myPerspectives
ELD Companion Workbook
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“Fact or Fiction?”

**SUMMARY**

This passage explores some mysterious places, creatures, and events. First it describes three unexplained mysteries in Egypt. It tells about the design of the Great Pyramids, the age of the Great Sphinx, and the curse on Tutankhamen’s tomb. Then the article asks why people abandoned the mountain-top city of Machu Picchu. It questions why people built the circle of huge rocks known as Stonehenge. And it asks why there are hundreds of large statues on Easter Island. The article also describes reports of strange creatures. These include giant octopuses and squid, the famous Loch Ness monster, and the ape-like Bigfoot and yeti.

**Visual Summary**

<table>
<thead>
<tr>
<th>Where?</th>
<th>What?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>The Pyramids of Giza</td>
</tr>
<tr>
<td></td>
<td>The Great Sphinx</td>
</tr>
<tr>
<td></td>
<td>The Curse of King Tutankhamen</td>
</tr>
<tr>
<td>Peru</td>
<td>The Abandoned City of Machu Picchu</td>
</tr>
<tr>
<td>England</td>
<td>Stonehenge</td>
</tr>
<tr>
<td>Easter Island</td>
<td>Giant Statues called Moai</td>
</tr>
<tr>
<td>The Ocean</td>
<td>Giant Sea Creatures</td>
</tr>
<tr>
<td>Scotland</td>
<td>The Loch Ness Monster</td>
</tr>
<tr>
<td>United States</td>
<td>Bigfoot or Sasquatch</td>
</tr>
<tr>
<td>Tibet</td>
<td>Yeti</td>
</tr>
</tbody>
</table>
Fact or Fiction?

Path to the Stars?

About 4,500 years ago, the pharaoh Cheops and his son and grandson built the three Pyramids of Giza in Egypt. These pyramids were tombs, or places to bury the dead. For thousands of years, people didn’t understand why these three pyramids were grouped together.

Then Belgian engineer Robert Bauval noticed that the shape of the three pyramids was the same as part of a group of stars in the sky called Orion’s Belt. The whole group of stars—Orion—was sacred to the Egyptians. When Cheops died, he was buried in the Great Pyramid of Giza. The Egyptians made a shaft—or hole—in this pyramid. The shaft led from Cheops’s tomb to the sky and the three stars of Orion’s Belt. Scientists believe that the Egyptians built this shaft so that Cheops could fly from the pyramid to Orion. There, he would become a god.

pharaoh, ancient Egyptian ruler
engineer, person who plans how to build machines, roads, and so on
The Secret of the Great Sphinx

A huge statue with the head of a man and the body of a lion stands in Giza, Egypt. Known as the Great Sphinx, it seems to defend the pyramids behind it. Like the pyramids, the Sphinx is made from limestone, which is very common in Egypt. The exact age of the Sphinx remains one of the world’s great mysteries. For thousands of years, wind and sand have eroded this enormous sculpture. Some archaeologists believe that water also damaged the Sphinx many centuries ago. Was the Sphinx once buried at the bottom of the sea? No one knows for sure.

Mysterious Cities

Some ancient cities were abandoned and no one knows why. One of these cities is Machu Picchu, located about 2,440 meters (8,000 ft.) high in the Andes Mountains of Peru. The Inca built Machu Picchu from about 1460 to 1470 c.e. They lived in parts of South America, including what is now Peru. They used stone blocks to make most of the buildings. The blocks fit together perfectly.

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statue, shape of a person or animal made of stone, metal, or wood
limestone, a type of rock that contains calcium, often used to make buildings
eroded, slowly destroyed
centuries, periods of 100 years
abandoned, left completely behind and not used anymore
In the early 1500s, everyone left the city. No one knows why. Perhaps people died or left because of smallpox, a deadly disease that was brought to the Americas by European explorers and colonists. Machu Picchu was forgotten for hundreds of years. Then, in 1911, the American explorer Hiram Bingham rediscovered it. Today, tourists from all over the world visit this unique city.

**Stonehenge**

Stonehenge is a mysterious monument of huge stones in England. Ancient peoples built Stonehenge about 5,000 years ago. No one really knows who these people were or why they built this strange circle of rocks.

Some people believe that Stonehenge was a temple to the sun. Other people believe that Stonehenge was a great stone calendar or calculator. They think that the stones were arranged to measure the sun’s movements. For example, the stones may have been used to measure the summer and winter solstices—the longest and shortest days of the year. Perhaps Stonehenge was created to mark the rise of the sun and moon throughout the centuries. How will we ever know for sure?

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**Text Structure**

Circle the first highlighted word on this page and underline its definition. Then use the highlighted word in a new sentence.

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**Reading Strategy: Preview**

Draw a box around the heading on this page. Then add some words to the heading to turn it into a question.

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**Comprehension Check**

Underline the sentence that tells when Stonehenge was built. Why do you think researchers don’t know exactly who built this monument?

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**Words in Context**

- colonists, people who settle in a new country or area
- monument, something that is built to help people to remember an important person or event
- temple, holy building
- calculator, instrument used to figure out mathematical problems
Island of Giants

Easter Island is a tiny island in the Pacific Ocean, 3,620 kilometers (2,250 mi.) off the coast of Chile. It was named by Dutch explorers who arrived there on Easter Sunday, 1722. The island is covered with nearly 900 large statues, called “moai.” Scientists believe the statues are the gods of the ancient people of Easter Island—the Rapa Nui people. But no one knows for sure. Another mystery is how the Rapa Nui people moved the heavy stones as far as 23 kilometers (14 mi.).

Archaeologists have found wooden tablets with the ancient language of the Rapa Nui people on them. No one knows how to read this language today. So the history of the Rapa Nui people is still a puzzle. Only the great stone statues remain to watch over the island.

Easter Sunday, a special Sunday in March or April when Christians remember Christ’s death and his return to life.
Curse of the Pharaoh

Tutankhamen was a pharaoh in ancient Egypt from 1333 to 1324 B.C.E. When he died, Tutankhamen was buried in a tomb with gold and other treasures.

In 1922, a group led by British archaeologists Howard Carter and Lord Carnarvon opened the tomb of Tutankhamen. They found many treasures, including a beautiful gold mask. Some people believed that a message carved in the tomb wall said, “Death will slay with his wings whoever disturbs the peace of the pharaoh.” Lord Carnarvon died soon after opening the tomb. According to one story, Carnarvon’s dog died at the same time at his home in England. Then, five months after Carnarvon died, his younger brother died suddenly.

According to one report, six of the twenty-six people at the opening of Tutankhamen’s tomb died within ten years. However, many other people who were there when the tomb was opened lived to be very old. Was there really a curse? What do you think?

- message, information that is communicated in words or signals
- slay, kill
- curse, wish that something bad would happen to someone
Terrifying Tentacles

Scientists say that we know more about Mars than we do about the mysteries at the bottom of the ocean. For instance, little is known about giant octopuses and squid. These sea creatures are usually only about 60 to 90 centimeters (2–3 ft.) long. However, there have been reports of giant octopuses and squid with tentacles long enough to pull a ship underwater. In 1753, a man in Norway described a huge sea monster “full of arms.” The man said that the monster looked big enough to crush a large ship. More recently, giant squid have been discovered with tentacles 10 meters (33 ft.) long. Imagine eating calamari rings the size of truck tires!

Scary Monsters

Most people believe that dinosaurs disappeared millions of years ago. However, a few dinosaurs may have survived. The famous Loch Ness monster may be a living dinosaur-like reptile called a plesiosaur.

tentacles, long, thin arm-like parts
calamari rings, sliced squid, often served fried or in a salad
reptile, type of animal, such as a snake or lizard, whose blood changes temperature according to the temperature around it
People first reported seeing the Loch Ness monster in April 1933 when a new road was built on the north shore of Loch Ness, a lake in Scotland. A man and woman saw a huge creature with two black humps swimming across the lake. Then two more people saw a strange animal crossing the road with a sheep in its mouth. There is now a Loch Ness Investigation Bureau, but most scientists believe that the Loch Ness monster is a creature of fantasy.

**Bigfoot and the Yeti**

In various parts of the world, people have told stories about seeing large ape-like creatures. Different cultures give the creature different names. In the United States, for example, this creature is called Bigfoot or Sasquatch. In Tibet, it is called the yeti.

**humps**, raised parts on the back of an animal

**various**, different
The first reports of Bigfoot date back to 1811. At that time, a man reported seeing footprints 36 centimeters (14 in.) long. In 1924, another man claimed that Bigfoot had kidnapped him. Each year many people in the United States claim to see Bigfoot. They often report seeing the creature in the forests of the Northwest.

Reports of a huge creature frightened the first European travelers in Tibet. (In Tibet, the word yeti means “man-like creature.”) In 1951, a Mount Everest explorer found giant footprints in the snow.

Do creatures like the yeti and Bigfoot really exist, or are they figments of the imagination? Bernard Heuvelmans (1916–2001), a famous zoologist, believed that the world is full of creatures still unknown to science. What do you think?

**Reading Strategy: Preview**
Remember that you should preview a text before you begin to read. Underline the first sentence on this page. What do you think this section will be about?

**Text Structure**
Social studies articles often define or explain key terms within the text. Circle the definition of yeti. Use this definition to describe what the yeti’s footprints probably looked like.

**Comprehension Check**
Underline the sentence that tells who Bernard Heuvelmans was. What do you think he would say about the existence of Bigfoot?

**Choose one and complete:**
1. Draw a picture showing what one of the mystery creatures described in the text might look like.
2. Use reliable sources at the library or on the Internet to find out about another great mystery. Write a one-page report on what you find.
3. Work with a group of classmates to write and perform a short play about researchers working to solve one of the mysteries discussed in the reading.

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*figments of the imagination*, things imagined to be real that do not exist

*zoologist*, scientist who studies animals
READING WRAP-UP

Retell It!
Choose four mysteries from the reading. Write a riddle about each one. Here’s an example: I am a mysterious monument of stones in England. What am I? (Stonehenge)

Reader’s Response
What mystery did you find the most interesting? Why?

Think About the Skill
How did previewing help you to better understand the article?
Island of Giants

Archaeologists have found wooden tablets with the ancient language of the Rapa Nui people on them. No one knows how to read this language today. So the history of the Rapa Nui people is still a puzzle. Only the great stone statues remain to watch over the island.
Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

**Island of Giants**

Today, Easter Island is bare except for the giant statues that stare out over the island. Archaeologists know little about the history of the Rapa Nui people. They have found wooden tablets written in the ancient language of the Rapa Nui. Many people still speak this language today.

2. Find and fix the error.

**Island of Giants**

The history of the Rapa Nui people is well known to scientists. Archaeologists have found pieces of wood with the ancient language of the Rapa Nui people written on them, but no one understands this language. Now, Easter Island is quiet. Only the huge stone statues stand guard on the island.
Word Search Puzzle

To complete this word search puzzle, you’ll need to remember or search for details in the reading. Write the word from the text next to each clue. Then circle the answers in the puzzle below.

1. Ancient tombs built in Egypt ——— pyramids ———
2. Huge statue with the head of a man and the body of a lion ————
3. City in Peru that was abandoned in the early 1500s ————
4. Stone monument in England ————
5. Small island with giant carved statues ————
6. Pharaoh whose tomb may have been cursed ————
7. Real creature with tentacles 10 meters long ————
8. Possible dinosaur-like reptile in Scotland ————
9. Apelike creature from Tibet ————
10. Another name for Bigfoot in the United States ————
1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

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**Terrifying Tentacles**

Scientists say that we know more about Mars than we do about the mysteries at the bottom of the ocean. For instance, little is known about giant octopuses and squid. These sea creatures are usually only about 60 to 90 centimeters (2–3 ft.) long. However, there have been reports of giant octopuses and squid with tentacles long enough to pull a ship underwater. In 1753, a man in Norway described a huge sea monster “full of arms.” The man said that the monster looked big enough to crush a large ship. More recently, giant squid have been discovered with tentacles 10 meters (33 ft.) long. Imagine eating calamari rings the size of truck tires!
Can all mysteries be solved?

From *G Is for Googol*

**SUMMARY** Use with textbook pages 40–43.

These two sections from *G Is for Googol* describe an unusual number sequence that is found in nature, art, architecture, music, and poetry. “F Is for Fibonacci” tells about the Italian mathematician named Fibonacci who discovered the mysterious number sequence in the 1200s. The first 12 numbers in the series are 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, and 144. When you add one number to the next, you get the following number in the sequence. “N Is for Nature” explains how to find the Fibonacci sequence in pinecones and other natural objects, including sunflower seeds, pineapples, and artichokes.

**Visual Summary**

**Who was Fibonacci?**
- An Italian mathematician in the 1200s
- Wrote a book about numbers
- Wanted Europeans to use Arabic numbers
- Discovered this mysterious number sequence: 1, 1, 2, 3, on to infinity
- Add one number to the next and you get the next number in the sequence

**Where are Fibonacci numbers found?**
- Throughout nature
- Count the number of petals in flowers
- Count the number of spirals in pinecones
- Count the number of spirals formed by a sunflower’s seeds
- Count the number of spirals formed by the diamond-shaped markings on a pineapple
Use What You Know

List three ways you use numbers in your daily life.

1. ____________________________
2. ____________________________
3. ____________________________

Text Structure

Science articles often include the dates or time periods in which famous discoveries or advances were made. Underline the time period that appears on this page. What happened then?

Reading Strategy: Use Visuals

Visuals include charts, diagrams, and photographs. They support the text by showing information in a different form. Circle the visual on this page. What does it show?

From G Is for Googol

by David M. Schwartz

Did you know that a googol is a 1 followed by 100 zeroes? G Is for Googol is a math alphabet book that explains many unusual mathematical words and facts. Read two sections from this amazing book. Both are about a mysterious number sequence.

F Is for Fibonacci

In the 1200s, an Italian mathematician named Leonardo of Pisa wrote a book about numbers. He signed his name Fibonacci (pronounced fib-o-NOTCH-ee).

In his book, Fibonacci said that the people of Europe should stop using Roman numerals. He wanted everyone to switch to the numerals used in the Arabic world. Instead of writing LXXVIII, they could write 78. Isn’t 78 easier to write than LXXVIII? Well, Fibonacci thought so, and because of him, we use Arabic numerals today.

Fibonacci’s book also included story problems. One was about rabbits: How many pairs of rabbits will there be each month if you start with one pair of newborn rabbits, and that pair produces a pair of babies every month? The rabbits start producing babies when they are two months old, and their babies also have their first babies when they become two months old.
Here's one way to look at it:

<table>
<thead>
<tr>
<th>After How Long?</th>
<th>How Many Rabbits?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starting point</td>
<td>1 pair</td>
</tr>
<tr>
<td>After 1 month</td>
<td>1 pair</td>
</tr>
<tr>
<td>After 2 months</td>
<td>2 pairs</td>
</tr>
<tr>
<td>After 3 months</td>
<td>3 pairs</td>
</tr>
<tr>
<td>After 4 months</td>
<td>5 pairs</td>
</tr>
<tr>
<td>After 5 months</td>
<td>8 pairs</td>
</tr>
<tr>
<td>After 6 months</td>
<td>13 pairs</td>
</tr>
<tr>
<td>After 7 months</td>
<td>21 pairs</td>
</tr>
<tr>
<td>After 8 months</td>
<td>34 pairs</td>
</tr>
<tr>
<td>After 9 months</td>
<td>55 pairs</td>
</tr>
<tr>
<td>After 10 months</td>
<td>89 pairs</td>
</tr>
<tr>
<td>After 11 months</td>
<td>144 pairs</td>
</tr>
</tbody>
</table>

Let's look at the answers another way:

1 1 2 3 5 8 13 21 34 55 89 144

These are the first 12 numbers in the famous **Fibonacci sequence** of numbers.

