ..................... 5B
ensure .................... 4B
enter ..................... 8A
environment ............. 8A
error ..................... 7A
event ..................... 7B
exist ..................... 12A
<table>
<thead>
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<th>Target Vocabulary</th>
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<td>expensive ..........</td>
<td>9B</td>
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<tr>
<td>experience ..........</td>
<td>2B</td>
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<tr>
<td>explain ............</td>
<td>3B</td>
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<td>fee ..................</td>
<td>3A</td>
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<td>film ..................</td>
<td>3B</td>
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<td>final ...............</td>
<td>1B</td>
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<td>financial ..........</td>
<td>9B</td>
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<td>firm .................</td>
<td>12B</td>
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<td>generally ..........</td>
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<tr>
<td>grab ...............</td>
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Loch Ness Mystery

Narrator:

Loch Ness, a lake in Scotland, is an area of great natural beauty. But it is perhaps best known as the home of a monster, called Nessie . . .

Nessie has a long history going back more than a thousand years, when people first reported a strange movement in the lake. But it wasn’t until a number of sightings in the 1930s that Nessie really became famous. Newspapers in London published stories about the monster. But there was a problem—they didn’t have any pictures.

In 1934, this image—from a London doctor named R. Kenneth Wilson—was published in several newspapers and books. It made many people certain that Nessie was real—and the Loch Ness story continued to grow.

Then, nearly 60 years later, a man named Christian Spurling finally told the true story. He said the photo was the work of his stepfather, “Duke” Wetherall.

A newspaper in London had sent Wetherall to Loch Ness to take a photo of the monster.

When Wetherall didn’t see anything, he lost his job. So Wetherall decided to design and build his own monster. He made a monster’s head and placed it on a simple toy submarine. He put it in the water, and took a photo. Then he got Dr. Wilson to say that he had taken the picture.

Although the photo wasn’t real, that hasn’t stopped thousands of people from coming to Loch Ness, hoping to see for themselves if there really is a monster in the lake.
A Taste of Mexico

Narrator:
Visitors to the historic city of Oaxaca can experience amazing colors and sounds, and wonderful smells. It’s a place that’s famous for its beauty and traditions. Although it’s one of the poorest states in Mexico, Oaxaca is rich in culture. And what makes Oaxaca really special is its food.

Susana Trilling:
“It’s one of the best foods. It’s very complex.”

Narrator:
Susana Trilling loved the chilies in Oaxacan food. So she moved to Oaxaca to start her own cooking school. Susana’s students heard about Oaxacan food in their own countries and joined her to learn how to produce and serve real Oaxacan dishes.

Oaxacan food developed a long time before people came from Europe to America. For Trilling, it’s this long tradition that helps keep the food alive. She says that Oaxacan food—with its many different ingredients—can be as complex as Thai food or French food.

An important step in cooking Oaxacan food is making a sauce called mole. Made from chili peppers, chocolate, and other ingredients, mole is standard in various Oaxacan dishes.

But Oaxacan culture is more than just food. The state is also famous for its dances. This dance is centuries old. It’s called the Guelaguetza. It tells about the culture, history, and music of the Oaxacan people.

Many of the buildings in the city are Mexican national treasures. This building, with its archways, gardens, and fountains, is 500 years old. In the past, it was a government building. Today, it’s a top-price hotel.

Oaxacan people say that a healthy person is someone who is happy, at peace, and who loves to work and eat. After experiencing just a short stay in Oaxaca, you can see that the tradition is still very much alive.
History of Film

Narrator:
For more than a hundred years, film has entertained people around the world. Movies let us see new things, experience history, and dream about living like the actors on a movie screen.

In the 19th century, inventors learned that they could create moving images by showing a series of pictures very quickly. In 1891, in the United States, Thomas Edison and William Dickson designed and created a machine called a kinetoscope. People could pay a fee to look into the machine and watch simple movies. Before long, a machine called a projector could show movies to large groups of people.

People loved this new technology. Everyday life was much more exciting when it was shown in a movie. The first movies were of simple things like trains, but these were soon followed by movies with longer and more complex stories. By the 1920s, several movie studios had opened in Hollywood, California. Crowds of people went to see their productions, and new “movie palaces” were built to show them in. Actors like Mary Pickford and Charlie Chaplin became famous around the world.

