



Lexia® Core5® Reading: Comprehension Passages for Levels 12-20

This document contains the full text of all comprehension passages in Levels 12 to 20 of the Lexia Core5 Reading student activities. This resource allows teachers to further scaffold comprehension instruction and activities for students.

All comprehension passages in Lexia Core5 Reading have been measured using a number of tools to determine complexity, including Lexile® measures. Based on this analysis, the comprehension passages are appropriately complex for students reading at the grade-level of skills in each program level. For example, all comprehension passages in Levels 13 and 14 (Grade 3 skills) fall within the range of scores deemed appropriate for on-level Grade 3 reading skills.

CORE5 LEVEL	GRADE LEVEL OF SKILLS	LEXILE RANGE
12	Grade 2	420L to 650L
13-14	Grade 3	520L to 820L
16-17	Grade 4	740L to 940L
19-20	Grade 5	830L to 1010L



LEVEL 12, UNIT 1

Mixed Up Bear (Narrative)

Bear woke up. He had not slept well. “I feel mixed up,” he said with a yawn.

He made breakfast. He drank his milk with a fork and used eggs to make a cup of tea. He also put toast on his jam.

He washed his face with toothpaste and brushed his teeth with soap.

He got dressed. He put his legs in his shirt and his pants on his head. He also put his socks on his hands.

Bear yawned and said to himself, “I am too mixed up to start the day.” He went back to bed and slept for a long time.

LEVEL 12, UNIT 2

Hide and Seek (Narrative)

Ann and Abe were playing hide and seek. It was Ann’s turn to hide. Abe checked under the beds and looked behind the doors. In the living room, he saw Ann’s shoes peeking out from under the curtains. “Ha-ha,” he said to himself. “I’ll give my sister a funny scare.”

Abe tiptoed to the curtains. He lifted them and yelled, “BOOOO!” But Ann was not there. All at once, Abe felt a tap on his back. It gave him such a scare that he jumped and screamed.

Ann was standing there with a grin. She had set her shoes under the curtains but she had been hiding behind a chair.

“That was a funny trick,” said Abe. “Now it’s my turn to hide.”

LEVEL 12, UNIT 3

A Day at the Park (Narrative)

Bert and his friend Lin were in the park near their home. Bert went over to some flowers growing near a bench. He sniffed a red rose and sneezed. Then he sniffed another rose and sneezed again.

“You should not go near flowers,” said Lin. “They make you sneeze and that’s too bad for you. I love flowers because they smell so nice!”

But Bert did not listen to Lin. He kept sniffing all the flowers, and he kept sneezing and sneezing and sneezing.

“Wow,” said Lin. “You must really like to smell flowers!”

“I don’t like flowers,” said Bert. “But I really like to sneeze!” He ran over to a lily and sneezed again.



LEVEL 12, UNIT 4

Mystery at the Dog Shelter (Narrative)

Strange things were happening at the Battersea Dogs and Cats Home in London, England. The workers at this shelter were puzzled. On many mornings, they arrived to find dogs running freely. Food was spilled in the kitchen. Someone had let the dogs out of their kennels at night. But who? And why?

A surprising answer came after video cameras were set up in the shelter. Caught on video was a dog named Red. As night arrived, Red went to work. He used his nose and mouth to pull back the steel bolt that locked his kennel door. He went to the kitchen for some snacks. Then he hurried back to unlock another kennel, and another. He freed his pals—up to a dozen dogs. All shared a feast in the kitchen. They played, made a mess, and enjoyed their night of freedom.

When the videos were made public, Red became famous. People knew about dogs that could open a lock and run free. But nobody had ever heard of a dog that freed its friends too. More than 300 people called the shelter. They all wanted to adopt Red. Two weeks later, Red left the shelter for his new home.

LEVEL 12, UNIT 5

A Very Unusual Family (Narrative)

Mr. and Mrs. Collito lived in a trailer park in Massachusetts. In June 1999, they discovered something amazing nearby. A lost baby kitten was being cared for by a loving mother. But Mama was a crow! The Collitos began watching.

Mama crow fed the kitten insects and worms. She protected her baby, driving off animals and people. She cawed frantically if the kitten got too near the dangerous road. And she played with her, jumping and rolling around.

After a while, the Collitos took the kitten in, naming her Cassie. Every morning, Mama crow, now called Moses, showed up. She pecked on the back-door screen. She wanted Cassie to come out and play. The two would spend hours together.

For five years, Moses kept coming, even when she had a nest of babies nearby. Suddenly, she stopped. Wild crows live about seven years. Moses had probably died.

This story may seem hard to believe, but it's true. The Collitos' pictures and videos have been in many news stories.

LEVEL 12, UNIT 6

Anything for You (Poetry)

Forget that it's your birthday? Never!

Reveal your deepest secrets? No way!

Include you in my plans? Forever!

Encourage you to dream? Okay!