See if you can **figure out** what's so special about the Fibonacci sequence. After the first two numbers, how can the others be made? Think about it before you read on.

Whenever you add one number to the next, you get the following number in the sequence. Try it. Add 2 and 3. What do you get? Now add 5 and 8. Got it? Okay, now what number comes after 144 in the Fibonacci sequence?

Fibonacci numbers are interesting, but what's **amazing** about them is how often they appear. You can find Fibonacci numbers in art, architecture, music, poetry, and nature. Read **N Is for Nature**. Get ready to be amazed.

**figure out**, think about a problem or situation until you find the answer or understand what has happened
N Is for Nature

There are numbers in nature. Lots.

Do you remember the Fibonacci sequence of numbers? Here are the first twelve numbers of the Fibonacci sequence:

1 1 2 3 5 8 13 21 34 55 89 144

Fibonacci discovered this number sequence, but he did not invent it. Nature invented it. If each page of this book stated one way that Fibonacci numbers appear in nature, we’d need a book so heavy you couldn’t lift it. Here are just a few.

The number of petals in a flower is usually a Fibonacci number. Some flowers, like daisies, don’t have true petals, but petal-like parts called florets. Florets come in Fibonacci numbers, too.

Pine needles come in groups, or bundles. The bundles almost always have 1, 2, 3, or 5 needles. Do these numbers look familiar?

petals, the brightly colored parts of a flower
But pine needles aren’t nearly as interesting as pinecones. Find a pinecone. The hard little knobby parts are called *bracts*. (Make sure your pinecone is in good condition, with no missing bracts.) Turn the cone so you’re looking at its base. Can you see how the bracts make spirals? There are clockwise spirals, and there are counterclockwise spirals. Follow one spiral as it winds all the way around the cone to the pointy end. Dab a little paint on each bract in that spiral. Now dab a different color on a spiral going in the other direction. You’ll see that one spiral winds gradually, and the other one winds more steeply. How many of each type are there? Count them. Remember, it’s not the number of bracts that you’re counting; it’s the number of spirals.

▲ If you count the clockwise or counterclockwise spirals on the bottom of a pinecone, you will get a Fibonacci number.
Science articles often include numbers or amounts. Circle all the numbers on this page that could describe the number of spirals on a pinecone. What else do these numbers have in common?

Comprehension Check

Underline the passage that tells where the Fibonacci sequence can be found on a sunflower, artichoke, and pineapple. What are the scales of a pineapple?

Reading Strategy: Use Visuals

Visuals can help you compare information. Draw boxes around the images on this page. How are seashells like pinecones?

These seashells have spirals that follow the Fibonacci sequence.

Some pinecones have 3 gradual spirals and 5 steep spirals. Some have 5 gradual and 8 steep. Or 8 and 13. Or 13 and 21. A pinecone’s spirals come in Fibonacci numbers. In fact, Fibonacci numbers are sometimes called “pinecone numbers.”

Fibonacci numbers could also be called “sunflower numbers,” “artichoke numbers,” or “pineapple numbers” because you will find the numbers in spirals formed by a sunflower’s seeds, an artichoke’s leaves, and a pineapple’s scales (the diamond-shaped markings on the outside).

Fibonacci strikes again!
No one really understands why Fibonacci numbers show up so much in nature. It’s a mystery!

Here’s another way that Fibonacci numbers are found in nature: They make a spiral that maintains a constant proportion all the way to infinity. To find that spiral, take a rectangle that has “Fibonacci” proportions, say 3” × 5”, then repeat that same proportioned rectangle, smaller and smaller . . .

**Comprehension Check**

Underline the sentence that describes another way the Fibonacci numbers are found in nature. Describe how to find the spiral that keeps a constant proportion all the way to infinity.

---

**Text Structure**

Draw a box around the first highlighted word on this page. Look at the definition. Then use the word in a new sentence.

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**Reading Strategy: Use Visuals**

Circle the diagram on this page. How does it help explain ideas in the text?

---

**Choose one and complete:**

1. Make a poster to show Fibonacci numbers. Explain how the sequence works.
2. Use reliable sources at the library or on the Internet to learn more about Fibonacci’s findings. Write a one-page report on his work and life.
3. Make a drawing that shows how Fibonacci numbers appear in nature.
READING WRAP-UP

Retell It!
Write a short entry about Fibonacci for an encyclopedia. Explain who he was and what is important about the number sequence he discovered.

Reader's Response
Did the article make you think differently about the role of numbers in nature? If so, how did it change your thinking? If not, why?

Think About the Skill
How did using the visuals help you to better understand the article? Give some specific examples.
F Is for Fibonacci

In his book, Fibonacci said that the people of Europe should stop using Roman numerals. He wanted everyone to switch to the numerals used in the Arabic world. Instead of writing LXXVIII, they could write 78. Isn’t 78 easier to write than LXXVIII? Well, Fibonacci thought so, and because of him, we use Arabic numerals today.

The paragraphs below and on the next page contain the same information as the paragraph you just read. However, each contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct. The first paragraph has been done for you.

Example. Find and fix the error.

F Is for Fibonacci

In his book, Fibonacci said that the people of Europe should stop using Roman numerals. He wanted everyone to switch to the numerals used in the Arabic world. Instead of writing LXXVIII, they could write 78. It seemed much easier to write 78 than LXXVIII. Because of Fibonacci, we use Arabic numerals today.
Fix the Error

1. Find and fix the error.

**F Is for Fibonacci**

In his book, Fibonacci argued that Europeans should stop using Roman numerals. He wanted everyone to switch to using Arabic numerals. Instead of writing LXXVIII, for example, people could write 78. Isn’t 78 easier to write than LXXVIII? Well, Fibonacci thought so and others agreed. Partly because of him, Roman numerals are widely used today.

2. Find and fix the error.

**F Is for Fibonacci**

Fibonacci argued in his book that Europeans should stop using Roman numerals. Instead, he wanted everyone to switch to the numerals used in the Arabic world. Fibonacci wanted people to write LXXVIII instead of 78. Thanks to him, we use Arabic numerals today.
FOCUS on DETAILS

Crossword Puzzle
To complete this crossword puzzle, you’ll need to remember or search for details in the reading. Use the words in the word box to help you. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below. The first answer has been done for you.

Across
 2. The petal-like parts of some flowers
 4. The hard, knobby parts of pinecones
 6. Rotating in the direction that a clock’s hands move
 7. A space or distance without limits or an end
 9. A collection of numbers in a particular order
10. Numbers like LXVI, instead of 66

Down
 1. A 13th-century Italian mathematician
 3. A shape that goes around and around as it goes up or down
 5. A four-sided shape with right angles
 8. A group of pine needles
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

N Is for Nature

Pine needles come in groups, or bundles. The bundles almost always have 1, 2, 3, or 5 needles. Do these numbers look familiar?

But pine needles aren’t nearly as interesting as pinecones. Find a pinecone. The hard little knobby parts are called bracts. (Make sure your pinecone is in good condition, with no missing bracts.) Turn the cone so you’re looking at its base. Can you see how the bracts make spirals? There are clockwise spirals, and there are counterclockwise spirals. Follow one spiral as it winds all the way around the cone to the pointy end. Dab a little paint on each bract in that spiral. Now dab a different color on a spiral going in the other direction. You’ll see that one spiral winds gradually, and the other one winds more steeply. How many of each type are there? Count them. Remember, it’s not the number of bracts that you’re counting; it’s the number of spirals.
How does growing up change us?

“Ancient Kids”

SUMMARY

This passage tells what it was like to be a child in ancient Greek, Roman, and Maya cultures. It describes what happened when babies were born. It tells how boys and girls were raised differently. It also tells about education. In Greece, only boys went to school. In Rome, rich boys and girls went to school, but the boys stayed in school longer. In Maya culture, school was free. Both boys and girls went to school. In all these cultures, children played with toys and had pets. Some toys, games, and pets were the same from one culture to the next. Others were quite different.

Visual Summary

Ancient Kids

Ancient Greece 2000 BCE–146 BCE
- Girls: no school, stayed home, did chores.
- Boys: started school at age 7. Learned Homer’s poetry, arts, and war. Attended military school at age 18.

Ancient Rome 753 BCE–476 CE
- Rich girls: some schooling, could own land, have jobs, run businesses.
- Rich boys: attended school at age 7. Then formal schools or tutors. Training for law or government.
- Poor boys and girls: no schooling.

Ancient Maya 1000 BCE–1550 CE
- Girls: some schooling, learned weaving, farming, caring for home.
- Boys: some schooling, learned hunting, fishing. Joined army at age 17.
Ancient Kids

Growing Up in Ancient Greece

Ancient Greece

2000 B.C.E. 146 B.C.E. 0 2000 C.E.

When a baby was born in ancient Greece, the father performed a ritual. He did a dance, holding the newborn baby. For boy babies, the family decorated the house with wreaths of olives. For girl babies, the family decorated the house with wreaths made of wool.

There were many differences in the lives of boys and girls as they grew up. One main difference was that girls did not go to school and boys did. Some girls learned to play musical instruments.

Mostly, girls helped their mothers with chores in the house or in the fields. They didn’t leave their houses very often. Sometimes they went to festivals or funerals. They also visited neighbors.

Girls stayed home with their parents until they got married. Girls’ fathers usually decided whom the girls would marry.

Boys stayed home until they were six or seven years old. They helped grow crops in the fields, and they learned to sail boats and to fish.

decorated, made something look more attractive by adding things to it
wreaths, circles made from flowers, plants, or leaves
instruments, objects used for making music
chores, small jobs
crops, wheat, corn, fruit, and so on, that a farmer grows
When boys were about seven years old, they started their formal education. They went to school and learned reading, writing, and mathematics. They had to memorize everything because there were no school books! They memorized the poetry of Homer, a famous poet. They also learned to play a musical instrument, such as the lyre.

At school, boys learned about the arts and war. They also learned how to be good citizens. At the age of eighteen, boys went to military school for two years.

Children played with many toys, such as rattles, clay animals, pull-toys on four wheels, yo-yos, and terra-cotta dolls. Children also had pets, such as birds, dogs, goats, tortoises, and mice.

**Growing Up in Ancient Rome**

**ANCIENT ROME**

| 753 B.C.E. | 0 | 476 C.E. | 2000 C.E. |

**ANCIENT GREECE**

| 2000 B.C.E. | 146 B.C.E. | 0 | 2000 C.E. |

| formal education, education in a subject or skill that you get in school rather than by practical experience
| lyre, an ancient instrument, similar to a guitar
| military school, school where students learn to fight in wars
| terra-cotta, baked red clay
| tortoises, land animals that move very slowly, with a hard shell covering their bodies

When a Roman baby was born, a relative put the baby at the feet of the father. The father picked up the baby to accept it into the family. The baby was named nine days after birth.

---

**Reading Strategy: Compare and Contrast**

Circle how old ancient Greek boys were when they started school. List three differences between what students did in school then and what students do in school now.

1. 
2. 
3. 

**Comprehension Check**

Underline what boys did when they turned 18. Why do you think that this was necessary?

---

**Text Structure**

Circle the two bars on the timeline. Which lasted longer—the ancient Greek or the ancient Roman culture? How do you know?
The oldest man in a family—the father, the grandfather, or an uncle—was the “head of the family.” However, women were also important to family life. They managed the house and household finances. In the early years of ancient Rome, women did not have many rights. In later years, they had more rights. They were allowed to own land and to have some types of jobs. They could manage some businesses, but they were still not allowed to hold jobs in the government or to become lawyers or teachers.

Girls and boys wore a special locket, called a bulla, around their necks. The bulla protected them from evil. A girl wore the bulla until her wedding day. A boy wore the bulla until he became a citizen. A boy became a citizen at age sixteen or seventeen. The family had a big celebration on this day.

Some Greeks lived in southern Italy and Sicily. The ancient Greeks had a cultural influence on the Romans. Greek teachers introduced the Romans to the Greek gods and goddesses and to Greek literature and philosophy.

School was not free. Most children in ancient Rome were not from rich families. They were poor. In poor families, parents taught their children at home. Many poor children did not learn to read or write.
Rich families sent their children to school at age seven to learn basic subjects. Girls did not continue in school after they learned the basic subjects. They stayed at home, where their mothers taught them how to be good wives and mothers.

Boys from rich families continued their education in formal schools or with tutors. They became lawyers or worked in government.

What did children do after school? They played with friends, pets, or toys. Toys included balls, hobbyhorses, kites, models of people and animals, hoops, stilts, marbles, and knucklebones. War games were popular with boys. Girls played with dolls. They also played board games, tic-tac-toe, and ball games.

What kind of pets did children play with in ancient Rome? Dogs were the favorite pets. Roman children also kept birds—pigeons, ducks, quail, and geese—as pets. Some children even had pet monkeys.

tutors, teachers of one student or a small group of students
models, small copies
stilts, a pair of poles you can stand on, used for walking high above the ground
quail, small fat birds that are hunted and shot for food and sport
The Maya lived throughout parts of southern Mexico and Central America, including Belize and Guatemala. They built large cities and created extraordinary art and architecture. You can visit the ruins of some ancient Maya cities, such as Chichén Itzá in Mexico’s Yucatan region.

In Maya culture, the father was the head of the family. Maya men worked hard to support their families, and they paid taxes to the government. Women in Maya society cooked, made cloth, sewed clothing, and took care of the children.

When a boy was about five years old, the Maya tied a small white bead to the top of his head. When a girl was about five, the Maya tied a red shell around her waist. When boys and girls were twelve or thirteen years old, the village had a big ceremony that marked the end of childhood. During the ceremony, a priest cut the beads from the boys’ heads. Mothers removed the red shells from the girls’ waists. After the ceremony, boys and girls could get married. Young men painted themselves black until they were married.
Maya boys and girls, unlike Roman children, did not have to pay to go to school. They learned from their parents, too. Girls learned how to weave and cook. Boys learned to hunt and fish. Children also learned how to grow crops, such as corn. At age seventeen, boys joined the army to learn about war and fighting.

Children played games and they played with toys. Some of their toys had wheels. Surprisingly, the Maya did not use wheels in their work or transportation. However, toys, such as animal pull-toys, had wheels.

Animals were important in everyday life and religion. The Maya used animals in their art. They decorated various items with pictures of foxes, owls, jaguars, hummingbirds, eagles, and other animals. The Maya sometimes ate dogs, but they mainly used dogs for hunting. The Maya thought that dogs could guide people on the journey to the afterlife. This is why they buried dogs with their owners.

Choose one and complete:

1. Write a short play about the daily life of a boy or girl in one of the ancient cultures in this article. You can use resources such as the Internet or encyclopedias to find more details for your play.
2. Look at the timelines in this article. Then create a single timeline that shows when the ancient Greek, Roman, and Maya cultures all lived.
3. Create a poster about the cultures of the ancient Greeks, Romans, or Maya. Include details about the lives of these ancient people.
READING WRAP-UP

Retell It!
Write a letter from a child in one of the ancient cultures in this article to a friend living in a different culture. Explain what your daily life is like and how it is different from your friend’s life.