But outside of Hollywood, film was being used in other ways, allowing us to experience the world in a different way. At the beginning of the 20th century, movie directors began to record real happenings and important events. They filmed presidents, explorers, and any kind of human experience, including the Wright Brothers’ early flights.

In the hands of filmmakers, cameras can also show us the traditions of people living in other parts of the planet, and take us far away from our homes. Since those early days, documentary filmmakers have learned to use film in ways that explain how the world really is.

Technology can help us see things much faster than they really happen. It can also let us see things much more slowly, like the movement of a hawk. In the future, film technology may show us new ways to understand the world.

Over the years, ideas from Hollywood have helped documentary filmmakers develop their art. Actors, lighting, and even computer animation are now used to teach us about the real world. Now we can experience other places and other times in history in ways people before us could only dream of.

In only a hundred years, film making has changed completely. Those early simple pictures have now become our window to the world.
Lightning

**Narrator:**
Lightning is a common natural event—one that scientists are still learning about.

You’re most likely to see lightning in summer, when it breaks the peace and quiet of a hot day.

Around the world, lightning happens 50 to 100 times a second. Lightning happens most often in Central Africa, the Himalayas, and South America.

We can often see lightning flashing between storm clouds and the earth.

Lightning is electricity. Scientists don’t fully agree about why the lightning escapes from the cloud. But they generally agree that lightning occurs because of electricity moving up and down inside the cloud. Some particles move to the top of the cloud and get a positive charge. Other particles move down and get a negative charge. The positive and negative charges get stronger, and this creates electricity—lightning—between the two parts of the cloud.

Lightning mainly stays inside the cloud, but sometimes it reaches the earth. The energy of the lightning is very strong, but it is finished after less than a second. Lightning looks like one flash coming down, but it’s really a series of return flashes reaching back into the cloud.

Inside the lightning, the temperature is more than 28,000 degrees Celsius. This high temperature changes the pressure inside the lightning, and that makes the sound of thunder.

In the United States, you’re most likely to see lightning in Florida. The hot, wet weather conditions there create thunder clouds, and these clouds produce lightning.

Lightning is nature at its most dangerous. Every year, it causes about 100 deaths in the United States—more than hurricanes or tornadoes. If you’re in a lightning storm, you should go inside a building, or get in a car, and wait for the storm to end. As a rule, it’s best to stay away from high places and tall trees.

Lightning is a natural and common event, but one that can be deadly.
Dubai World Cup

Narrator:
Several of the world’s best racehorses are arriving on the track to practice, and it’s still only five o’clock in the morning.

Nick Robb:
“I started at four o’clock this morning, and we usually finish about nine o’clock. The reason we do it at that time of the morning is basically because it’s cooler for the horses. It’s quieter.”

Narrator:
The air usually gets very hot in the Arabian Gulf, with temperatures reaching 40 degrees Celsius.

Nick Robb:
“They get used to it, like I do, getting up in the middle of the night.”

Narrator:
Nick Robb runs the Oasis Stables, owned by the royal family of Dubai, the Maktoums. Nick says the easiest way to describe training a race horse is that it’s almost the same as training to run a race, or getting ready for an Olympic Games. Horses are athletes. But these are special athletes, and they get a lot of attention. For example, a horse named “Conflict” goes out to a small track to run—and then he enjoys a wash. Special ice boots are available to keep his legs in good condition.

In the afternoon, the crowd starts to fill the modern stadium in Dubai. Today there will be seven different races—including the Dubai World Cup. Its prize of six million dollars is the biggest in the world. The Dubai World Cup isn’t very old, but horse racing traditions go back for hundreds of years in Arabia.

Les Benton:
“Well, there is a culture of love of horses, as seen through the Arabian horse, and the Arab people in general have a love of horses and they have a love of competition and they like to see the horses race.”

Narrator:
A few hundred years ago, Arabian horses were introduced in Europe to create a new kind of racehorse. These horses are called thoroughbreds and they are some of the fastest racehorses in the world. Today, the royal family of Dubai has many of the world’s top thoroughbreds. Simon Crisford runs the Godolphin stables for the royal family’s racehorses. He says they have the best stables, the best trainers, and, he hopes, the best team in the world. A couple of his horses have a good chance at being race leaders today.