Need a helping hand or hug? I'm there!

Don't have your lunch today? I'll share!

Sweet friend, I hope you know I care.



LEVEL 12, UNIT 7

Pip Learns to Fly (Narrative)

Pip was a baby penguin who lived where it was quite cold and snowy. One day, she looked up and saw birds flying in the sky. It looked like fun.

Pip flapped her small wings, but she couldn't fly. She ran to Dad and asked, "I'm a bird and I have wings. Why can't I fly in the sky?"

Dad shook his head and said, "Penguins don't fly in the sky. Wait till you get older and grow a bit. Then Mom and I will show you where we fly."

When it was time, Dad and Mom took Pip to the water. "Jump in and follow us," they said.

Pip plunged into the water. Soon she was flying . . . through the water!

LEVEL 12, UNIT 8

Becoming a Frog (Informational)

What looks like a fish, swims like a fish, and breathes like a fish—but is not a fish? The answer to that riddle is a tadpole. A tadpole is not a fish. A tadpole grows and changes to become a frog.

Tadpoles begin their lives in water. Tadpoles hatch from eggs laid by an adult female frog. A tadpole has a round head and a tail. It breathes through gills, like a fish. The newly hatched tadpole rests at first. Then, as its tail grows bigger and stronger, the tadpole uses it to swim about. Its main food is bits of water plants.

Over time, the tadpole's body changes. The changes may take weeks, months, or even years. The tadpole begins to grow legs. The hind legs appear first, and then the front legs. A tongue forms in its mouth. Inside its body, lungs take shape. Lungs are what land animals use to breathe on land. The tadpole's gills disappear.

Finally, the animal leaves the water. It may still have a tail, which begins to shrink. The animal is not a plant eater anymore. It uses its long tongue to catch insects. The tadpole has become a frog.

LEVEL 12, UNIT 9

A Different Way to Grow (Informational)

As children grow, the bones inside their bodies grow longer and bigger. That's true of most animals, too. But some animals are different. Insects grow in an unusual way.

Insects do not have bones. Instead, an insect has a hard outer shell. The outer shell cannot grow bigger. It becomes too small to hold the insect's growing body. But the insect has a way to solve that problem. It molts.

What happens when an insect molts? Molting takes place in stages. First, the insect's hard shell splits apart. Next, the insect squirms out. Its body is soft. Finally, the insect's outer parts harden to form a new shell. As the insect keeps growing, it may molt many times. It stops molting when it reaches its adult size.

Look for signs that an insect has molted. Its empty shell looks just like the insect that once lived inside.

**LEVEL 12, UNIT 10****The Bike Ride (Narrative)**

Uncle Bob was teaching Dave to ride a bike. He held the bike by the seat, and Dave put his feet on the pedals.

“Go!” said Uncle Bob.

Dave pumped his legs, and his hands gripped the bars as the wheels turned.

“I’m with you!” said Uncle Bob as he ran. The bike swayed from side to side but did not fall. Dave was glad that Uncle Bob was holding the seat.

“Keep it up! Do not look back,” said Uncle Bob.

Dave pushed the pedals fast and the bike stayed up.

At last, Dave put on the brake and jumped off. “Now, I want to ride on my own,” he said.

Uncle Bob smiled. “I was not holding the seat,” he said.

LEVEL 12, UNIT 11**The Camping Trip (Narrative)**

Max was camping out for the first time. He and his friend Sho were sharing a small orange tent in Sho’s backyard.

“This is fun!” cried Sho.

Yes, this is fun!” cried Max, trying to be brave. He was scared of the dark but he didn’t want Sho to know that.

Just then, there was a WHOOOOO sound.

“EEK!” Max screamed. “What’s that sound?”

“Only an owl,” said Sho. “Let’s tell scary tales!”

“That will be fun,” said Max, but he really didn’t think it would be fun at all.

“Here, shine this flashlight on your face,” said Sho. “It’ll look scary.”

“Why did you bring a flashlight?” asked Max.

“I’m scared of the dark,” Sho admitted in a shy voice.

“Me too!” cried Max. “Why don’t we tell funny tales?”



LEVEL 12, UNIT 12

You Are a Hero, Jessica Watson! (Informational)

It was May 15, 2010, a sunny afternoon in Sydney, Australia. Thousands lined Sydney Harbor. Thousands more watched on TV. They were waiting for 16-year-old Jessica Watson to come home. She'd been gone for 210 days.

Jessica had just become the youngest person to sail around the world all by herself. She had battled terrible storms and terrifying waves as big as four-story buildings. She had been lonely and homesick. But there had been special moments, too: watching a beautiful sunrise; spotting a blue whale, the biggest creature on Earth; seeing a shooting star race across the wide night sky.

Now she was being escorted into Sydney Harbor by a crowd of boats, large and small. Spectators cheered when they spotted her yacht, named *Ella's Pink Lady*. As Jessica stepped ashore, her legs wobbled. She hadn't been on land for seven months. She fell into her parents' arms.