Reader's Response
Which of the three cultures was the most interesting to you? Why do you find that culture the most interesting?

Think About the Skill
How did comparing and contrasting help you to better understand this article?
Growing Up in Ancient Rome

The oldest man in a family—the father, the grandfather, or an uncle—was the “head of the family.” However, women were also important to family life. They managed the house and household finances. In the early years of ancient Rome, women did not have many rights. In later years, they had more rights. They were allowed to own land and to have some types of jobs. They could manage some businesses, but they were still not allowed to hold jobs in the government or to become lawyers or teachers.
Fix the Error
Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

**Growing Up in Ancient Rome**

A family's oldest man was the “head of the family.” It could be a father, grandfather, or uncle. Women were also important to family life. They managed the house and the household money. In the early years of ancient Rome, women had many rights. They could own land and work at jobs. They could even manage their own businesses, but they could not hold jobs in the government, law, or teaching.

2. Find and fix the error.

**Growing Up in Ancient Rome**

The “head of the family” was the oldest man in the family—father, grandfather, or uncle. Women were also valuable family members. They managed the house and its finances. In early Rome, women had few rights, but later that changed. They were allowed to own their own land and could work outside the home. They could manage some businesses and become teachers, but they could not work in the government or become lawyers.
Word Search Puzzle

To complete this word search puzzle, you’ll need to remember or search for details in the reading. Write the word from the text next to each clue. Then circle the answers in the puzzle below.

1. ✔ When boys were born, ancient Greeks put up wreaths made of these __olives__
2. □ The name of a famous Greek poet __________
3. □ Something that Greek students had to do to learn in school __________
4. □ Culture that influenced Rome __________
5. □ What a Roman boy became at 16 or 17 __________
6. □ A Roman locket worn by boys and girls __________
7. □ A job for rich Romans __________
8. □ Animal pull-toys in ancient Maya had these __________
9. □ Maya girls learned to do this __________
10. □ A country where the Maya culture existed __________
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

---

Growing Up in Ancient Rome

What did children do after school? They played with friends, pets, or toys. Toys included balls, hobbyhorses, kites, models of people and animals, hoops, stilts, marbles, and knucklebones. War games were popular with boys. Girls played with dolls. They also played board games, tic-tac-toe, and ball games.

What kind of pets did children play with in ancient Rome? Dogs were the favorite pets. Roman children also kept birds—pigeons, ducks, quail, and geese—as pets. Some children even had pet monkeys.
How does growing up change us?

“Amazing Growth Facts”

**SUMMARY**

“Amazing Growth Facts” tells interesting facts about how living things grow. People and different kinds of plants and animals grow at different rates. Some things, such as bamboo, kelp, kangaroos, and crocodiles, grow very quickly. Others, such as clams, grow very slowly.

**Visual Summary**

<table>
<thead>
<tr>
<th><strong>AMAZING GROWTH FACTS</strong></th>
<th><strong>Facts About Plants</strong></th>
<th><strong>Facts About Animals</strong></th>
<th><strong>Facts About People</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facts About Plants</strong></td>
<td>A tiny acorn grows into an enormous oak tree.</td>
<td>Adult kangaroos weigh 30,000 times more than baby kangaroos.</td>
<td>The average human baby is 50 cm long and weighs 3.4 kilos.</td>
</tr>
<tr>
<td><strong>Facts About Animals</strong></td>
<td>Bamboo can grow to the height of a three-year-old child in one day.</td>
<td>Eggs of golden eagles and Nile crocodiles are the same size, but adult crocodiles are much larger than adult eagles.</td>
<td>On average, adults grow to be 3.4 times longer and 21 times heavier than they were as babies.</td>
</tr>
<tr>
<td><strong>Facts About People</strong></td>
<td>Pacific kelp grows to 60 m, compared to people who grow to about 1.75 m.</td>
<td>Deep-sea clams take 100 years to grow as large as a fingernail.</td>
<td>Each person eats enough food in his or her lifetime to equal the weight of 6 elephants.</td>
</tr>
</tbody>
</table>
Amazing Growth Facts

It is one of the wonders of nature that all living things increase in size. Think about how a tiny acorn can grow into an enormous oak tree. Growth occurs at different rates. Sometimes growth is very fast. Other times it is very slow.

The average newborn baby is 50 centimeters long and weighs 3.4 kilograms. When the baby grows up and becomes an adult, he or she increases on average to 3.4 times that length and 21 times that weight. Girls and boys are about the same height and weight until early adulthood. Then boys usually grow taller and weigh more than girls.

Bamboo can grow 90 centimeters in one day—the height of an average three-year-old child. Pacific giant kelp (a kind of seaweed) can grow as much as 45 centimeters in one day.

increase, become bigger
An ant can lift more than 100 times its weight. One hundred times the weight of a 64-kilogram person would be the same weight as three cars!

A baby kangaroo is the size and weight of a paper clip (1 gram). An adult kangaroo is 30,000 times heavier (30 kilograms). If a human grew at this rate, a 3.4-kilogram baby would weigh 102,000 kilograms as an adult—that’s as much as a large whale! An average man weighs about 80 kilograms.

The egg of a golden eagle and the egg of a Nile crocodile are both 8 centimeters long. But look how much bigger the crocodile grows!

**Comprehension Check**

Underline how much weight an ant can lift. How do you think our lives would be different if humans could lift that much?

**Text Structure**

Science articles often present information with comparisons and contrasts to help readers understand similarities and differences. Circle the sentence that compares 1 gram to an object. List three other objects that weigh about 1 gram.

1. ______________________
2. ______________________
3. ______________________

**Reading Strategy: Use Visuals**

Visuals can present information in a different way. Look at the diagram. Draw boxes around the sizes of the golden eagle and Nile crocodile eggs. How do eagle chicks and baby crocodiles compare in size?
Science articles often present information in the form of numbers or amounts. Circle the length of a baby crocodile and the height of a human baby. How do baby crocodiles and human babies compare in size? How tall would a person become if he or she grew at the same rate as a Nile crocodile?

A 26-centimeter baby crocodile can grow into a 5-meter adult crocodile. If humans grew at the same rate as Nile crocodiles, a 50-centimeter baby would grow into a 9.5-meter adult—more than 5 times as tall as the average person!

Clams are among the longest living and slowest growing of all creatures. A deep-sea clam takes 100 years to grow 8 millimeters. That’s as big as your fingernail!

<table>
<thead>
<tr>
<th>Metric</th>
<th>U.S. Customary Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 millimeter</td>
<td>0.039 inch</td>
</tr>
<tr>
<td>1 centimeter</td>
<td>0.39 inch</td>
</tr>
<tr>
<td>1 meter</td>
<td>3.28 feet</td>
</tr>
<tr>
<td>1 gram</td>
<td>0.035 ounce</td>
</tr>
<tr>
<td>1 kilogram</td>
<td>2.2 pounds</td>
</tr>
</tbody>
</table>
In the average human life of 70 years, a heart pumps enough blood around the body to fill the fuel tanks of 700 jumbo jets. The food that we eat in our lifetime is equal in weight to the weight of six elephants! A horse’s intestines are about 27 meters long. A human’s intestines are about 7.5 meters long. Luckily, the intestines are curled up inside the body. Otherwise, people and horses would look very strange!

**Choose one and complete:**
1. Do research to learn more facts about growth. Make a list of the most amazing growth facts you find.
2. Use the information in this article to create your own children’s book of amazing growth facts.
3. Create a skit demonstrating some of the facts in this article. You can use props such as string to show height or length.

**Unit 2 • Reading 3**
READING WRAP-UP

Retell It!
Imagine you are writing a description of a TV nature show based on this article. What would you write to get viewers to tune in to the Amazing Growth Facts TV show?

Reader’s Response
Which fact in this article did you find the most strange and surprising? What is it about this fact that made you feel this way?

Think About the Skill
How did using visuals help you better understand the article?
Amazing Growth Facts

The average newborn baby is 50 centimeters long and weighs 3.4 kilograms. When the baby grows up and becomes an adult, he or she increases on average to 3.4 times that length and 21 times that weight. Girls and boys are about the same height and weight until early adulthood. Then boys usually grow taller and weigh more than girls.
Fix the Error
Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

Amazing Growth Facts
The average newborn baby weighs 3.4 kilograms and is about 50 centimeters long. As the baby grows, he or she increases to 3.4 times that length. When the baby becomes an adult, his or her weight has decreased to about 21 times a baby's weight at birth. As children, girls and boys are about the same in size. That changes when they reach early adulthood. Then boys usually grow taller and weigh more than girls.

2. Find and fix the error.

Amazing Growth Facts
The average newborn baby is 50 centimeters long. Average newborns also weigh about 3.4 kilograms. When the baby becomes older, he or she grows to about 3.4 times that length. As an adult, he or she also weighs 21 times as much as a newborn. Girls and boys are about the same height, but they weigh different amounts until early adulthood. At that time, boys usually grow taller and weigh more than girls.
FOCUS ON DETAILS

Crossword Puzzle
To complete this crossword puzzle, you’ll need to remember or search for details in the reading. Use the words in the word box. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below.

Across
2. This sea creature takes 100 years to grow
4. An enormous oak tree grows from this
6. The amount of food a human eats in a lifetime equals six of these
8. This animal is the size of a paper clip when it’s born
10. To get bigger

Down
1. A measure of weight equal to 2.2 pounds
3. Long tubes that curl up inside of bodies
5. A kind of fast-growing seaweed
7. An insect that can lift 100 times its weight
9. Fast airplanes

ACORN
CROCODILE
KANGAROO
ANT
ELEPHANTS
KELP
INCREASE
INTESTINES
KILOGRAM
CLAM
JETS
NILE
**READ FOR FLUENCY**

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

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4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

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---

**Amazing Growth Facts**

Clams are among the longest living and slowest growing of all creatures. A deep-sea clam takes 100 years to grow 8 millimeters. That’s as big as your fingernail!

In the average human life of 70 years, a heart pumps enough blood around the body to fill the fuel tanks of 700 jumbo jets. The food that we eat in our lifetime is equal in weight to the weight of six elephants! A horse’s intestines are about 27 meters long. A human’s intestines are about 7.5 meters long. Luckily, the intestines are curled up inside the body. Otherwise, people and horses would look very strange!
How does helping others help us all?

“Extraordinary People: Serving Others”

**SUMMARY**

This passage tells about heroes who have helped change the world. Benito Juárez became the first native Indian president of Mexico. He made Mexico a fairer, more modern country. During the Crimean War, Florence Nightingale went to Turkey with nurses from her hospital. She helped many sick and wounded soldiers. Mohandas Gandhi’s ideas about nonviolent protest have influenced many. Helen Keller was blind and deaf but she learned to communicate. American president Franklin Delano Roosevelt had the disease polio. However, he helped his country during the Great Depression and World War II. Doctors Without Borders is a volunteer organization. It won the Nobel Peace Prize for helping victims of war, disease, and natural disasters.

**Visual Summary**

<table>
<thead>
<tr>
<th>Name</th>
<th>Contribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benito Juárez</td>
<td>Improved education in Mexico so that every child could go to school. Made Mexico more fair and modern.</td>
</tr>
<tr>
<td>Florence Nightingale</td>
<td>Helped wounded soldiers and started a school for nurses.</td>
</tr>
<tr>
<td>Mohandas Gandhi</td>
<td>Helped achieve independence in India. Demonstrated how nonviolent protest could be used to bring about change.</td>
</tr>
<tr>
<td>Franklin Delano Roosevelt</td>
<td>Created jobs for people during the Great Depression. Helped the United States and the Allies win World War II.</td>
</tr>
<tr>
<td>Helen Keller</td>
<td>Learned to communicate even though she was blind and deaf. Inspired people not to give up when things are difficult.</td>
</tr>
<tr>
<td>Doctors Without Borders</td>
<td>Provides medical help to victims of war, disease, and natural disasters.</td>
</tr>
</tbody>
</table>
Use What You Know
List three people you know who help others.
1. ________________________________
2. ________________________________
3. ________________________________

Text Structure
The title of an article tells you what to expect when you read. Circle the title on this page. What do you think the article will be about?

Reading Strategy: Identify Problems and Solutions
Identifying problems and solutions can help you understand what you read. Underline the sentence that describes how Benito Juárez improved Mexico. What problems did Benito Juárez help solve?

Extraordinary People: Serving Others
In different places and at different times, people have achieved extraordinary things. In the short biographies that follow, you will read about people from different times in history who helped others in many ways. You will also read about a group of people who continue to do extraordinary things in troubled parts of the world today.

Benito Juárez
Benito Juárez (1806–1872) is a national hero in Mexico. He was the son of poor Zapotec Indian farmers in the state of Oaxaca, Mexico. At age thirteen he couldn’t read, write, or speak Spanish. He trained to become a priest, but later he decided to become a lawyer. As a young man, he became interested in social justice, especially the rights of native peoples. He was very popular among the native Indian population. In 1847, he was elected governor of Oaxaca.

In 1861, Juárez became the first Zapotec Indian president of Mexico. He improved education. For the first time, it was possible for every child to go to school. He stopped the French from colonizing Mexico. His many reforms made Mexico a fairer, more modern society.

social justice, fairness for all people
colonizing, controlling a country and sending your own people to live there
reforms, changes that improve a system
Florence Nightingale

Florence Nightingale (1820–1910) came from a wealthy English family. Against her parents’ wishes, she became a nurse.

In 1853, she became superintendent of a hospital for women in London. In 1854, Britain, France, and Turkey fought against Russia in the Crimean War. Nightingale volunteered to go to Turkey to help. She took thirty-eight nurses with her. They helped many wounded soldiers recover. Nightingale often visited the soldiers at night, carrying a lamp. Soldiers called her “the lady with the lamp.”

When Nightingale returned to England, she started a school for nurses. The school still exists today.

Mohandas Gandhi

Mohandas Gandhi (1869–1948) was born in the coastal city of Porbandar, in the western part of India. At that time, India was a British colony. Gandhi went to England in 1888 and studied law. He returned to India and worked as a lawyer in Bombay (Mumbai).

wealthy, very rich
In 1893, Gandhi traveled to South Africa. The government of South Africa had a system of racial separation, called apartheid. A group of white South Africans attacked Gandhi and beat him. After this experience, he encouraged people to practice passive resistance against the South African authorities and apartheid.

After he returned to India in 1915, Gandhi became a leader in India’s struggle for independence. He became the international symbol of nonviolent protest. He believed in religious tolerance. In 1947, Britain finally ended its 190-year rule in India. Then, in 1948, Gandhi was assassinated by someone who didn't agree with his beliefs.

Gandhi inspired nonviolent movements elsewhere. In the United States, Dr. Martin Luther King Jr. used passive resistance when he became leader of the civil rights movement in the 1950s and 1960s.
Franklin Delano Roosevelt

Franklin Delano Roosevelt (1882–1945) was elected as the thirty-second president of the United States in 1932. During the 1930s, the country was experiencing deep economic troubles. This period in American history is called the Great Depression. Banks shut down, workers lost their jobs, and farms failed. Roosevelt declared that Americans had “nothing to fear but fear itself.” He put into place a series of new government programs that brought hope to the American people. Many people returned to work.

Roosevelt soon faced another challenge. The Second World War in Europe and the Pacific began in 1939. Great Britain, France, Russia, and other countries (the Allies) fought against Germany and Japan. In 1941, the Japanese bombed Pearl Harbor in Hawaii. Roosevelt declared war on Japan, and the United States entered the war. The United States and the Allies fought many brave battles and eventually won the war in 1945.