Simon Crisford:
“With the Dubai World Cup being the richest horse race in the whole world, and we’ve got a great chance of winning it, so we’re very excited.”

Narrator:
Many people at the stadium are from Dubai while others are foreign. Some wear traditional clothes—and others more modern—including some unusual hats. After one race, the winners are introduced to Sheik Mohammed Maktoum from the royal family. And finally, at the end of the night, a horse named “Street Cry” wins the big prize—the Dubai World Cup.
Native Americans

Narrator:
They were the first people in North America. We
don’t know when they arrived, or the reason for
their movement. But many scientists believe that
30,000 years ago, people from Asia walked or sailed
along land that used to join Russia and
North America.

We don’t have full knowledge of their history, but
these people were the first Native Americans, or
American Indians.

The Native Americans moved across the land and
changed their way of living in places with different
conditions. They became hundreds of different
groups, with different languages and ways of
living. In some places, the Indians lived by hunting
buffalo. Near the Pacific Ocean, they caught fish
instead, and sailed in boats. They used the tall trees
to build villages, boats, and traditional art called
totem poles.

When the first white people arrived in the 1500s,
there was a healthy population of about one million
Native Americans living north of Mexico. But
things were different once the foreigners arrived.
They brought European diseases which caused
many deaths among the Indians.

The settlers wanted to take the Indians’ land. Some
groups accepted the white people, and others tried
to fight. But in the end, they lost their land. In the
late 1800s, the United States government told the
Indians to leave their homes and live on sites called
reservations.

Over the next hundred years, Native Americans
continued to fight for a better life.

Today, there are more than 550 recognized tribes
or nations in the United States. Some have held
meetings with the government to discuss returning
their land.

Native Americans are working towards better living
conditions on the reservations. They also want
to keep their languages, religions, and cultural
identities. This ceremony is called a “potlatch.”

In the past, the ceremony was stopped by the
Canadian government. Now the Kwakiutl nation is
performing it again.

The Navajo nation also mixes old and modern
ways. This painting represents the cloud people.
The artist is making it to keep a group of people
safe while they travel on a plane.

Many Native American artists are bringing back
traditional art forms—and helping their culture to
grow stronger in the future.
Parasomnia

Narrator:
For most people, sleeping is easy and straightforward. For others, it can be a real nightmare!

Some people dream of being attacked and may even fight with their partners while they sleep. Other people get up and walk around in their sleep—without knowing what they are doing. These sleep conditions—called parasomnia—can be dangerous.

Scientists are hoping to find out why they occur. Parasomnia happens during the period before REM sleep. REM sleep is the stage of sleep when we dream. The time before this is when people may sleep-walk, sleep-talk, or even sleep-eat. Yet they have no knowledge of their activities.

Parasomnia happens during a time in the sleep cycle called NREM or non-REM: Non-Rapid Eye Movement. NREM contains four stages. During stage one, your brain is producing small waves, and you are in a light sleep. In stage two, your body relaxes and your heartbeat and breathing gets slower. The brain waves are larger and become further apart. The deepest sleep is during stages three and four. For most of us, our brains shut off sounds and movement from the outside world.

But for sleepwalkers, the lower part of the brain “wakes up,” while the upper part—the thinking brain, or the mind—is asleep. This is why sleepwalkers are able to move around at night, and yet they don’t remember it the next day. With further research, scientists hope one day to fully explain this mysterious event.
Penguins in Trouble

Narrator:
In Antarctica, every day is a fight for survival. This community of emperor penguins has been fishing for two weeks. This is necessary as the parents have to bring back a lot of food to raise their hungry babies. But—they are in danger.

A leopard seal waits nearby. It’s hungry, too. Some penguins jump safely onto land before it can catch them. The leopard seal waits... and assesses the situation.

More penguins arrive. But they have sensed the dangerous leopard seal, so they turn around fast.

Now more and more penguins take their chance and jump onto the ice. The penguins are getting away—until the leopard seal decides to join them. The penguins try to get away.