Later, important people made speeches. Jessica was called a hero. She didn't agree. "You don't have to be someone special to achieve something amazing," she told the audience.

On January 25, 2011, Jessica Watson was named Young Australian of the Year. It was a great honor for a brave young sailor.

LEVEL 12, UNIT 13

The House on Pine Road (Narrative)

Kim and Josh wanted to play games together, so Kim asked Josh to come to her house on Sunday.

"Where do you live?" Josh asked. "I live at 9 Pine Road."

"I live nearby," said Kim. "Walk to Grey Street, turn left, go two blocks, and then look for a red house."

"So I go to Grey Street, and then I turn left?" Josh asked.

"Right!" said Kim.

"Oh. So I go to Grey Street, and then I turn right?" Josh asked.

"No, turn left at Grey Street," said Kim.

Josh was confused about what he should do to get to Kim's house.

"Oh, wait!" said Kim. "When I said right, I meant yes. Yes, you should turn left."

Josh grinned and said, "Now I know what to do!"



LEVEL 12, UNIT 14

What Do You Mean? (Informational)

One reason for communicating is to tell how we feel. Some communications are silent. We use gestures, or signals. In many countries when we agree with someone, we nod. It is a silent way to say *yes*. If we disagree, we shake our heads to mean *no*.

Yes and *No* are universal ideas. People everywhere use gestures and words too, for *yes* and *no*. But their gestures may be quite different from the ones you use!

Here are just a few:

- In Bolivia, they raise their hands, palm down, and twist them for *no*.
- *No* is the same in Eritrea. The Eritreans also snap their fingers for *yes*.
- In Iran, they tilt their heads up quickly for *no*. They tilt them down quickly for *yes*.
- In Turkey, raising their eyebrows means *no*.
- In the Philippines, raising their eyebrows can mean *yes*. Nodding quickly means, “I don’t know.”
- In Bulgaria, they shake their heads for *yes* and nod for *no*.

If you meet someone from one of these countries, be careful. You two may think you disagree and get mad. But actually, you both feel the same way!

LEVEL 12, UNIT 15

Liberty in New York Harbor (Informational)

On an island in New York Harbor, a mighty woman holds a torch high for all to see. She is known as the Statue of Liberty.

Liberty means “freedom.” The Statue of Liberty is a symbol of freedom. That means she stands for the idea of freedom. She is a symbol of the United States. The Statue of Liberty also stands for the friendship between France and the United States. The French people gave the statue to the United States in 1884.

A broken chain lies by the bottom of the statue’s long robe. The chain stands for the end of slavery and for the end of harsh rule.

The statue holds a tablet. It is a symbol of laws. Roman numerals on the tablet name July 4, 1776. On that date, Americans declared their independence from British rule.

Seven rays are in the statue’s crown. They stand for the world’s seven seas and seven continents.

The statue’s torch is like a welcoming light. “Come,” it seems to say. “This is the way to freedom.”



LEVEL 12, UNIT 16

The Fox and The Crow (Narrative)

Fox looked up at the branch of a tree and saw Crow was sitting on the branch. She held a big chunk of cheese in her beak. Fox wanted that cheese, so he came up with a plan to get it.

Fox said, “What a fine bird I see on the branch! Her black feathers gleam in the sun. She looks so beautiful!” As Fox spoke, Crow felt proud.

Fox went on. “That bird is so fine-looking. It is a shame that she cannot sing.”

Crow wanted to show Fox that she could sing. “CAW, CAW,” she sang.

When she opened her beak, Crow dropped the cheese, and it fell down to the ground. Fox picked up the cheese and trotted off with it.

LEVEL 12, UNIT 17

A Dog’s Mistake (Narrative)

Dog found a piece of meat. He was heading home with the meat in his mouth.

Dog came to a log bridge that crossed a stream. On the bridge, he looked down at the water. He was surprised to see a dog looking up at him, and that dog had meat in his mouth!

“That dog’s meat looks better than mine,” Dog said. “And I want it!” He dropped his own meat and leaped into the water. The stream carried off Dog’s meat.

There was no other dog. When Dog had looked down from the bridge, he had seen himself in the water. The water was like a mirror.

Dog said sadly, “Now I have no meat at all.”

LEVEL 12, UNIT 18

Be A Storyteller! (Informational)

A fable is a tale that teaches a lesson called a moral. Fables are short. The characters are often talking animals. Fables are fun to read, and they’re fun to write, too! Here are some ideas for planning and writing your own fable.

First, think of two characters. They could be a hungry cat and a clever mouse. How about a speedy squirrel and a slow snail? Or a sly fox and a wise owl? You decide.

Next, think about what the characters say and do. One character might try to trick the other. That often happens in fables.

After that, decide on the lesson one character will learn. It might be a lesson about greed, honesty, or another big idea.