Roosevelt faced personal challenges as well. He came down with polio at the age of thirty-nine, and lost the use of his legs. However, Roosevelt did not allow his physical condition to prevent him from contributing to society. Roosevelt is now considered by many historians to be one of the greatest U.S. presidents.

economic, relating to business, industry, and managing money
polio, an infectious disease of the nerves in the spine that can cause paralysis

Reading Strategy: Identify Problems and Solutions
The Great Depression was a huge problem for the United States. Underline the sentence that tells what happened during the Great Depression. What was President Roosevelt’s solution to this problem?

Comprehension Check
Circle Roosevelt’s words that are quoted on this page. What do you think Roosevelt meant by these words?

Text Structure
The last sentence of a section often sums up the main idea of that section. Underline the last sentence on this page. In your own words, why is Roosevelt considered one of the greatest U.S. presidents?
Helen Keller

Helen Keller (1880–1968) was nineteen months old when she became sick with a fever. The sickness left her without sight or hearing. Because she was so young when this happened, it was hard for her to learn to communicate. Because she could not see, she was unable to use sign language—the language of hearing-impaired people. She also couldn’t “read lips,” as many hearing-impaired people do. Although these challenges made young Helen very frustrated, she was also extremely intelligent.

With the help of a skilled teacher, named Anne Sullivan, she learned that everything had a name and that these names were words. Because of the help of others and her own determination, she was eventually able to learn different ways to communicate. For instance, she learned to “hear” and understand speech by touching a speaker’s lips and throat.

Keller gave lectures (with her teacher’s help) and wrote a number of books. Her public talks and her writings inspired countless people with hearing, sight, and other physical problems. She inspired others to not give up in the face of adversity.

Keller also toured the world. She raised funds for programs to help people with impaired hearing and sight. To this day, Helen Keller remains a figure of inspiration.
Doctors Without Borders

Doctors Without Borders is an international organization whose members believe that every person in every country has the right to medical care. It helps victims of war, disease, and natural disasters. A small group of French doctors started Doctors Without Borders (Médecins Sans Frontières) in 1971. Each year, thousands of volunteer doctors, nurses, and administrators from countries all over the world provide medical aid to people in more than seventy countries. They provide health care, perform surgery, organize nutrition and sanitation programs, train local medical staff, and provide mental health care.

Doctors Without Borders works with the United Nations, governments, and the media to tell the world about their patients’ suffering and concerns. For example, Doctors Without Borders volunteers told the media about the atrocities they saw in Chechnya, Angola, and Kosovo.

Doctors Without Borders won the Nobel Peace Prize in 1999. Accepting the award, one of the organization’s founders, Bernard Kouchner, said, “I’m deeply moved, and I’m thinking of all the people who died without aid, of all those who died waiting for someone to knock on their door.”

Choose one and complete:
1. Use library sources or the Internet to learn more about one of the people in this article. Prepare a one-page report and present it to your class.
2. Brainstorm with a group about ways students like you can help other people. Make a list of the group’s ideas.
3. Write a short song about one of the people described in the article.

borders, official lines that separate two countries
administrators, people who manage businesses or organizations
nutrition, food for good health and growth
sanitation, hygiene; cleanliness
atrocities, extremely violent actions
READING WRAP-UP

Retell It!
Imagine you are a friend of one of the people in this article. Write a paragraph describing your friend’s career.

Reader’s Response
Sometimes people help others even though it puts them in danger. Do you think you would be able to do that? Why or why not?

Think About the Skill
How did identifying problems and solutions help you better understand the article?
Doctors Without Borders

Doctors Without Borders is an international organization whose members believe that every person in every country has the right to medical care. It helps victims of war, disease, and natural disasters. A small group of French doctors started Doctors Without Borders (Médecins Sans Frontières) in 1971. Each year, thousands of volunteer doctors, nurses, and administrators from countries all over the world provide medical aid to people in more than seventy countries. They provide health care, perform surgery, organize nutrition and sanitation programs, train local medical staff, and provide mental health care.
Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

**Doctors Without Borders**

Doctors Without Borders is a worldwide organization. Its members believe that everyone should have medical care. Victims of war, disease, and natural disasters help them. The organization was started in France in 1971. People from more than seventy countries are treated each year by thousands of doctors, nurses, and administrators from countries all over the world. The organization provides medical care, performs surgery, and offers mental health care.

2. Find and fix the error.

**Doctors Without Borders**

Doctors Without Borders operates in only one country. The organization believes that everyone deserves to see a doctor. It helps people who are sick or who are injured due to war or natural disasters. A small group of French doctors started Doctors Without Borders (Médecins Sans Frontières) in 1971. Thousands of doctors, nurses, and administrators treat people in more than seventy nations annually. Services offered by the organization include health care, surgery, mental health care, sanitation and nutrition programs, and training local doctors and nurses.
FOCUS ON DETAILS

Crossword Puzzle

To complete this crossword puzzle, you’ll need to remember or search for details in the reading. Use the words in the word box. Not all of the words in the word box are in the puzzle. Fill in the crossword with answers to the clues below. The first answer has been done for you.

Across
3. The disease Franklin Delano Roosevelt developed
6. Helen Keller’s teacher
9. People who tried to colonize Mexico
10. Great Britain, France, Russia, and the United States were called this when they fought against Germany and Japan

Down
1. A founder of Doctors Without Borders
2. Peace prize won by Doctors Without Borders
4. Country where Florence Nightingale treated wounded soldiers
5. A man influenced by Gandhi to use passive resistance
7. Home country of Mohandas Gandhi
8. The kind of Indian Benito Juárez was
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Helen Keller

Helen Keller (1880–1968) was nineteen months old when she became sick with a fever. The sickness left her without sight or hearing. Because she was so young when this happened, it was hard for her to learn to communicate. Because she could not see, she was unable to use sign language—the language of hearing-impaired people. She also couldn’t “read lips,” as many hearing-impaired people do. Although these challenges made young Helen very frustrated, she was also extremely intelligent. With the help of a skilled teacher, named Anne Sullivan, she learned that everything had a name and that these names were words. Because of the help of others and her own determination, she was eventually able to learn different ways to communicate. For instance, she learned to “hear” and understand speech by touching a speaker’s lips and throat.
How does helping others help us all?

“Friendship and Cooperation in the Animal Kingdom”

**SUMMARY**

This passage tells about two ways in which animals help each other: symbiosis and friendship. Symbiosis is a type of relationship between animals in which the animals depend on each other for survival. For example, crocodiles let small birds called plovers clean their teeth. The crocodiles’ teeth get cleaned and the plovers get an easy meal. It is a symbiotic relationship because the animals benefit from each other. Occasionally, animals simply enjoy being with each other and become friends. This happened with a baby hippo named Owen and an old tortoise named Mzee. Owen lost his mother. At an animal shelter, Owen and Mzee became very good friends and refused to be separated.

**Visual Summary**

- **Symbiosis**
  - Crocodiles and Plovers
    - Crocodiles get their teeth cleaned.
    - Plovers get an easy meal.

- **Friendship**
  - Owen and Mzee
    - Mzee comforts Owen.
    - Owen tickles Mzee’s neck.
**Friendship and Cooperation in the Animal Kingdom**

You know that people help other people, but do animals help other animals? It's a "dog-eat-dog" world out there, isn't it? Not always! It's true that animals often fight. However, at other times they help each other out.

Life in the wild can be very difficult for animals. It is not easy for them to find food and water and stay safe. Animals struggle every day to survive.

That's why animals of the same species, or group, such as lions or blue jays, sometimes cooperate. By helping one another, they help their group survive.

Some animals become partners with other kinds of animals. The two types of animals depend on each other for survival. This is called symbiosis, and animals who depend on each other are said to be in a symbiotic relationship. Sometimes the two animals would die without each other. Other times, they might be able to live, but they would not be as healthy.

"dog-eat-dog," very competitive
One example of symbiosis is the relationship between the plover and the crocodile. The plover is a small wading bird. It helps pick clean the Nile crocodile’s body and even its teeth. The crocodile will open its jaws and let the bird enter its mouth safely. Amazingly, the crocodile will not snap its jaws shut. Instead, it patiently allows the plover to eat the small, harmful animals on the crocodile’s teeth. The crocodile gets its teeth cleaned, and the plover gets an easy meal!

Symbiosis is a working relationship. Many animal species have worked out this arrangement with other animal species. Sometimes, however, animals simply become friends with other animals. There may not be an obvious reason. Perhaps they just like the companionship.

Animals can find friends in the strangest places. For an example, take Owen, a baby hippopotamus. It is hard to believe, but Owen actually became best friends with a 318-kilogram (700-lb.) tortoise named Mzee (mm-ZAY).
Owen, the hippo, lived in the country of Kenya on the east coast of Africa. He was just one year old, and he already weighed 272 kilograms (600 lb.). He lived happily with his mother in a group of about twenty hippos. They grazed on the grass along the Sabaki River near the small village of Malindi.

On December 26, 2004, a disaster struck. There was a huge earthquake under the ocean floor near Indonesia. This caused a gigantic tsunami. The tsunami wiped out towns and villages throughout Asia. Around 230,000 people died. By the time the tsunami reached the east coast of Africa, the waves had lost a great deal of power. However, they still caused flooding and widespread damage. Owen had been swimming in the river with his mother when the tsunami hit. The enormous waves separated Owen from his mother and swept him out to sea.
The next day, the people of Malindi saw the struggling baby hippo, without its mother, stranded on a coral reef. It was Owen. He was tired and frightened. Owen could not reach the shore on his own. It took hours for the villagers to rescue Owen from the coral reef.

But what should they do with a 272-kilogram (600-lb.) baby hippo? The people could not return him to the wild. Owen had not yet learned to take care of himself. Another hippo group would not accept him. Other hippos would think Owen was an intruder and probably attack him.

Luckily for Owen, there was an animal shelter nearby named Haller Park. The workers prepared a perfect home for Owen. It had a pond, a mud hole, tall trees, and lots of grass. This seemed perfect for a hippo, but Owen’s new home was not empty. Some monkeys and a 318-kilogram tortoise named Mzee (mm-ZAY) already lived in Haller Park.

It took hours for the people of Malindi to load Owen into a pickup truck. Owen was very angry, and he was also very frightened. He had lost his mother and his friends. He did not know where he was or where he was going.

coral reef, line of hard material formed by the skeletons of small ocean creatures that live in warm water.
When Owen arrived at Haller Park, he quickly left the pickup truck and ran right to Mzee. The workers looked in amazement when Owen quickly hid behind the giant tortoise. This is exactly the way a baby hippo would hide behind its mother if it felt the need for protection.

Mzee was shocked and surprised. He had originally come from Aldabra Island. This is part of the country of Seychelles in the Indian Ocean. Sailors had probably taken Mzee from his home to be used for food. He must have escaped from the ship, maybe during a shipwreck, and come ashore somewhere on the eastern coast of Africa. That was a long time before, because Mzee was about 130 years old. (Some giant tortoises live to be 200 years old!)

Mzee must have seen a lot in his long life. Like most giant tortoises, he was not very friendly. He preferred to be left alone. So, at first, Mzee tried to crawl away from Owen. However, as you know, tortoises cannot move very quickly. Owen just watched where Mzee went and then followed him around. For some reason, Mzee began to like his new companion.
Over the next few days, the two giant animals became good friends. Then they became great friends. In fact, Owen and Mzee soon refused to be separated. They would spend all their time together, eating, swimming, sleeping, and playing. Mzee would stretch out his neck and Owen would tickle it. At night, the two huge animals would cuddle up next to each other. Mzee and Owen even developed their own way of “talking” with each other.

It is a bit of a mystery why Owen and Mzee became such good friends. After all, Owen is a mammal and Mzee is a reptile. Perhaps Mzee’s coloring and round shape reminded Owen of his mother. Maybe Owen looked like another tortoise to Mzee. For whatever reason, they surprised scientists with the strength of their friendship.

Mzee’s name means “wise man” in Swahili (one of the main languages of Kenya). It turned out that Mzee’s name was well chosen. When Owen the hippo needed a friend, Mzee was there for him. Owen suffered a tremendous loss, but he never gave up. He kept trying and now has a happy life.

tickle, touch a person or animal lightly, often in order to make him or her laugh

Choose one and complete:
1. Use an atlas or the Internet to find some of the places mentioned in the article. Mark the places you find in your research on a map of the world.
2. Draw a picture of Owen and Mzee. At the bottom, list some of the things they like to do together. Give your picture a title.
3. Write a song or poem about Owen and Mzee’s friendship.
READ WRAP-UP

Retell It!
Retell the story of how Owen and Mzee became friends in your own words.

Reader's Response
The people of Malindi worked for hours to rescue Owen from the coral reef where he was stranded. What do their efforts tell us about the people of Malindi?

Think About the Skill
How did identifying the main idea and supporting details of some paragraphs help you to better understand the article?
Friendship and Cooperation in the Animal Kingdom

One example of symbiosis is the relationship between the plover and the crocodile. The plover is a small wading bird. It helps pick clean the Nile crocodile's body and even its teeth. The crocodile will open its jaws and let the bird enter its mouth safely. Amazingly, the crocodile will not snap its jaws shut. Instead, it patiently allows the plover to eat the small, harmful animals on the crocodile's teeth. The crocodile gets its teeth cleaned, and the plover gets an easy meal!
Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so that the information is correct.

1. Find and fix the error.

**Friendship and Cooperation in the Animal Kingdom**

The relationship between the plover and the crocodile is an example of symbiosis. A small wading bird, the plover eats from the Nile crocodile’s teeth and body. The crocodile opens its mouth and lets the bird in safely. Amazingly, the crocodile never closes its mouth on the bird. Instead, the crocodile calmly allows the plover to eat from its teeth. No one knows what benefit there might be to the crocodile, but the plover gets an easy meal.

2. Find and fix the error.

**Friendship and Cooperation in the Animal Kingdom**

The crocodile and the plover have a symbiotic relationship. The plover, which is a small bird, helps pick clean the Nile crocodile’s teeth. The crocodile opens its jaws and lets the bird enter its mouth. Amazingly, the plover does this even though sometimes the crocodile shuts its jaws with a snap and eats the bird. The plover quickly eats whatever it finds on the crocodile’s teeth. The crocodile provides the plover with a meal and gets its teeth cleaned in exchange!
FOCUS on DETAILS

Word Search Puzzle
To complete this word search puzzle, you’ll need to remember or search for details in the reading. Look at the clues and circle the answers in the puzzle below. Check off each clue after you’ve found the answer. Write each word next to its clue.

1. ✓ Enormous wave that wiped out towns and villages ________________
2. □ Village where people rescued Owen ________________
3. □ The bird that cleans crocodiles’ teeth ________________
4. □ Country where Owen lived with his mother ________________
5. □ The kind of reptile Mzee is ________________
6. □ Event that caused the tsunami ________________
7. □ The other animals living at Haller Park ________________
8. □ Language Mzee’s name is from ________________
9. □ Animal shelter where Owen and Mzee live ________________
10. □ Name of the island Mzee was from ________________

P A V M S K X F E S B L F T C
T C A O S T D T Z W K E N Y A
O S H E A E U O G A N J E Y U
Z T U Y L U G R D H X U M F V
L A W N D Z K T P I L K A O B
A I V Y A A W O V L R C L P H
T W Q X B M Q I T I E N I S A
P M H E R D I S T M Z F N Y L
L L A K A G Z E H S E O D W L
B B O I F M D H R Q O G I P E
N B R V I X C E B I T R H R R
P J R N E G M O N K E Y S L P
Y R C L S R H N C U T K Q I A
J E A R T H Q U A K E I S S R
W K Q J V M O Y J D N L X Z K
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

Friendship and Cooperation in the Animal Kingdom

You know that people help other people, but do animals help other animals? It’s a “dog-eat-dog” world out there, isn’t it? Not always! It’s true that animals often fight. However, at other times they help each other out.