Out of their usual environment in the water, the seal and penguins have a similar problem. They cannot move very fast.

The leopard seal catches a penguin and it seems obvious that it has won. But the penguins have a special escape plan. They don’t fight—if they are caught, they simply relax their bodies. The seal accidently drops this lucky penguin, and it quickly gets away. It returns safely to its friends.

But the leopard seal doesn’t give up so easily and keeps trying. It catches another penguin. This time, it’s successful, and the leopard seal enters the sea with its prize.
Lost Treasure of Afghanistan

Narrator:
Afghanistan—a country rich in history, and in beautiful ancient art.

But in the last 30 years, a series of wars has led to many of Afghanistan’s treasures being lost or broken up. One important treasure which was almost lost is the valuable Bactrian Hoard.

In 1978, a Russian archeologist named Victor Sarianidi went to Afghanistan to dig for ancient pots. Instead, he found the tombs of a royal family, filled with large amounts of gold of the highest quality.

Viktor Sarianidi:
“When we found the second and then the third tomb, I started asking myself how come it was me, a little boy from Tashkent, who discovered the gold of the world? Could I be that lucky?”

Narrator:
Victor recorded over 20,000 gold items which were 2,000 years old. Newspaper reports described it as one of the greatest discoveries ever made.

But war was coming to Afghanistan. The archeologists quickly took the gold treasures out of the ground, and moved them to the National Museum in Kabul. Soon after, fighting began in Kabul, and the National Museum was bombed. The Bactrian Hoard disappeared. No one knew where it went to.

Over the years, people started talking. Some said the army demanded the gold for financial reasons. Others said that Victor Sarianidi took it—a story that made him sad and angry.

In 2003, the war was over, and Afghanistan began to return to normal. The new leader of Afghanistan, Hamid Karzai, heard about a secret room in the presidential palace with many boxes. Did the room contain the Bactrian gold?

National Geographic archeologist Fred Hiebert had the opportunity to visit Kabul to look inside the secret room. His teacher, Victor Sarianidi, accepted Fred’s offer to go with him. But when they went to the palace, they received some bad news.

Fred Hiebert:
“And we said, ‘Well, what are we waiting for?’ They said, ‘There’s no keys to the boxes.’ We said, ‘There are no keys to the boxes?’ They said, ‘Yes, the keys are with the key-holders, and the key-holders are gone.’ The key-holders—they’re called talwiders—are the keepers of the treasures of Afghanistan. And in this particular case, the key-holders were gone, and without the key-holders nobody in the country had the right to open the boxes.”

Narrator:
These key-holders were supposed to be the only people who could open the boxes. But, since they were gone, President Karzai gave instructions to open the boxes.

The archeologists were worried about the treasure.

Fred Hiebert:
“My heart was just trembling. I was worried about the gold. I was worried about the artifacts. I was worried about everything.”

Narrator:
Finally, one of boxes was opened—and the first thing they saw was a gold hairpin. It was indeed part of the Bactrian gold—lost for so many years, it was now back again.

Viktor Sarianidi:
“It’s like seeing an old friend again after 25 years. You didn’t even know if he is still alive. And now you realize he is right here waiting for you.”

Narrator:
Today, thanks to Viktor Sarianidi and Fred Hiebert, and the people who protected the boxes, the world has the opportunity to enjoy these beautiful treasures of art and history.
Maasai Teacher

Narrator:
This is Joseph Lekuton. He’s a teacher in Northern Virginia. He gives lectures to his students about the history of their country—but his country is very different.

Lekuton is a Maasai tribesman. He was born in a small village in northern Kenya. Like all Maasai boys, he took care of his family’s cattle. Even now, as an adult, he still goes back to Kenya every summer, to work with the cattle.

He says that his early life was very different from American children. By the time he was seven, he was out of the house and had to learn skills like how to survive in the wild. By the time he was ten, his job was to take care of the cattle all day.

But Lekuton was also different from other Maasai children. He went to school and he practiced his English. Later, he went to college in the United States and got a job as a teacher.

Now he has written about his life in two countries in a book called “Facing the Lion.” The book’s title refers to an event in his childhood, when he came face to face with a lion.