Finally, write your fable! Remember, when you finish your fable, you can end it with a sentence that tells the moral.



LEVEL 13, UNIT 1

The Great Idea (Narrative)

“Let’s write a story about taking a trip,” Miss Wing said to the class. “Who has visited an interesting place?”

Liz had not been on any trips, so she did not raise her hand.

“I visited a farm,” said Reed.

“I went on rides at a theme park,” added Jane.

Carl talked about sailing on the sea. Rose had camped in the woods.

Everyone but Liz had gone to an interesting place.

Miss Wing asked Liz, “Where have you visited?”

An idea popped into Liz’s head and she blurted out, “I went to the moon!” Then she added, “Well, in a dream that I had.”

The class chose the idea they liked best. Their story was called, “Our Trip to the Moon.”

LEVEL 13, UNIT 2

The Fishing Trip (Narrative)

Mike looked out at the rain and frowned. He had planned to go fishing with Gramps today, but it was raining too hard.

With a sigh, he sat on his bed and said to himself, “I wish this bed was a boat in a lake. Then I could fish from it.” Suddenly, he got an idea.

He found a string, a stick, and a magnet. He tied one end of the string to the stick and the other end to the magnet. Then he dropped paper clips on the floor. From his bed, Mike held the stick and tried to pick up the clips with the magnet. He was pretending to fish.

Gramps came by. “What a clever fishing rod!” Gramps said. “I’ll make one, too, and we can see who gets more fish.”

LEVEL 13, UNIT 3

A Sweet Invention (Informational)

What is an invention? It is something that is made for the very first time. Every invention—from airplanes to zippers—has a story behind it. Here is the story behind the invention of a popular treat.

In 1930, Ruth Wakefield and her husband opened the Toll House Inn in the state of Massachusetts. Ruth made the food for the guests. Because she was an expert baker, many people came to the inn for her delicious desserts.

Ruth used baker’s chocolate to make butter cookies. Baker’s chocolate melts when heated. But one day, as she was mixing up the batter, she saw that she had no baker’s chocolate. She decided to use a chocolate candy bar instead. She chopped the bar into small pieces and added it to the batter she was mixing. She expected the little pieces to melt when she baked the cookies. But the pieces didn’t melt. The cookies came out of the oven with bits of soft, creamy chocolate in them. They were delicious!

Ruth Wakefield invented the world’s very first chocolate chip cookie.



LEVEL 13, UNIT 4

The Unbelievable Bamboo (Informational)

If you strolled through a bamboo forest, you'd think you were surrounded by tall trees. You'd see delicate green leaves sprouting overhead. You might think the straight tree trunks were odd, especially if you knocked on one. It would be hollow. As plant experts know, trees are not hollow, but grasses are.

Now here's the amazing part: Bamboo isn't a tree. Could a plant this tall be a grass? In fact, that is exactly what bamboo is. It's a grass—a gigantic grass! A full-grown bamboo plant may grow 130 feet (40 meters) high. That's taller than most 12-story buildings.

Bamboo is unusual in other ways. It is the fastest-growing grass in the world. Many grow a foot (30.33 centimeters) in a single day. Some actually grow 3 or 4 feet (91-121 centimeters) in 24 hours. You wouldn't think something that grows so fast could be strong, but woody bamboo stems are incredibly strong. Bamboo has a tensile strength similar to steel. This means it is about as easy to tear apart bamboo as it is to tear apart steel. Bamboo also holds up under pressure better than concrete.

This amazing plant has over a thousand uses. Bamboo is used to build things from fences to floors, lamps to ladders, boats to bikes to bridges! It can be used to make fabric as soft as cotton. It's even good to eat!

LEVEL 13, UNIT 5

Let's Take a Vote (Narrative)

"Let's see what pet we like most," said Miss Cray. "Who likes cats best?"

Nine kids raised their hands and Sue did, too. Miss Cray wrote *CATS 10* on the board.

"Who votes for dogs?" asked Miss Cray.

Ten kids raised their hands and Sue did, too. Miss Cray wrote *DOGS 11*.

Three kids voted for fish and Sue did, too. *FISH 4* wrote Miss Cray. Then Sue and two kids voted for birds. Miss Cray wrote *BIRDS 3* on the board.

Miss Cray looked at the numbers on the board and frowned. "I count three, but $10 + 11 + 4 + 3$ is 28, and there are 25 children in our class."

"Sue voted every time for every pet!" announced Gil in a loud voice.

"You must select one pet and vote just once," Miss Cray informed Sue.

"But my family has a pet cat, a pet dog, a pet fish, and a pet bird," explained Sue with a shrug. "How can I choose just one?"



LEVEL 13, UNIT 6

Earth's Neighbor (Informational)

As night comes, a light sparkles in the western sky. The shining object looks bigger and brighter than any night star. People call it the evening star. The same object can appear in the east at dawn. Then it is called the morning star. This body in space is not a star at all. It is the planet Venus.