Life in the wild can be very difficult for animals. It is not easy for them to find food and water and stay safe. Animals struggle every day to survive.

That’s why animals of the same species, or group, such as lions or blue jays, sometimes cooperate. By helping one another, they help their group survive.
**SUMMARY**

The first article is about the extinction of birds. It tells about the ivory-billed woodpecker. People thought the bird was extinct, but it may still exist. The article also tells about the dodo, the passenger pigeon, and the Carolina parakeet. These birds are now extinct because of human activity. Humans killed too many of them and destroyed their environments. People also brought in animals from other areas. These nonnative animals killed the birds. The second article tells about a recent sound recording made of the ivory-billed woodpecker. After hearing the recording, scientists believe that the birds still exist. The article describes a government plan to protect the birds’ environment.

**Visual Summary**

<table>
<thead>
<tr>
<th>Many birds have become extinct. They include the following species:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Ivory-Billed Woodpecker</strong></td>
</tr>
<tr>
<td>Loggers cut down trees where they lived.</td>
</tr>
<tr>
<td>Scientists rediscovered the ivory-billed woodpecker.</td>
</tr>
<tr>
<td>They made recordings of the bird’s call.</td>
</tr>
<tr>
<td>Today, scientists work to protect these birds.</td>
</tr>
</tbody>
</table>
Use What You Know
List three birds that are found in your area.
1. ______________________
2. ______________________
3. ______________________

Text Structure
Sometimes, a science article starts with an introduction. An introduction sets up a topic and prepares you to read. Draw a box around the introduction on this page. What do you think you will learn about in this article?

Reading Strategy: Recognize Cause and Effect
One way to understand the information presented in a science article is to examine the causes that make things happen and the effects, or results, they create. List two causes that explain why many birds have become extinct.
1. ______________________
2. ______________________

Going, Going, Gone?
When a species, or kind of animal, becomes extinct, it is lost forever. These online science articles both deal with birds that have become extinct. You will find out the effects that certain events and actions had on the dodo, the passenger pigeon, and the Carolina parakeet. You will also find out why some bird lovers now feel hopeful about a bird that was thought to be extinct. As you read, consider what can be done to prevent other living things from becoming extinct in the future.

More than eighty kinds of birds have died out, or become extinct, in the last 300 years. Some vanished because of natural causes. Humans killed off most of them. They hunted the birds too much and destroyed the birds’ habitats. Read on for more details on the search for the ivory-billed woodpecker. (It might not be extinct as once thought.) Then check out the stories behind three extinct birds.
The Ivory-Billed Woodpecker

A team of bird experts is walking through mud and swamps in Louisiana’s Pearl River forest. They hope to find the mysterious ivory-billed woodpecker. Experts believed this bird had been extinct for more than fifty years. A college student’s sighting of unusual-looking birds sparked hopes that it might still be alive.

Loggers cut down trees in the Pearl River forest during the early 1800s. But some trees have grown back. There are now many old cypress, sweet gum, and oak trees that would serve as a good home for ivory-billed woodpeckers. The birds were known to eat the fat grubs that live under the bark of these trees. The researchers have already found trees with areas of bark that have been chipped off, as if by a large woodpecker. Only time will tell if it is an ivory-billed one.

loggers, people whose job it is to cut down trees
grubs, insects when they are in the form of small, soft, white worms
The Dodo

The dodo was the first bird to be wiped out by people during modern times. Dodos were large, flightless birds. They were first seen around 1600 on Mauritius, an island in the Indian Ocean. Less than eighty years later, the dodo was extinct. The dodo’s heavy, clumsy body made it an easy target for sailors, who hunted it for food. As forests were destroyed, so was the dodo’s food supply. And the cats, rats, pigs, and other predators unleashed by sailors preyed on the dodos. Together these factors led to the dodo’s extinction.

preyed on, hunted and ate
The Passenger Pigeon

These pigeons once lived in the eastern United States. They flew across this area in flocks so huge that they darkened the sky. In 1808 a single flock in Kentucky was estimated to contain over 2 billion birds. Today the passenger pigeon is extinct because of human activities. Settlers moving West during the nineteenth century cleared huge numbers of eastern chestnut and oak trees to make room for farms and towns. These trees were the passenger pigeon’s main source of food. The birds were seen as a threat to crops, so people killed the birds. They were also hunted for food. All of these factors wiped out the passenger pigeon. The last one, which lived in the Cincinnati Zoological Garden, died on September 1, 1914.
**The Carolina Parakeet**

This colorful bird was the only parrot native to the eastern United States. It had green feathers with a yellow head and orange cheek patches and forehead. The largest Carolina parakeets were 33 centimeters (13 in.) long, including their tail feathers. They once lived throughout the Southeast, as far north as Virginia and as far west as Texas. Parrots are among the smartest of birds. However, farmers thought these fruit-eaters were pests. So they shot them from the skies. The Carolina parakeet became extinct in the 1920s. As a result, all that's left are stuffed examples of this bird in museums.

"Ivory-Billed Woodpeckers Make Noise"

Bird lovers were chirping back in April of 2005. Why? Scientists from Cornell University announced they’d rediscovered the ivory-billed woodpecker. The rare bird was thought to have been extinct since 1944. It was rediscovered at Cache River National Wildlife Refuge in eastern Arkansas.

In July, a small group of bird experts said that they weren’t sure the ivory-billed woodpecker had really been rediscovered. They said a blurry videotape of the bird wasn’t enough evidence. Researchers then decided to send them more proof. They shared a sound recording of the ivory-billed woodpecker’s one-of-a-kind double-rap.

**Comprehension Check**

Draw a box around the number that tells how big the largest Carolina parakeets were. In your own words, describe what the birds looked like.

**Text Structure**

Circle the title of the second article that begins on this page. How do you think it will relate to the first article you read?

**Reading Strategy:**

Underline the sentence that tells why some bird experts weren’t sure that the ivory-billed woodpecker had been rediscovered. What did researchers do to give more proof?

---

**Pests**

small animals or insects that harm people or destroy things, especially crops or food supplies

**Wildlife Refuge**

protective environment for animals

**One-of-a-kind**

unique, or very special because there is nothing else like it
The unique sounds made believers out of the bird experts. “The thrilling new sound recordings provide clear and convincing evidence that the ivory-billed woodpecker is not extinct,” said Richard Prum, a scientist from Yale University.

The ivorybill is the largest woodpecker in the United States. It has a wingspan of about 91 centimeters (3 ft.). The ivorybill began to disappear because loggers cut down forests across the Southeast between 1880 and the 1940s. Soon after the ivorybill was rediscovered, the U.S. government announced a $10 million plan to protect the rare bird.

Conservationists are trying to help the woodpecker by killing trees. Sound strange? The woodpecker feeds on beetle larvae found under the bark of dead trees. When the trees are killed, more beetles will likely be attracted to the trees. With more food for the woodpeckers, the species will have a better chance at recovering.

Only about thirty-five to fifty trees will be cut on four 4-acre sections of land. There are 2,000 to 2,800 trees on each section. In about two or three years, scientists hope the trees will have lots of beetles for the woodpeckers. Then the double-rap of the ivorybill will be a common sound.

larvae, young insects with soft, tube-shaped bodies, which will eventually become adult insects with wings

Choose one and complete:
1. Create a poster to show one of the birds featured in this article. Mention the reasons why it became rare or extinct.
2. Find out more about one of the extinct bird species. Write a one-page report based on your research.
3. Imagine you are a conservationist working to save the ivory-billed woodpecker. Write a letter to a friend to describe your work and explain why it is important.
READING WRAP-UP

Retell It!
What are conservationists and the government doing to save ivory-billed woodpeckers? Write a paragraph that explains their work.

Reader's Response
Do you think settlers should have cut down trees in the 1800s? Why or why not?

Think About the Skill
How did recognizing cause and effect help you to better understand the article?
The Dodo

The dodo was the first bird to be wiped out by people during modern times. Dodos were large, flightless birds. They were first seen around 1600 on Mauritius, an island in the Indian Ocean. Less than eighty years later, the dodo was extinct. The dodo’s heavy, clumsy body made it an easy target for sailors, who hunted it for food. As forests were destroyed, so was the dodo’s food supply. And the cats, rats, pigs, and other predators unleashed by sailors preyed on the dodos. Together, these factors led to the dodo’s extinction.
Fix the Error
Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

The Dodo
In the ancient era, the first bird wiped out by people was the dodo. Dodos were first seen around 1600. They lived on Mauritius, an island in the Indian Ocean. Less than eighty years later, the dodo was extinct. They were large, flightless birds. Their heavy, clumsy bodies were easy targets for sailors who hunted the birds for food. Cats, rats, pigs, and other predators also ate the dodos. Plus, as forests were destroyed, so was the dodo’s food supply. All these factors led to the dodo’s extinction.

2. Find and fix the error.

The Dodo
The first bird wiped out by people in modern times was the dodo. Dodos were first seen around 1600 on Mauritius, an island in the Indian Ocean. Less than eighty years later, the dodo was gone. The dodo’s sleek, thin body made it a difficult target for sailors, who hunted it for food. The cats, rats, pigs, and other predators the sailors unleashed preyed on dodos, too. People also destroyed forests, which provided food for the birds. Together, these factors led to the dodo’s extinction.
FOCUS on DETAILS

Word Search Puzzle

To complete this word search puzzle, you’ll need to remember or search for details in the reading. Write the word from the text next to each clue. Then circle the answers in the puzzle below.

1. ☐ Lost forever: ________________
2. ☐ Ivorybills are this type of bird: ________________
3. ☐ Large, flightless bird that is now extinct: ________________
4. ☐ Ivorybills eat this kind of larvae: ________________
5. ☐ Carolina parakeets have feathers that are this color: ________________
6. ☐ Researchers made this to prove ivorybills exist: ________________
7. ☐ The one-of-a-kind tap of ivorybills: ________________
8. ☐ A worker who cuts down trees: ________________
9. ☐ A kind of pigeon that no longer exists: ________________
10. ☐ Carolina parakeets once lived this far north: ________________

Q O Z D O U B L E R A P X L N
C F P W S O M Y S D C E C S E
R L L X K U P W K K L N E B E
E X D M G Z A T H U Z I P Q X
C X Q N R G S J C J C B Y V T
O X M B E B S B O E E W Q B I
R E G N E S E A P C D R U U N
D A R L N N N S B E E T L E C
I T I F O O G H S C C R C C T
N B A N D G E P O B S J R U C
G B O O I A R R G U V M E T T
T O D Q F G D E H B B Q Z S H
K L G F P I R E R L O G G E R
X V I R G I N I A C T E T Q T
W Y X G U W O O D P E C K E R
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

“IVORY-BILLED WOODPECKERS MAKE NOISE”

Bird lovers were chirping back in April of 2005. Why? Scientists from Cornell University announced they’d rediscovered the ivory-billed woodpecker. The rare bird was thought to have been extinct since 1944. It was rediscovered at Cache River National Wildlife Refuge in eastern Arkansas.

In July, a small group of bird experts said that they weren’t sure the ivory-billed woodpecker had really been rediscovered. They said a blurry videotape of the bird wasn’t enough evidence. Researchers then decided to send them more proof. They shared a sound recording of the ivory-billed woodpecker’s one-of-a-kind double-rap.
What do we learn through winning and losing?

“The Biggest Winner of All”

**SUMMARY**

In 1996, Lance Armstrong was already an accomplished cyclist. But then he faced the major challenge of his life—cancer. Through determination, he beat the disease. He endured the difficult treatment and survived. He put his racing career back on track. With that same determination, he got back in shape and was able to win in the most famous bicycle race in the world, the Tour de France, for seven years in a row, from 1999 to 2005. In addition to racing, Armstrong devotes his time to helping others. He started a foundation that raises money for cancer research.

**Visual Summary**

Lance Armstrong

- determination
  - sports
    - triathlon
    - Kids Triathlon
  - cycling
    - US Olympic Team
    - Tour de France
  - cancer
    - chemotherapy
    - remission
    - foundation
      - money for research and care
“The Biggest Winner of All”

Anyone who plays sports knows how important it is to win. Being first is a good thing. All your hard work is recognized. You may get a trophy, or at the very least, a ribbon. Think about having all eyes on you as you accept your prize. That’s a great feeling. Your picture may even appear in the newspaper. You’re the envy of all your friends. If you’ve broken a record, people will talk about it for a long time.
For one **athlete**, the biggest win of all had nothing to do with sports. Sure, this athlete has broken many records. He’s won numerous awards and prizes. His name has appeared in newspapers and magazines hundreds or even thousands of times. You’ve probably seen him on television. He even has his own official website.

His toughest opponent wasn’t another athlete, though. It was something that’s even harder to fight. It was a disease—cancer. If you haven’t guessed by now, this **famed** athlete is Lance Armstrong. He survived a battle with cancer.

---

**Reading Strategy: Ask Questions**

The author is describing an athlete in the first paragraph. What question can you ask to find the name of the athlete?

---

**Comprehension Check**

What was Lance Armstrong’s toughest opponent? Circle it in the text. Write the words the author uses to describe this opponent.

---

**Text Structure**

A social studies article often has highlighted vocabulary words. Their definitions are at the bottom of the page. Circle the highlighted vocabulary word at the bottom of the second paragraph. Look at its definition. Rewrite the sentence in which it appears without using the vocabulary word.

---
The Winning Begins

Lance Armstrong was born in Plano, Texas. His mother encouraged him to do his best. When Lance was just a little boy, his mom recognized his talent. He was strong, coordinated, and determined—the elements of a good athlete. By the time he was just thirteen years old, he had won the Kids Triathlon. A triathlon is a sports competition with three events: swimming (the first event), cycling (the second event), and running (the third event). The distance required for each event is based on the age of the athlete. The cycling part of the competition requires great endurance.

- **Reading Strategy: Ask Questions**
  - Underline the subheading on this page. Write a **when** or **where** question about it. Now read the text on this page. Was your question answered?

- **Text Structure**
  - A social studies article often gives information about historical events. Underline the sentence that gives Lance’s age. What happened then?

- **Comprehension Check**
  - Circle the word **triathlon** in the text. What sports are in the triathlon?
By the time Lance was sixteen, he had become a professional athlete. As he got older he decided to train to be a competitive cyclist. Cycling requires good coordination, because cyclists ride around corners at a fast pace. Serious cyclists must train every day. If they are serious about entering races, they must show determination.

determination, quality of trying to do something even when it is difficult
A Dangerous Setback

Lance worked hard and earned a place on the U.S. Olympic Team. It seemed as if he had everything he had ever dreamed of. Then, Lance learned that he had cancer. His doctor told him that without treatment, he would die. Even with treatment, he had less than a 50 percent chance to live.
His Biggest Challenge

Lance was determined to fight cancer in much the same way that he would train for a competition. During the repeating pattern of treatments, called chemotherapy, he continued to exercise. He maintained a positive attitude. It was harder than any cycling competition, but Lance was determined to beat cancer and win the race of his life.
After his courageous fight, Lance took up another challenge. He entered one of the most prestigious races of all—the Tour de France. This grueling race requires each competitor to ride 3,600 kilometers (2,237 miles) in 22 days. The course is over plains as well as mountains.