Joseph Lekuton:
“The symbol of bravery in my community is the lion. Having faced that lion when I was 14 sort of changed everything for me. So... I think we all face challenges in life and we all have our own lions.”

Narrator:
Lekuton shares stories from his Maasai childhood to help kids learn about a culture that’s very different from their own, and also principles that they can apply in their own lives.

This project is Lekuton’s first book. His aim is to connect traditional Maasai life and modern American life, and to show children the importance of strength and hope even if their lives are difficult.

Joseph Lekuton:
“The information I would like them to get from my book is hope. It’s determination. It’s courage. It’s facing your lions. And all I’m trying to tell them is, I conquered, I tried to conquer some of my lions. So can you.”
Dinosaurs

**Narrator:**
These scientists are digging for fossils. Fossilized bones tell the story of dinosaurs—animals that once lived on earth, beginning about 225 million years ago. Dinosaurs lived on the planet for 150 million years—much longer than humans have been around. Imagine if the sequence of time from the moment dinosaurs appeared until now could be shown in a single day. At midnight, dinosaurs first walk the earth. They’re at their prime at noon . . . and die out around five in the afternoon. The first modern humans only appear a minute and a half before midnight.

Dinosaurs had many different shapes and sizes. The smallest dinosaur was less than one meter long. The largest were giants called sauropods. This sauropod called *jobaria* was longer than a city bus and weighed more than 22 thousand kilograms, about 50 thousand pounds. It had to eat a lot of plants every day. The plants passed through a throat six meters long—the animal’s neck was as tall as a house! Each step jobaria took was heavy enough to crush a car.

Although many dinosaurs were huge, they share some characteristics with modern animals. For example, most dinosaurs laid eggs. This dinosaur died while she was sitting on her eggs. Her partner probably brought food to her, like birds do. The mother also moved the eggs into a circle, much like a bird.

Some dinosaurs ate plants. As they had no way to defend themselves against meat-eating dinosaurs, they lived together in groups.

But 65 million years ago, something happened which caused the dinosaurs to go extinct.

No one knows exactly why, but all the dinosaurs suddenly disappeared. Most scientists think a giant rock from space may have hit the earth. This sent a lot of dust into the air and reduced the amount of sunlight. The planet became cold and dark, causing the dinosaurs to die off.

Dinosaurs may not be around anymore, but scientists believe they may live on . . . in birds. The bones of some dinosaurs, like these, are very similar to the bones of modern birds.

They are probably related to small, two-legged, meat-eating dinosaurs.

Ongoing research and fossil analysis is trying to determine the connection between birds and dinosaurs. Maybe dinosaurs aren’t really extinct. Maybe birds are really living, breathing, and flying dinosaurs.
Mars Rovers

Narrator:
Labeled the "Red Planet" for its fiery color, Mars has so far been too far away—and dangerous—for humans to explore. The alternative has been to build robots to aid scientists in their research. In 2004, two robot explorers, or rovers, called Spirit and Opportunity, were sent to Mars. Their mission was to find signs of water.

Spirit landed first, after a seven-month trip. It was to explore an area scientists believed was once a lake. Opportunity landed three weeks later in another place with different rocks. These rovers can drive over rough ground and operate cameras and scientific instruments. They set out to work.

Mars is important to scientists because it is close to Earth and similar in many ways. Mars has seasons with different kinds of weather. It also has a network of what looks like dried rivers and lakes. This has raised the question—was there once life on Mars?

Most scientists hold a firm belief that all life needs water. To look for water, the robots carried equipment to measure the chemicals in rocks. As well as being equipped with solar power cells, the rovers also carried special cameras for scientists to record images of the planet's rocks.

After only two months, scientists had found what they were looking for. Opportunity found chemicals and patterns in the rocks that showed the area was full of water a long time ago. Scientists don't know when this happened or how much water there was, but the surprising discovery changed their ideas about Mars. Now they believe that the weather on Mars was once warmer, maybe warm enough to once have forms of life.

In the following months, Spirit moved on to an area that may once have been a volcano, whereas Opportunity went on to study rocks that may have formed underwater.

Today, scientists still aren't sure if life ever existed on Mars. They need more information to decide. The discoveries of the two Mars rovers answered some old questions—but they also brought up many new ones.
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