Planets do not give off their own light, as stars do. Venus looks bright because the Sun's light bounces off it and reaches planet Earth.

Venus is Earth's closest planet neighbor. It is the second planet from the Sun, and Earth is the third. Space scientists have sent spacecraft to Venus, but astronauts cannot go there. Venus is extremely hot. The temperature on its surface is higher than 450 degrees Celsius, or 840 degrees Fahrenheit. Thick, heavy, hot clouds cover the planet. They are made of deadly gases.

Venus may not be the kind of place to enjoy up close. But seen from Earth, Venus can really dazzle.

LEVEL 13, UNIT 7

A Snail Story (Fable, Folktale, or Myth)

These days, snails are very slow, and as they crawl along, they leave a trail of slime. Once upon a time, snails were FAST. They could outrun all the other animals.

The other animals didn't like it, and here's why:

Let's say Goat was walking along. ZIP! Snail raced by, too fast to see. WHOOSH! It left a slime trail. WHOOPS! Goat slipped on the slime and fell. "Can you please slow down?" Goat asked.

Again and again, animals slipped and fell after Snail zipped by. Every time this happened, the animals begged Snail to slow down. Finally, the animals went to see the King and Queen. "It's bad for Snail to be so fast," they said. "Because we don't see her or her slime and then we fall."

The King and Queen spoke to Snail. "You have shown that you do not care about anyone but yourself. Now you must live alone. Leave us with nothing but what you can carry on your back."

Snail packed everything she owned into the shell on her back. It was so heavy that she could only crawl along slowly. That is why snails are still so slow today.

LEVEL 13, UNIT 8

The Ant and the Dove (Fable, Folktale, or Myth)

One day, a dove saw an ant fall into a brook. The ant tried to get out, but she couldn't swim. The dove felt sorry for the ant, so he grabbed a leaf and dropped it into the water. The ant hauled herself onto the leaf, and then she floated to shore. The dove smiled as he flew off.

The next day, the ant saw the same dove sleeping in a tree. She also saw a man with a large stone that he wanted to throw at the dove.

The ant bit the man on the heel. He yelled and dropped the stone. The noise woke up the dove, who flew away.

The ant felt good because she had helped someone who had helped her.



LEVEL 13, UNIT 9

The Donkey and The Salt (Fable, Folktale, or Myth)

Long ago, a merchant bought big sacks of salt at the market. He loaded the sacks onto his donkey's back, and the two set off for home.

They came to a stream and began to wade across it. The heavy burden caused the donkey to lose his balance. He slipped and fell into the water. When the donkey stood up again, his load was much lighter. Most of the salt had dissolved in the water.

The merchant returned to the market and bought salt again. Once again, he loaded the sacks onto the donkey's back. When they came to the stream again, the donkey remembered how to lighten his burden. He purposely fell into the water. The salt melted away, and the donkey rose to his feet without the weight of his load.

The merchant watched with a knowing look. Then he led the donkey back to the market. This time, the merchant did not buy salt. He bought a load of sponges. When the donkey came to the stream, he quickly lay down. The sponges filled with water. Back on his feet, the donkey was surprised to find that his load was much heavier than before.

LEVEL 13, UNIT 10

What Happened to the Giant Kangaroo? (Informational)

Australia was once home to a kangaroo that could reach over 8 feet (2.5 meters). This giant had hoof-like toes with claws. As it roamed the forests, it easily reached up into trees and grabbed leaves to eat.

Giant kangaroos died off over 40,000 years ago. Why? Little evidence has been found. But scientists have offered two theories about what killed off the giant kangaroos:

- *Climate change made them extinct.* Fossil evidence shows that giant kangaroos struggled through bad droughts. These long periods of time without rain killed off the plants that the kangaroos ate. In between droughts, there were huge floods. Flooding destroyed more of the plants and killed off kangaroos weakened by drought.
- *Humans made them extinct.* Fossil evidence also shows that the first humans arrived in Australia about 43,000 years ago. They cleared away forests to plant crops. So giant kangaroos had less and less to eat. Meanwhile, humans hunted and killed them. Before long, giant kangaroos were wiped out.

In 2010, an Australian scientist named Gavin Prideaux wrote a paper. He argued that both theories could be true: The droughts killed off many kangaroos. Those left were soon killed off by humans.

Scientists continue to search for evidence. Maybe they'll finally solve the mystery!



LEVEL 13, UNIT 11

The Clownfish's Poisonous Home (Informational)

The clownfish is a cheerful-looking little fish. Most are bright orange with three up-and-down white stripes outlined in black. These fish have a strange home. They prefer living among the long arms, called tentacles, of certain sea anemones. These tentacles have sharp tips filled with poison. Anemones use their tentacles to protect themselves and catch prey to eat. Their sting is strong enough to kill small fish.