Lance won the Tour de France. This victory inspired him to keep competing. With each win, he scored a **personal** victory for himself and a national victory for the United States. Lance won the famed Tour de France an **unbelievable** seven times! He still competes today.
His Fight Continues

Lance Armstrong is a **symbol** of hope for cancer patients throughout the world. Anyone suffering from cancer can read about Lance and find inspiration. After he won his battle with cancer, he set up a foundation to help others. The foundation collects money for research to cure and prevent cancer. It also supports community organizations that help people living with this disease.

Though Lance has won his battle, he continues to help others win theirs. This **spirit** makes Lance the biggest winner of all.

**symbol**, something that stands for a particular idea

**spirit**, courage, energy, and determination
READING WRAP-UP

Retell It!
What are the two challenges that Lance Armstrong has faced?

Reader’s Response
Do you think Lance Armstrong is a good model for young people? Why or why not?

Think About the Skill
How did asking who, what, when, where, and why questions help you to better understand the article?
Lance was determined to fight cancer in much the same way that he would train for a competition. During the repeating pattern of treatments, called chemotherapy, he continued to exercise. He maintained a positive attitude. It was harder than any cycling competition, but Lance was determined to beat cancer and win the race of his life.
Fix the Error
Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

“The Biggest Winner of All”
Lance was determined to fight cancer in the same way that he would train for a sports competition. He went for regular medical treatments called chemotherapy, and he continued to exercise to stay strong. He maintained a positive attitude. It was easier than all his cycling competitions—but Lance was determined to beat cancer and win the race of his life.

2. Find and fix the error.

“The Biggest Winner of All”
Lance was determined to fight cancer in much the same way he would train for a competition. He followed a regular pattern of treatments, called chemotherapy. He wasn’t strong enough to exercise regularly, but he maintained a positive attitude. It was harder than any cycling competition—but Lance was determined to beat cancer and win the race of his life.
Crossword Puzzle
To complete this crossword puzzle, read the clue. Then choose words from the box. Not all words in the word box are answers to the puzzle. You can go back and search for details in the reading to learn more about the words and clues below.

ACROSS
3. This means that something is hard to imagine.
5. This is the race Lance Armstrong won seven times. (3 words)
7. This is another word for winning something.
9. This sports activity has three different events.
10. A race is a kind of __________.

DOWN
1. You need a lot of this to be a good competitor.
2. This is an award that is sometimes shaped like a cup.
4. A person who does sports is called this.
6. This is the disease Lance Armstrong had.
8. If you have this, you can naturally do something well.

ATHLETE  DETERMINATION  INSPIRED  TRIATHLON
CANCER  EVENT  PERSONAL  TROPHY
COMPETITION  FAMED  TALENT  UNBELIEVABLE
COORDINATION  FIGHT  TOUR DE FRANCE  VICTORY
**READ FOR FLUENCY**

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see an exclamation mark, you should sound excited.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

---

**“The Biggest Winner of All”**

Lance won the Tour de France. This victory inspired him to keep competing. With each win, he scored a personal victory for himself and a national victory for the United States. Lance won the famed Tour de France an unbelievable seven times! He still competes today.
How are courage and imagination linked?
“A Tree Grows in Kenya: The Story of Wangari Maathai” / “How to Plant a Tree”

**SUMMARY**

The first passage tells about a Kenyan environmentalist named Wangari Maathai. Maathai won the Nobel Peace Prize in 2004. She helped improve living conditions in Kenya and other parts of the world. Maathai believed that many of Kenya’s problems were caused by the destruction of the natural environment. For example, cutting down forests caused poor soil conditions. It also caused shortages of clean water and firewood. In 1977, Maathai started the Green Belt Movement. Her goal was to encourage Kenya’s farmers to plant trees throughout the country. Today, there are millions more trees thanks to Maathai’s Green Belt Movement. The second passage, “How to Plant a Tree,” gives step-by-step instructions for planting a tree.

**Visual Summary**

Wangari Maathai is an environmentalist.

- She was raised by farmers in a village in Kenya.
- As an adult, she wanted to protect the forests of her home.
- In 2004, she received the Nobel Peace Prize for her work.

She founded the Green Belt Movement.

Within 30 years, the women of Kenya planted 30 million trees.
A Tree Grows in Kenya: The Story of Wangari Maathai

In October 2004, Wangari Maathai (wan-GAHR-ree mah-DHEYE), an environmentalist from Kenya, Africa, received an unexpected phone call. The person on the phone told her that she had won the Nobel Peace Prize. Each year, the Nobel committee chooses someone whose work for peace is judged to be the most important to the world. This was an incredible honor and an enormous surprise for Maathai. She was very excited. In an interview with Time magazine, she said, “I think what the Nobel committee is doing is going beyond war and looking at what humanity can do to prevent war. Sustainable management of our natural resources will promote peace.” She was pleased that the judges had recognized the deep connection between environmentalism and peace. “If we conserved our resources better,” she said, “fighting would not occur.”

Maathai’s love of the environment began when she was very young. She was born in the highland village of Nyeri in Kenya in 1940. As a child she enjoyed the lush, green forests around her. Her parents were farmers, so she grew up close to the natural world. In her Nobel prize speech, she said:

**humanity**, people in general

**highland**, mountain
I would visit a stream next to our home to fetch water for my mother. I would drink water straight from the stream. Playing among the arrowroot leaves, I tried in vain to pick up the strands of frogs’ eggs, believing they were beads. But every time I put my little fingers under them they would break. Later, I saw thousands of tadpoles: black, energetic, and wriggling through the clear water against the background of the brown earth. This is the world I inherited from my parents.

Maathai was an excellent student. She won a scholarship to attend a college in the United States. She studied hard and received a degree in biology. Then she worked toward more advanced degrees at the University of Pittsburgh and University of Nairobi in Kenya. In 1971, she earned a doctoral degree. She was honored to be the first woman in East and Central Africa to earn such an advanced degree.

tadpoles, small creatures with long tails that live in water and grow into frogs or toads
inherited, received
scholarship, money given to help pay for a person’s education
At first, Maathai taught at the University of Nairobi. Soon she wanted to do more than teach. While in the United States, she had been deeply impressed by the democratic freedom that people enjoyed. She wanted the Kenyan people to enjoy similar freedom and a better quality of life.

Maathai was concerned that the luxuriant forests of her childhood were rapidly disappearing because of excessive logging and other practices. She wanted the people of her village, especially the women, to have more of a voice in government. Maathai decided that it was time for a change.

It is said that “a journey of a thousand miles begins with a single step.” Maathai took one step to change the world around her: She planted nine trees in her backyard. With this simple act, she planted the seed of her campaign to save the forests of Africa!

**Comprehension Check**
Underline the place where Maathai taught after she completed her education. Was she satisfied with this job? Why or why not?

**Text Structure**
Circle the first highlighted vocabulary word on this page. Look at the definition. Then use the word in a new sentence.

**Reading Strategy: Follow Steps in a Process**
What was the first step Maathai took to help save the forests of Africa? Why do you think this was the first step she chose to make?

**Mark the Text**
luxuriant, healthy, thick, and strong
excessive, much more than reasonable or necessary
In 1976, Maathai interviewed many farmers in the Kenyan countryside. Most of them were women, and they often had the same concerns. They needed more firewood, which was their main source of energy. They needed clean water for drinking, cooking, and bathing. They needed to be able to grow their own food. In addition, they needed to be able to make more money so that they could become self-sufficient.

Maathai knew that the destruction of the forests was at the root of these problems. She decided to put her knowledge and creativity to work. Trees were needed to stop soil erosion. They were also important sources of firewood for cooking. Why not encourage farmers in Kenya to plant as many trees as possible? This would be a simple way to improve the farmers’ living conditions. And this method wouldn’t require expensive tools or large sums of money.

**Comprehension Check**
Underline the sentence that tells the reason why farmers in Kenya wanted to make more money. List three other things the farmers said they needed.

1. 
2. 
3. 

**Text Structure**
Circle the first highlighted word on this page. Look at its definition. Then rewrite the definition in your own words.

**Comprehension Check**
Underline the sentence that tells the root of the farmers’ problems. What solution did Maathai think of to solve it?
In 1977, Maathai founded the Green Belt Movement. A greenbelt is a band of farmland or parks surrounding a village. Maathai hoped to see belts of green trees again throughout Kenya. The goals of the Green Belt Movement were to encourage Kenyan farmers to plant trees and to conserve the environment. This, in turn, would help farmers, and women in particular, to improve their living conditions.

At first, her idea wasn’t very popular. As Maathai said, “It took me a lot of days and nights to convince people that women could improve their environment without much technology or . . . financial resources.” Although it took a long time, the movement achieved its goal. Within thirty years, the women of Kenya had planted 30 million trees. The Green Belt Movement did other things to improve the quality of Kenyan life. Members also promoted better education and nutrition throughout the country.
When Maathai started her campaign to plant trees, she was working at the grass-roots level. This means that she worked directly with the local people. Sometimes, she also worked directly with the government to bring about change. For example, in the 1980s, Kenyan President Daniel arap Moi planned to build a sixty-two-story skyscraper. This plan would have destroyed Uhuru Park, a beautiful park in Nairobi, the nation's capital. Maathai had visited Uhuru Park many times. It was one of the only green spaces available in the city for public use. Families often went there on weekends to relax, play, and enjoy time together. To save this precious green space, she led protests against the government. President Moi called her “a threat to the order and security of the country.” Maathai was arrested by the police and treated badly, but she never gave up the fight. Because of her courage and persistence, she eventually succeeded in preserving the park.

**Comprehension Check**
Circle the location of Uhuru Park. Why did Maathai want to protect the park?

**Text Structure**
Draw a box around the second highlighted vocabulary word on this page. Look at the definition. List one synonym for this word.

**Reading Strategy: Follow Steps in a Process**
What step did Maathai take to preserve Uhuru Park? What was the result of this action?
Wangari Maathai died in 2011, but her legacy lives on. She strongly believed that solutions to most of the world’s problems come from the people themselves. She is a national hero in Kenya. If young Kenyan girls are strong-willed and outspoken, people say they are “like Wangari.” “Like Wangari” has become an expression of admiration and affection.

Today, the members of the Green Belt Movement continue to plant trees throughout many countries in Africa, as well as in Haiti and the United States. They have educated thousands of people along the way. As the Nobel committee said, “Maathai is a strong voice speaking for the best forces in Africa to promote peace and good living conditions on the continent. She thinks globally and acts locally.”

legacy, something that is received from someone
strong-willed, determined to achieve goals
outspoken, expressing opinions honestly and directly
admiration, approval and respect
How to Plant a Tree

What You Need
- Something to dig with, like a shovel or spade.
- A tree! You can buy a tree at a garden center. In some places, state or community foresters have trees that they’ll give to anyone who wants to plant them. When you buy your tree, you’ll notice that all of its roots are wrapped up with fabric in a little ball. This is called the rootball.
- A watering can and some water.

What To Do
1. First, choose a site. Pick a place that gets enough sun, where your tree will be happy. Don’t plant close to power or telephone wires.
2. Dig a hole as deep as the rootball and three times as wide.
3. Unwrap the rootball and spread out the roots. If they’re tangled up, straighten them out.
4. Put the tree in the hole. The soil should come up as high on the tree as it was before you got it. Usually this will be to the top of the rootball. Be sure that the tree is straight.
5. Fill in the space around the rootball gently but firmly with soil. Pack down the soil with your hands and feet. Be sure that there are no air pockets.
6. Make a little dam around the base of the tree about as wide as the hole. This will keep the water close to the tree.
7. After it’s planted, your tree will be very thirsty, so give it lots of water.
8. If you need more help, call your local garden store or contact a community park or forest agency.

Some Tips to Keep in Mind
- If you want to plant your tree in a park or other public place, make sure you ask for permission. Some places may have rules about what kind of trees can be planted there.
- Your tree is just a baby, and like any baby, you need to take care of it. You should water it every week. Most trees need 7.5 to 11 liters (2–3 gal.) of water per week.

Comprehension Check
Underline the passage that explains where you can find a tree to plant. List the three things you need to plant a tree.

1. ___________________________
2. ___________________________
3. ___________________________

Reading Strategy: Follow Steps in a Process
Steps in a process describe the steps to completing a task. These steps are often listed in order from first to last. What is the first step to planting a tree? What is the last step?

1. ___________________________
2. ___________________________

Text Structure
Science articles often include tips to help you complete a task. Draw a box around the tips that appear on this page. How much water should you give a tree each week?

Choose one and complete:
1. Draw a poster to encourage people to plant a tree. Explain why trees are important.
2. Create a time line that shows important dates in the life of Wangari Maathai.
3. Imagine you are presenting the Nobel Peace Prize to Wangari Maathai. Write a short speech to explain why she has been awarded the Nobel Peace Prize.
**READING WRAP-UP**

**Retell It!**
When Wangari Maathai interviewed the farmers of Kenya, what problems did they describe? What was her solution to these problems?

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

**Reader’s Response**
What do you most admire about Wangari Maathai?

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

**Think About the Skill**
How did following steps in a process help you better understand the article?

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________
At first, her idea wasn’t very popular. As Maathai said, “It took me a lot of days and nights to convince people that women could improve their environment without much technology or . . . financial resources.” Although it took a long time, the movement achieved its goal. Within thirty years, the women of Kenya had planted 30 million trees. The Green Belt Movement did other things to improve the quality of Kenyan life. Members also promoted better education and nutrition throughout the country.
Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

A Tree Grows in Kenya: The Story of Wangari Maathai

At first, Maathai’s idea wasn’t very popular. She said, “It took no time at all to convince people that women could improve their environment.” Eventually, the members of the movement managed to achieve their goal. They planted 30 million trees in 30 years’ time. The Green Belt Movement did other things to improve the quality of life. Members also encouraged the people of Kenya to improve their nutrition and education.

2. Find and fix the error.

A Tree Grows in Kenya: The Story of Wangari Maathai

At first, Maathai’s idea did not catch on. She said, “It took me a lot of days and nights to convince people that women could improve their environment.” At the time, most believed the women would need a lot of money and technology to complete the task. Although it took a long time, the movement never achieved its goal. It took three decades, but they were able to plant millions and millions of trees. The Green Belt Movement did other things to improve the quality of Kenyan life. Members also encouraged the people of Kenya to improve their nutrition and education.
FOCUS ON DETAILS

To complete this mystery word puzzle, you’ll need to remember or search for details in the reading. Use the clues to help you unscramble each of the words. Write the words in the boxes. The numbered letters will form the mystery word.

1. The capital city of Kenya
   RONIBIA

2. The group Maathai formed is called the Green Belt _________.
   TONVMEME

3. As a child, she often saw thousands of these wriggling in a stream near her home.
   SODLEPTA

4. Maathai attended this in the United States.
   CEGLELO

5. She received her degree in this scientific field.
   IYLOBGO

6. Kenyan forests were disappearing because of this and other practices.
   GINGOLG

7. Planting trees does not require expensive ________ or large sums of money.
   TOLSO

8. A greenbelt is a band of ________ or parks around a village.
   RAFMLDNA

9. Maathai worked to do this and to protect Uhuru Park.
   PEVSERRE

10. The Nobel committee said Maathai “... thinks globally and acts ________.”
    LAOLYCL

When you buy a tree what are the roots wrapped up in?