Clownfish are small fish. Yet they stay safe among the anemone's tentacles. They don't seem to get stung. Scientists think this is because a clownfish's scales are covered with a thin layer of slime. This slime seems to keep the anemone from stinging.

Living together works out well for both animals. The clownfish eats the anemone's leftovers. It gets fed while keeping the anemone clean. The anemone protects the clownfish. Clownfish are poor swimmers and would be easy prey out on their own. They constantly move around, skirting and staying away from the anemone's tentacles. Clownfish also protect the anemone. They dart out and chase away butterfly fish and other fish that like to nibble on and eat the tentacles.

The clownfish and the anemone are not exactly friends. But they do help each other out!

LEVEL 13, UNIT 12

The Tricky Death Cap (Informational)

Mushrooms sold in supermarkets are good for you. Many wild mushrooms, though, are poisonous. One is really dangerous. Scientists call it Amanita phalloides (a-muh-NIE-tuh fuh-LOY-deez), but it's known as the Death Cap. People die every year from eating poisonous mushrooms. Ninety percent of them ate Death Caps.

The Death Cap grows all over the world, but mostly in Europe and the United States. This mushroom is tricky in two ways:

1. *The Death Cap doesn't look deadly.* It resembles a lot of harmless types of mushrooms. It doesn't smell bad. (Some people think it smells like roses.) It tastes good. You wouldn't spit it out.
2. *You probably won't know you ate a deadly mushroom.* It takes from 6 to 24 hours to get sick. Then your stomach feels terrible, and you throw up. After a while, you feel better. Inside, though, the mushroom is hurting you.

There is no cure for the poisonous Death Cap. But if you get medical help sooner rather than later, you have a pretty good chance of surviving. Here's the best plan: NEVER eat a wild mushroom!



LEVEL 13, UNIT 13

Play a Party Game (Informational)

You and your friends can have fun playing the party game Camouflage. Something that is camouflaged is hard to see because it blends in with its background. In the game of Camouflage, players try to find things that are hidden in plain sight.

First, gather about ten small objects to hide in a room. Examples include: marbles, pencils, crayons, a piece of tape, and paper clips, to name a few.

Next, list the names of the objects on a sheet of paper. Make copies of the list to give to the players.

After that, place each object in a spot where it is camouflaged. Use its color or shape to choose a good spot. Do not put it behind or under anything.

Then give a list to each player, and explain the rules. Say, “Roam around the room, looking for objects on the list as you walk. Do not touch anything. If you find an object, come to me and whisper where you found it. I’ll check off that name on your list.”

The first player to find all the objects is the winner.

LEVEL 13, UNIT 14

Telling the Truth (Narrative)

“No, I didn’t take the cookie,” Jayden told his mother. He wore a smile that he hoped looked innocent.

“Then why are there chocolate crumbs on your face?” Mama asked. ““Have you lied to me?”

“Oops,” said Jayden, wiping his mouth with his sleeve. He had been caught! “I knew I wasn’t supposed to have a cookie before dinner,” he said. “Sorry I broke the rule about that.”

“In fact, you broke two rules,” said Mama. “You ate a cookie when you weren’t supposed to, but you also lied about it. Lying is against the rules, and lying is worse than taking a cookie. Promise me that you’ll never lie again.”

Jayden felt ashamed, so he said sincerely, “I promise never to lie again and always tell the truth.”

That evening, Auntie Brandi came by to visit. She was wearing a new hat. “The salesperson said this hat is the latest fashion,” Auntie Brandi told Jayden’s Mama. “Do you like it?”

“It’s lovely,” said Mama.

Auntie Brandi turned to Jayden and asked him, “What do you think of my hat?”

Jayden looked at Auntie Brandi in her hat and remembered his promise. “I think it looks like someone dumped a bowl of spaghetti on your head,” he said.



LEVEL 13, UNIT 15

Fair Bike Rules (Opinion)

The city council here in Karlinsburg is going to vote on a new rule: No bicycles on sidewalks. This rule is unfair to youngsters in this community.

First of all, riding bikes in the street is too dangerous for children. Car drivers may not see a bike in time to stop. The door of a parked car may suddenly open. Bicyclists are injured as a result.

The sidewalk is safer than the street. Some people have complained about bicyclists on sidewalks. They say that speeding bikes have knocked down pedestrians who cannot get out of the way. But instead of banning bikes on sidewalks, how about making a few simple rules for safe riding?

- Slow down.
- Politely ask pedestrians if you can pass them.
- Walk the bike if the sidewalk is crowded.
- Stop at every driveway and cross street.

Sidewalk rules like these can give everyone a safe way to get around. When a Karlinsburg youngster learns to ride a bike, these rules can be part of the training. Please let council members know that they should vote for safe riding on sidewalks, not for banning bicycles.

LEVEL 13, UNIT 16

The War Hero with Feathers (Informational)

World War I was fought in Europe from 1914 to 1918. Armies didn't have cell phones or other fancy equipment back then. If they needed to send an important message, they put it inside a capsule. Then they tied the little tube to a pigeon's leg. Then they released the pigeon. The bird quickly flew home to headquarters, even if it was hundreds of miles away and bombs were going off.

One pigeon flew 12 important missions. He was named Cher Ami, which means "dear friend" in French. In October 1918, 194 soldiers were trapped behind enemy lines. The men were out of supplies. So they tied a message to Cher Ami's leg and released him. The bird flew 25 miles in 25 minutes. He arrived safely home with the message.

This was amazing because Cher Ami had been shot twice and lost part of his leg! All the soldiers were saved. It was his last mission. Cher Ami was patched up and sent home. But not before he was awarded the highest French honor: the French "Croix de Guerre" ("Cross of War"). Cher Ami was one of the heroes of World War I!



LEVEL 13, UNIT 17

A Record Jump (Informational)

Every four years, the world's best athletes compete at the Summer Olympic Games. Sometimes, athletes set new records in their events. And once in a while, an athlete does something that makes everyone gasp in wonder. That is what Bob Beamon did in 1968.

That year, the Olympic Games were held in Mexico City. Bob Beamon was a 22-year-old American competing in the long jump.

Beamon ran down the runway at top speed. He leaped from the take-off board set on the ground. He rose high into the air and soared over the sand pit. When he landed in the sand, he knew he had jumped farther than he had ever jumped before. Had he set a new record?

The scoreboard showed the distance he had jumped—8.9 meters, or 29 feet 2 1/2 inches. That would be like leaping over five bicycles lined up end to end! Beamon fell to the ground in shock. He had beaten the world's record by more than half a meter, almost two feet! None of the other athletes could even come close. Bob Beamon's amazing long jump record lasted almost 23 years.



LEVEL 13, UNIT 18

A New Record! (Drama)**Cast of Characters**

ANNIE, a 6-year-old girl

IAN, Annie's 11-year-old brother

OMAR, Ian's 11-year-old friend

Scene 1

[One afternoon in the kitchen of IAN and ANNIE's home. ANNIE, IAN, and OMAR are sitting at a table. IAN and OMAR are enthusiastically reading a book together.]

IAN. Omar, look at this! This guy set a record for smashing concrete blocks with his hand!

OMAR. [Reading] 90 blocks in one minute! [Pointing to another page] What did they do?

IAN. They rowed that boat all the way across the Atlantic Ocean.

OMAR. [Reading] They broke a speed record doing it!

ANNIE. What's a record?

IAN. That's when someone does something better or longer or faster than ever before. [To OMAR] Look at this picture.

OMAR. That crowd broke a record for the world's largest snowball fight! That sounds like fun.

[ANNIE stands and exits through the kitchen door. IAN and OMAR keep turning pages and commenting. Curtain.]

Scene 2

[15 minutes later. IAN and OMAR have put the book aside and are making snacks. ANNIE bursts in through the door.]

ANNIE. [Breathlessly] I did it, Ian! I did it! I broke a record! [IAN and OMAR give each other puzzled looks.] I did three cartwheels in a row without falling!

IAN. Uh, Annie, that's cool, but I don't think that three cartwheels can get someone in the record book. You'd probably have to do thousands of them.

ANNIE. [Still excited] The most I could do before was two cartwheels. Now I did three! I broke a record!

OMAR. [Shrugging] Well, she DID break her own record.

IAN. [To ANNIE] You're the champ!

[ANNIE stands tall and pumps her fists over her head. Curtain.]



LEVEL 14, UNIT 1

Louis Braille (Informational)

Louis Braille was born in France in 1809. He became blind at the age of three because of an accident. At the village school, Louis learned by listening. He wished he could learn by reading.

When he was ten, Louis began living at a school in Paris. This school for blind children was the first of its kind. The students learned to read using books that had big raised letters for fingers to feel. The thick, heavy books had only a few words on a page. Reading each page took a long time.

Another way to read by touch had just been invented. Dots and dashes were punched into cardboard with a pointed tool. Fingertips could sense the bumps on the other side of the cardboard. The raised dots and dashes stood for sounds in words.

Louis and other students were eager to learn the new system. But soon they were disappointed. Many dots and dashes were needed for just one word, so reading was much too slow.

But Louis liked the idea of fingertips touching little bumps. He tried to think of ways to make the dot-and-dash system simpler. He began spending all his free time with a pointed tool and thick paper, punching little holes. He kept trying to make patterns that were easy to understand.

After three years of trying, Louis finally had a system that made fast reading possible. In his system, raised dots stood for letters and numbers. Each set of six dots fit under a fingertip. By sensing which dots were raised in a set, a reader could quickly make out the letter or number. Louis Braille invented this system when he was only fifteen years old.

This system of raised dots worked so well that it is still used today. It is called braille.