   1 2 3 4 5 6 7 8

   TOLSO
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

---

A Tree Grows in Kenya: The Story of Wangari Maathai

Maathai was concerned that the luxuriant forests of her childhood were rapidly disappearing because of excessive logging and other practices. She wanted the people of her village, especially the women, to have more of a voice in government. Maathai decided that it was time for a change.

It is said that “a journey of a thousand miles begins with a single step.” Maathai took one step to change the world around her: She planted nine trees in her backyard. With this simple act, she planted the seed of her campaign to save the forests of Africa!
How are courage and imagination linked?

“Between Two Worlds”

**SUMMARY**

The famous Comanche chief Quanah Parker was influenced by two different cultures. Quanah’s mother was the child of white settlers. Native Americans captured her as a young child during a raid. Raised by Native Americans, she embraced that life and refused to leave it. Her son, Quanah, led his people during the transition to reservations. Though he and the Comanche fought hard to keep their lands, Quanah understood that it was a fight they could not win. He went on to be a successful businessman with a wide circle of friends—both Native Americans and whites.

**Visual Summary**

[Diagram showing the relationships between Quanah Parker's family members, including his mother Cynthia Ann Parker, his father Peta Nocoma, and his role as a Comanche chief and skilled warrior.]
“Between Two Worlds”

One of the most famous Native American chiefs had an interesting heritage. His mother was a white woman, and his father was a great Comanche chief. Quanah Parker was the last chief of the Comanches. He was a fearless warrior, a brave leader, and a man who could adapt to any situation. His story is a fascinating one.

The Comanches were nomads who traveled from place to place. They lived in tepees, a kind of tent made from animal skins stretched over wooden poles. They were skilled horsemen and traders. The men hunted and the women gathered berries and other edible plants. When food became scarce, they packed up their tepees and traveled to a better spot. The women were responsible for taking down the tepees and putting them up again when they found a new place to settle. They were careful not to break the wooden poles or tear the animal skins.

The Comanches were very good traders. Many of them were gifted in languages. They could speak some of the European languages as well as a number of the Native American languages. Some people say many of the things they traded were stolen. They raided ranches to steal horses and cattle. They even captured women and children.

**Use What You Know**
What do you think the title, “Between Two Worlds,” means?

**Text Structure**
A social studies text often has highlighted vocabulary words. Their definitions are at the bottom of the page. Circle the second highlighted word on this page. Look at its definition. Rewrite the sentence the term appears in without using the word.

**Reading Strategy: Classify**
Good readers classify, or arrange, people, places, things, and ideas into groups to see how they are alike or different. What positive things are said about the Comanches? What negative things are said about them?

**Vocabulary**
heritage, traditional beliefs, values, and customs
warrior, soldier or fighter
adapt, gradually change behavior to be successful
edible, safe to eat
scarce, low in supply
Quanah’s mother was a young white woman named Cynthia Ann Parker. Her family settled in what is now central Texas along the headwaters of the Navasota River. The Parker family built a settlement with a fort for protection. Then in 1836, several Native American groups attacked the fort. Cynthia Ann was 11 or 12 years old when she was captured, or taken prisoner, during the raid. At first she was not treated well by her captors. They beat her and made her work very hard. After a while, she was given to a Comanche couple. They loved her and treated her like their own daughter. They taught her the Comanche language and customs.

As Cynthia Ann grew up, she learned to love the Native American ways. She married a young chief, Peta Nocona. They had three children, two boys and a girl. Her oldest son was Quanah. Years later, when the white settlers tried to get her back, Cynthia Ann refused to go. She loved her family and loved the Native American ways. Eventually, when she was captured by white people, she was locked in a room to keep her from returning to her Native American family.

---

**Comprehension Check**
Circle the year that the fort was attacked. Who was captured?

---

**Reading Strategy: Classify**
What happened to Cynthia Ann when she was captured? What happened after she was given to a Comanche couple?

---

**Comprehension Check**
Why didn’t Cynthia Ann want to leave the Comanches?

---

**headwaters**, streams that form a river

**fort**, strong building defended by soldiers

**protection**, a way of keeping someone or something safe

**captors**, those holding others prisoner
Cynthia Ann’s son, Quanah, grew up to become the chief. He was a wise leader and tried his best to guide his people. He was a skilled warrior. He was creative in the ways he defeated other Comanche bands and Native American tribes. He used this imagination to keep one step ahead of the white armies. These bands of soldiers wanted the Comanches to live on reservations. Reservations were areas of land that the white settlers didn’t want. They forced the Native Americans to live on these plots of land so that they could settle the Native American lands themselves. The armies promised the Native Americans they would be well taken care of.

Quanah did not trust the armies. He had heard some of these promises before. He didn’t trust them to keep their word. So he decided to go to war. He fought the armies to keep his people free.

**guide**, show the way  
**skilled**, trained and experienced  
**bands**, groups within a larger group  
**trust**, believe in honesty and goodness of someone or something  
**promises**, statements indicating that what is expected will definitely be done
The battles continued until Quanah realized there was no hope of winning. His people were starving and his braves were tired of fighting. He realized that surrender was his only option, even though he had never lost a battle with the white settlers. It took a lot of courage on that June day in 1875 for Quanah and his warriors to surrender to the army at Fort Sill.

Quanah learned the ways of the white man, but he never gave up some of his Comanche customs. He still followed his Native American ways of worship. He became a prosperous rancher and eventually had a large herd of cattle. In his time he met many famous people. He even went hunting with President Theodore Roosevelt.

You could say that Quanah Parker lived between two worlds. Perhaps, at times, he was able to appreciate what was good in each of them.

---

**Text Structure**

A social studies text often includes important events in history. Circle the month, year, and place where Quanah surrendered.

---

**Comprehension Check**

What happened to Quanah after he surrendered?

---

**Reading Strategy: Classify**

Look at the title again. How did Quanah live “between two worlds”?

---

**Choose one and complete:**

1. Do you know anyone else who lives or lived “between two worlds”? Describe the person, and the things that made these two worlds different.

2. Where was Fort Sill? Go to the library or look on the Internet and find Fort Sill on a map.

3. Imagine you are a TV reporter who is going to interview Quanah Parker. Write a list of five questions to ask about his life.

---

**braves**, young Native American men

**surrender**, officially stop fighting; give up

**option**, choice

**prosperous**, well off; rich and successful
READING WRAP-UP

Retell It!
How did Quanah Parker show courage in his fights? Explain how he fought against the whites until his surrender.

Reader's Response
Do you think living between two worlds was a good thing for Quanah Parker? Why or why not?

Think About the Skill
How did classifying help you better understand the article?
Quanah learned the ways of the white man, but he never gave up some of his Comanche customs. He still followed his Native American ways of worship. He became a prosperous rancher and eventually had a large herd of cattle. In his time he met many famous people. He even went hunting with President Theodore Roosevelt.
Fix the Error

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

“Between Two Worlds”

Quanah learned the ways of the white man, but eventually he gave up some of his Comanche customs. He followed the white man’s ways of worship. He became a prosperous rancher and eventually had a large herd of cattle. In his time he met many famous people. He even went hunting with President Theodore Roosevelt.

2. Find and fix the error.

“Between Two Worlds”

Quanah learned the ways of the white man, but he never gave up some of his Comanche customs. He still followed his Native American ways of worship. He became a prosperous rancher and eventually had a large herd of cattle. In his time he met only a few famous people. One time he went hunting with President Theodore Roosevelt.
Crossword Puzzle
To complete this crossword puzzle, choose words from the box. Not all the words are answers to the puzzle. Use the clues to help you. You can also search for details in the reading to learn more about the words and clues below.

Across
1. The Native Americans lived in these tents.
5. These are choices a person can make.
8. This means you can eat something.
9. This kind of person is rich and successful.
10. This type of person moves from place to place often.

Down
2. If you make one of these, you say you will definitely do something.
3. This is land that tribes of Native Americans live on.
4. This means a person is able to do something very well.
6. This is the leader of a tribe.
7. This is what happened to Cynthia Ann when she was young.

ADAPT  CHIEF  NOMAD  PROSPEROUS  SCARCE
ARMIES  EDIBLE  OPTIONS  PROTECTION  SURRENDER
CAPTURED  GIFTED  PROMISE  RESERVATIONS  TEPEES
READ FOR FLUENCY

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

**Between Two Worlds**

Quanah did not trust the armies. He had heard some of these promises before. He didn't trust them to keep their word. So he decided to go to war. He fought the armies to keep his people free.

The battles continued until Quanah realized there was no hope of winning. His people were starving and his braves were tired of fighting. He realized that surrender was his only option even though he never lost a battle with the white settlers. It took a lot of courage on that June day in 1875 for Quanah and his warriors to surrender to the army at Fort Sill.
What is your vision of life in the future?

“Life in the Future”

**SUMMARY**

This passage predicts what our lives will be like in the future. A timeline shows predictions from the year 2012 to 2035. By 2100, the world's population will be 11 billion people. As the population grows, more and more people will live in tall buildings. The buildings will be like small cities. People will ride in cars that steer themselves and fly in hypersonic airplanes. The airplanes will travel five times faster than the speed of sound. People may also be able to fly with personal jetpacks. They may even live on Mars some day.

**Visual Summary**

<table>
<thead>
<tr>
<th>Life in the Future</th>
<th>How We Might Live</th>
<th>How We Might Travel</th>
<th>How We Might Explore</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How We Might Live</strong></td>
<td>The population might reach 11 billion people by the year 2100.</td>
<td>Transportation might be much faster and greatly improved.</td>
<td>We might explore other planets.</td>
</tr>
<tr>
<td></td>
<td>We might live in tall apartment buildings that are like small cities.</td>
<td>Hypersonic planes might fly into outer space.</td>
<td>Astronauts could travel to Mars by 2020.</td>
</tr>
<tr>
<td></td>
<td>Cars might steer themselves.</td>
<td>People might use personal flying machines called jetpacks.</td>
<td>People might live on Mars one day.</td>
</tr>
</tbody>
</table>
“Life in the Future”

Imagine traveling in a time machine into the future. What do you think life will be like? This timeline shows some predictions about the future.

<table>
<thead>
<tr>
<th>Year</th>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>fire-fighting robots that can find and rescue people</td>
</tr>
<tr>
<td>2013</td>
<td>clothes that become cooler or warmer depending on the temperature</td>
</tr>
<tr>
<td>2014</td>
<td>robotic pets</td>
</tr>
<tr>
<td>2015</td>
<td>telephone calls between speakers of different languages translated in real time</td>
</tr>
<tr>
<td>2016</td>
<td>humans traveling to Mars</td>
</tr>
<tr>
<td>2020</td>
<td>cars that drive themselves on automated highways; artificial lungs, kidneys, and brain cells</td>
</tr>
<tr>
<td>2025</td>
<td>underground cities</td>
</tr>
<tr>
<td>2030</td>
<td>more robots than people in some countries</td>
</tr>
<tr>
<td>2035</td>
<td>fully functioning artificial eyes and legs; people cured of 98 percent of all cancers</td>
</tr>
</tbody>
</table>

*cured, healed; restored to health*
The Growing World

The world’s population is growing very fast. In 1800, the population was about 1 billion. Now it is over 6.5 billion. One reason for this fast growth is that the birthrate is higher than the death rate. That is, there are more people being born than there are people dying. Also, medical advances and better living conditions help people live longer. Scientists predict that in the year 2100, the population will be 11 billion.

Future Cities

As the population grows, it will be necessary to rebuild existing cities and build new ones. Some apartment buildings will be like small cities. Architects have created a model for an apartment building in Tokyo. It will be 840 meters (2,750 ft.) high and will have 180 floors. A population of 60,000 will be able to live there. High-speed elevators will carry sixty people at a time. The building will have stores, restaurants, and cinemas. People won’t ever have to leave!

elevators, machines in a building that carry people from one floor to another
**Comprehension Check**
Underline the name of the organization that is developing a hypersonic plane. How will it be different from a normal plane?

**Text Structure**
A science text often has highlighted vocabulary terms. Their definitions are at the bottom of the page. Circle the highlighted term on this page. Look at its definition. Rewrite the sentence the term appears in without using the highlighted word.

**Reading Strategy: Take Notes**
List three details you might include in notes on the design and look of the hypersonic plane.

1. __________________________
2. __________________________
3. __________________________

---

**Hypersonic Planes**

The National Aeronautics and Space Administration (NASA) is developing a hypersonic plane that will be able to fly at least five times faster than the speed of sound. It will be able to fly to outer space. NASA has produced a $230 million prototype plane, but it doesn’t expect to use it for space travel until about 2020.

The X-43A prototype plane looks like a flying surfboard. It is thin and has a wingspan of 1.5 meters (5 ft.). It is 3.6 meters (12 ft.) long and weighs 1,270 kilograms (2,800 lbs.). This plane set a new world speed record by flying nearly ten times the speed of sound. A working version of the X-43A will be about 60 meters (200 ft.) long.

prototype, model
Cars of the Future

As more people own cars, the roads become more crowded. This causes more traffic jams and more accidents. The cost of traffic jams in the United States is about $78 billion per year—4.5 billion hours of travel time plus 26 billion liters (7 billion gal.) of fuel wasted sitting in traffic.

Car manufacturers are always looking for ways to make cars safer, faster, and more convenient. In the future, there may be automated highways. On these highways, cars will steer themselves. They will go faster and brake by themselves. Cars will have computers that pick up signals from magnets in the road.

steer, guide
magnets, pieces of iron that attract other pieces of iron

Comprehension Check
Circle the amount of money traffic jams cost the United States each year. What is one reason for the high number of accidents that also occur?

Text Structure
Draw a box around the first highlighted vocabulary term on this page. Look at its definition. Then use the term in a new sentence.

Reading Strategy: Take Notes
List three details you might include in notes about cars of the future.

1. 
2. 
3. 

127
Jetpacks

People have always dreamed of flying. In the fifteenth century, the Italian artist Leonardo da Vinci drew many designs of flying machines. But a personal flying machine—or jetpack—has proved to be one of the most difficult inventions.

Jetpacks have appeared in such movies as *The Rocketeer, Spy Kids,* and *Minority Report.* A “rocket man” flew into the opening ceremony of the 1984 summer Olympics in Los Angeles. Jetpacks today can fly for only a short time. In the future, they will fly longer and go faster.
One of the most successful jetpacks is the Trek Aerospace Exoskeleton Flying Vehicle (EFV-4A). The EFV uses propellers to lift you off the ground. Once in the air, you can zip over treetops at 181 kilometers (113 mi.) per hour for 296 kilometers (184 mi.) before refueling.

**New Frontiers**

Throughout history, humans have loved to explore. Today, we have explored most of our planet. There are few new lands to explore, but there are new worlds, new planets, and new galaxies.

**Comprehension Check**

Underline the sentence that tells how one of the most successful jetpacks gets off the ground. What is this jetpack called?

**Text Structure**

Circle the first highlighted vocabulary word on this page. Look at the definition. List three synonyms for this word.

1. __________________________
2. __________________________
3. __________________________

**Comprehension Check**

Circle the sentence that tells how much of Earth we have explored. What new places are left to explore?

---

zip, move very fast
refueling, refilling with gasoline, oil, or some other fuel
galaxies, very large groups of stars
In the future, perhaps we will colonize other planets. The most likely planet will be Mars. NASA scientists have already sent probes—spacecraft without people—to explore Mars. But when will people be able to go there? Astronauts could travel to Mars by about 2020. However, it will be a difficult task! It will take six months to reach the red planet. (It takes only three days to reach the moon.) And Mars is not a friendly environment. Mars probably once had liquid water, but now it is a cold, rocky desert. It has the largest volcano in the solar system and the deepest canyons. Dust storms can cover the whole planet. There is no breathable oxygen.

For people to live on Mars, the cities will have to be protected from the poisonous air. Giant domes will have to be built to control the atmosphere. All food will have to be grown inside the domed cities.

colonize, set up human communities
oxygen, a gas in the air that all plants and animals need in order to live
poisonous, deadly
domes, round roofs
Earth-Mars Comparison

<table>
<thead>
<tr>
<th></th>
<th>Earth</th>
<th>Mars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average distance from sun</td>
<td>150 million kilometers (93 million mi.)</td>
<td>228 million kilometers (142 million mi.)</td>
</tr>
<tr>
<td>Length of year</td>
<td>365.25 days</td>
<td>687 Earth days</td>
</tr>
<tr>
<td>Length of day</td>
<td>23 hours, 56 minutes</td>
<td>24 hours, 37 minutes</td>
</tr>
<tr>
<td>Temperature</td>
<td>average 14°C (57°F)</td>
<td>average –63°C (~81°F)</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>nitrogen, oxygen, argon, others</td>
<td>mostly carbon dioxide, some water vapor</td>
</tr>
<tr>
<td>Number of moons</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Choose one and complete:
1. Draw a picture of a scene or activity that might take place in the future.
2. Create a brochure to encourage people to move into an apartment building in the future. Describe what it looks like and explain why people might want to live there.
3. Create a poster about Mars. Include important details about the planet.

Reading Strategy: Take Notes
List three facts you would include in notes about the planet Earth.
1. _______________________
2. _______________________
3. _______________________

Comprehension Check
Draw boxes around the length of day on Earth and on Mars. How much longer is a day on Mars than on Earth?
_____________________

Text Structure
A science article often has charts that compare information. Circle the two planets this chart compares. How many moons does each one have?
_____________________

Choose one and complete:
1. Draw a picture of a scene or activity that might take place in the future.
2. Create a brochure to encourage people to move into an apartment building in the future. Describe what it looks like and explain why people might want to live there.
3. Create a poster about Mars. Include important details about the planet.
READING WRAP-UP

Retell It!
How will transportation be different in the future? Describe what automobile and air travel might be like.

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

Reader’s Response
Do you think people will live on the planet Mars in the future? Explain why or why not.

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________

Think About the Skill
How did taking notes help you better understand the article?

________________________________________________________

________________________________________________________

________________________________________________________

________________________________________________________
The Growing World

The world’s population is growing very fast. In 1800, the population was about 1 billion. Now it is over 6.5 billion. One reason for this fast growth is that the birthrate is higher than the death rate. That is, there are more people being born than there are people dying. Also, medical advances and better living conditions help people live longer. Scientists predict that in the year 2100, the population will be 11 billion.
Fix the Error
Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

The Growing World

The world’s population is steadily shrinking. In 1800, there were only about 1 billion people in the world. Now there are more than 6.5 billion. This is partly due to the fact that the birthrate is higher than the death rate. That means more people are being born than people are dying. This is because better living conditions and advances in medicine help people live longer. Scientists predict the population will be 11 billion by the year 2100.

2. Find and fix the error.

The Growing World

The world’s population is growing very fast. In 1800, the population was about 1 billion. Today, that number has increased by about 5.5 billion. One reason for this fast growth is that the birthrate is higher than the death rate. There are fewer people being born than dying. Scientists predict that in about 100 years, the population will be 11 billion.
FOCUS ON DETAILS

Word Search Puzzle
To complete this word search puzzle, you’ll need to remember or search for details in the reading. Write the word from the text next to each clue. Then circle the answers in the puzzle below.

1. ☐ By 2009, these machines might rescue people: ____________
2. ☐ One day, people will colonize this planet: ____________
3. ☐ One of the most successful jetpacks uses these to get off the ground: ____________
4. ☐ In the future, cars might drive down this kind of highway: ____________
5. ☐ The X-43A plane looks like this: ____________
6. ☐ We still have new worlds, planets, and these to explore: ____________
7. ☐ They could travel to Mars by about 2020: ____________
8. ☐ These are deeper on Mars than any other planet in the solar system: ____________
9. ☐ In the future, a car might use this to pick up signals from the road: ____________
10. ☐ Giant domes will have to be built on Mars to control this: ____________

REGALAXIESRRUUEROPQNTCDJUCBCYRPBWRATMAPERMARSNOFPOMNSFCECSATODQPGDIYBASESTSLGFLEEREROOGGEMIITIFCOLHSANACCO
NPREOATLRRSSPUSDISQMNSENDTELEPXVIRPINIARTESTHRRLXUUPTWKKSNEBEKXAUTOMATEDIPTROXMBEBSEELEWQAEGBOORARRREEVEEMPRIYXGHASTRONAUTS
**READ FOR FLUENCY**

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

---

### New Frontiers

In the future, perhaps we will colonize other planets. The most likely planet will be Mars. NASA scientists have already sent probes—spacecraft without people—to explore Mars. But when will people be able to go there? Astronauts could travel to Mars by about 2020. However, it will be a difficult task! It will take six months to reach the red planet. (It takes only three days to reach the moon.) And Mars is not a friendly environment. Mars probably once had liquid water, but now it is a cold, rocky desert. It has the largest volcano in the solar system and the deepest canyons. Dust storms can cover the whole planet. There is no breathable oxygen.
What is your vision of life in the future?

“NASA and the U.S. Space Program”

**SUMMARY**

The heart of NASA, the National Aeronautics and Space Administration, is the Johnson Space Center in Houston, Texas. The Johnson Space Center is Mission Control for all U.S. space missions. During the mission of Apollo 13, an explosion damaged the spacecraft. The people at the Johnson Space Center solved a serious problem to bring the astronauts home. The cost of the space program has been controversial for years. The program has provided much more than pictures from space. Advances in communications, GPS, medical care, and protective fabrics have all resulted from the space program. Solving problems and improving our lives is also NASA’s mission.

**Visual Summary**

- NASA
  - Johnson Space Center
    - Space program is very expensive
      - Some argue that money could be used to solve other problems.
      - “Spin-offs” help the public.
        - advances in communications
        - GPS
        - medical care
        - protective fabrics
“NASA and the U.S. Space Program”

There’s a famous scene in the Hollywood movie *Apollo 13*. Tom Hanks, playing the astronaut James Lovell, says, “Houston, we have a problem!” This has become a popular expression. People now say it when joking about a problem. During the real Apollo 13 mission, this line was not a joke. It was one of many scary moments for the space program experienced at the Johnson Space Center in Houston.

An explosion on board the *Apollo 13* spacecraft caused an electrical failure. Many systems in the spacecraft were affected. The astronauts had to change their mission. They had a lunar module, which was a vehicle designed to explore the moon. Instead of landing on the moon, they had to use their lunar module for power and life support until they could make the journey back to Earth.

Though they were alone in space, the astronauts had help on the ground. A professional team in Houston worked hard to solve the problem. The challenge they faced was how to get the astronauts home.

NASA is the National Aeronautics and Space Administration. This agency directs the U.S. space program. The Johnson Space Center is one of 11 NASA facilities. Here, hundreds of astronauts have been trained. NASA made the United States the world leader in space exploration.

expression, phrase
agency, organization
facilities, places or buildings
The Space Program Controversy

Missions into space are very expensive. All of the equipment for a mission is designed for the harsh conditions in space. A rocket must be able to overcome the force of Earth’s gravity to reach its destination.

Fortunately, the Space Shuttle program enables NASA to reuse spacecraft. But the cost of a new mission is still high. Each shuttle mission averages about 450 million dollars. The space shuttle Endeavor cost 1.7 billion dollars to build. You can understand why some people feel that the space program is too expensive. They would like to see its funding greatly reduced or cut off completely.

Their argument that this money could be used to solve other problems seems to make sense. However, NASA and the Johnson Space Center provide much more to the public than the exploration of space.

Spin-Offs

Does anyone in your family have a cell phone? Maybe your family has satellite TV. Have you been in a car that has a GPS (Global Positioning System)? All of these common technologies have their roots in the space program.

A visit to any hospital also shows NASA creativity in action. New technology is used to image and monitor patients. Some of the devices are spin-offs that were originally developed to monitor the astronauts during training and spaceflight. Researchers have learned much about

harsh, severe or difficult
overcome, break free of
public, people in a society
roots, starting points
creativity, imagination
spin-offs, things based on the design of something else
Comprehension Check
How has the development of the space suit affected what firefighters wear?

Text Structure
Science articles often contain descriptions of important places. Why is the Mission Control building important?

Reading Strategy: Employ Analytical Skills
Why has the old Mission Control building been preserved as a historic site? Why do you think it is important for people to see this place?

the human body by studying the effects of low gravity on bones and muscles. The Johnson Space Center is home to the Space Environment Simulation Lab, which is used for this purpose.

Life in space is not possible without protection. There is no air to breathe. Temperatures are extreme. The need to create a comfortable space suit resulted in the development of new fabrics. These spin-offs have improved the suits firefighters wear to protect them from high temperatures. Clothing and bedding are now made of new fabrics designed to keep you comfortable in all different temperatures.

The most famous facility at the Johnson Space Center is Mission Control. The new Mission Control building is the “heart” of NASA during a space mission. Mission control specialists are in contact with the astronauts from before the launch until they are safely home. They even play music to wake the astronauts each morning. This new building has state of the art equipment.

The old Mission Control building has been preserved as a historic site. It shows what things were like in the early days of the space program, when a mission to the moon was only a dream. The vision of many great scientists made that dream a reality.

Advances in Communication

It was NASA that made wireless communication happen. By the early 1960s, NASA was able to put satellites into orbit. This achievement started a revolution in communications. Private companies

heart, center of specialists, people that are very skilled in something launch, time when a spacecraft is sent into the sky satellites, objects that orbit Earth orbit, path traveled by an object around a larger object revolution, major change
understood how life could change. With a satellite, signals could be sent and received in all parts of the world. We could see what was happening “live” anywhere in the world. Communications satellites now bring us live TV from all parts of the world. We can talk to people almost anywhere at any time with cell phones. Satellite pictures help in predicting severe weather. We can watch weather patterns as they form. We can warn people to take shelter before a storm hits. None of this would have been possible without the space program.

What’s Next?

The Space Shuttle program ended in 2011 after thirty years. But NASA says this is not the end of sending humans into space. NASA has many plans for the future, including deep-space exploration. The unmanned Mars Science Laboratory is scheduled to land on Mars in 2012. A new rover called Curiosity will explore Mars to determine whether it is habitable. Eventually, NASA plans to send astronauts to Mars, but doing this safely remains a huge challenge.

In 2012, NASA plans to launch the Nuclear Spectroscopic Telescope Array to search for black holes, map supernova explosions, and study distant galaxies. Another unmanned spacecraft, Juno, was launched in 2011 and is scheduled to arrive on Jupiter in 2016. The International Space Station (ISS) and its programs have been extended through 2020. The ISS will continue to conduct experiments in biology, physics, astronomy, and meteorology. NASA is committed to using this unique resource for scientific research.

unmanned, without humans on board
habitable, suitable for people to live on
unique, special; one-of-a-kind
READING WRAP-UP

Retell It!
What is the Johnson Space Center? Describe what happens there.

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

Reader’s Response
Would you like to visit the Johnson Space Center? Why or why not?

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________

Think About the Skill
How did employing analytical skills help you better understand the article?

_________________________________________________________

_________________________________________________________

_________________________________________________________

_________________________________________________________
An explosion on board the Apollo 13 spacecraft caused an electrical failure. Many systems in the spacecraft were affected. The astronauts had to change their mission. They had a lunar module, which was a vehicle designed to explore the moon. Instead of landing on the moon, they had to use their lunar module for power and life support until they could make the journey back to Earth.
**Fix the Error**

Each paragraph below contains the same information as the paragraph you just read. However, each paragraph contains one error. First, find the error. Then fix it by editing the sentence so the information is correct.

1. Find and fix the error.

   “NASA and the U.S. Space Program”
   An explosion on board the *Apollo 13* spacecraft caused an electrical failure. Many systems in the spacecraft were affected. The astronauts were able to complete their mission. They had a lunar module, which was a vehicle designed to explore the moon. Instead of landing on the moon, they had to use their lunar module for power and life support until they could make the journey back to Earth.

2. Find and fix the error.

   “NASA and the U.S. Space Program”
   An explosion on board the *Apollo 13* spacecraft caused an electrical failure. Many systems in the spacecraft were affected. The astronauts had to change their mission. They had a lunar module, which was a vehicle designed to get the astronauts back to Earth. Instead of landing on the moon, they had to use their lunar module for power and life support until they could make the journey back to Earth.
FOCUS on DETAILS

Mystery Word Puzzle

To complete this mystery word puzzle, you’ll need to remember or search for details in the reading. Use the clues to help you unscramble each of the words. Write the words in the boxes. The numbered letters will form the mystery word.

1. NASA has learned from its successes as well as its _________.
   STAMIKES  3 7 10

2. This happened on board the Apollo 13 rocket.
   ELONPOSIX  6 14

3. This is how many astronauts have been trained at the Johnson Space Center.
   DUNSDREH  2

4. The Johnson Space Center is located in this city.
   TNSHUOO  13

5. Pictures from this can help predict severe weather.
   LSAEETITL  8

6. This is when a spacecraft leaves Earth.
   HUNLAC  1 5

7. The Mission Control building is the ________ of NASA during a mission.
   TAREH  9 11

8. Visiting the Johnson Space Center can change your ________ of the future.
   SNIVIO  12

9. You can learn more about the Johnson Space Center here.
   SWITSBEE  4

NASA stands for the National Aeronautics and Space _________.

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**READ FOR FLUENCY**

1. Silently read the text below. Make sure you understand the point that each sentence is making.

2. Underline the word or words in each sentence that are most important. When you read, you should say these underlined words with expression.

3. Look again at the punctuation in the paragraphs. Remember that when a sentence ends in a period, you should read the words as a statement and take a breath before beginning a new sentence. When you see a comma, you should pause briefly. When you see an exclamation mark, you should sound excited. When you see a question mark, you should read as though you are asking a question.

4. Now read the paragraphs below out loud. Pay attention to the important words and punctuation as you read.

5. Write down any words that slowed you down. Practice saying these words out loud.

6. Read the text below out loud two more times. You may want to ask a friend or family member to listen to you and tell you their reactions to your reading.

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**The Johnson Space Center**

A trip to the Johnson Space Center in Houston can change your vision of life in the future. If you can’t be there in person, NASA has many interesting websites. You can learn about current space missions. You can find out what we’ve learned about life on other planets. You can find out more about what happened on the Apollo 13 mission. You can even download videos from some of the NASA websites. Also, don’t forget that you can always find many books in the library on space. Who knows? One day you might work at the Johnson Space Center. And if you ever travel in space, you will have the best ground crew. Houston knows how to solve problems.