LEVEL 14, UNIT 2

The Invasion (Narrative)

It was exactly sixteen minutes past noon. Time for Dr. Marvel to test his Critter-Twitter machine that he had been experimenting with in his basement for years. He put on the headphones and picked up the mind-microphone. His eyes sparkled with excitement as he aimed the mind-microphone at his pet cat who was sitting on the bookshelf, cleaning her fur.

The scientist turned on his machine and through the headphones, he heard a low, purring voice: “Clean my leg. Keep cleaning and keep cleaning. What else? Clean my other leg. Keep cleaning and cleaning.”

“Ha! Ha! Ha!” Dr. Marvel snickered happily. “I’ve done it! My machine can read an animal’s thoughts!”

He turned the mind-microphone on his dog, who was lying on the floor looking up at him. He heard a whiny voice: “Food, am I getting food? No, no. Play, are we going to play? No, no. Out, am I going out? No, no...”

Suddenly the headphones screeched, and Dr. Marvel pointed the mind-microphone at the window while he adjusted his machine.

Strange whispering noises filled his headphones. “It was such a long journey, but we’re here! Our invasion was successful and we can take over this place!”

Dr. Marvel ripped off his headphones and looked around in terror. “Yikes, I’m getting messages from space! I’m hearing creatures from another planet, and they’re invading Earth! I must pack up my car and head for the mountains where I’ll live in my cabin. But those invaders won’t get my machine!”

He smashed his Critter-Twitter machine to pieces and then scrambled upstairs with his pets. He never noticed the long line of ants crawling in from the window. They were invading his basement.



LEVEL 14, UNIT 3

Then and Now: An Interview with My Grandmother, Sally Luff (Informational)

ADAM RUIZ: The topic for my school assignment is how communication has changed since long ago. Can you tell me about technology when you were a child in the 1960s?

SALLY LUFF: I'm happy to tell you all about it.

AR: Thanks, Grandma. Okay, my first question is: What is a big change in communication since you were my age?

SL: Well, telephones have certainly changed. In my childhood, we had no wireless connections—no cellphones or smartphones. Our phones had to stay plugged into the wall. And, if you can imagine, they all had dials that you turned by poking a finger into a hole. A phone was just for talking.

AR: Did you have a computer at home?

SL: In the 1960s, only big companies had computers. Personal computers weren't invented yet.

AR: Did you have a television?

SL: Yes, we did. A big rooftop antenna picked up signals that stations were broadcasting. There were only six stations, and we moved a dial on the TV to change the channel. There were color TVs, but the one in our house showed pictures only in black and white. When a favorite program was broadcast, we all watched the show together.

AR: Would you want to go back to the days when there were no smartphones, personal computers, or online video?

SL: No, because now I expect instant communication of all kinds. But, I think that all our digital devices have brought less of what we're enjoying right now—talking face to face.

AR: Has anything not changed since you were growing up?

SL: When I was your age, I had the same school assignment you have! So that hasn't changed. Like you, I interviewed my grandmother. She was born in 1890, and I was surprised to learn that she grew up without electric lights or indoor plumbing. Maybe your grandchildren will interview you someday. What do you think will surprise them?"



LEVEL 14, UNIT 4

Watching Clouds (Informational)

Have you ever seen clouds that look like fluffy white cotton floating in the bright blue sky? These clouds often have flat bottoms and piled-up pillowy tops. They are called cumulus clouds. On a warm summer day, it's pleasant to watch their changing shapes as they drift across the sky.

At times, a cumulus cloud grows very tall. Then it may turn into a towering gray-black storm cloud. Its top spreads out in a flat shape. Thunder booms, and lightning flashes from it. Heavy rain pours down.

Clouds that look like flat sheets are called stratus clouds. Stratus clouds that are close to the earth can bring a light, steady rain. A day of drizzle often means that gray stratus clouds are low in the sky.

Cirrus clouds are white and feathery. They are high in the sky and are usually a sign of fine weather. Some cirrus clouds are known as mares' tails because they have long, streaming ends.

Clouds are important. They can bounce sunlight back to space to cool the earth. They can also trap heat, warming the earth. Clouds come in different shapes and types, but all are made of water. The water takes the form of tiny drops of liquid or ice. When the drops grow too heavy to stay up, they fall to the earth as rain, snow, or hail. Clouds return water to the earth, where it is needed by all living things.

LEVEL 14, UNIT 5

Glaciers: Rivers of Ice (Informational)

Thousands of years ago, during the Ice Age, most of the world was covered with ice. Then, roughly 11,000 years ago, the earth began to warm. These days, you must travel to the North or South Pole or to high mountains to see what's left from the Ice Age. This is where ice fields and glaciers can be found.

What Is a Glacier?

Glaciers are huge masses of ice. The biggest one covers over 620,000 square miles (over 1 million square kilometers). A glacier is like an ice field except for one big difference: movement. Glaciers flow! But most move extremely slowly, less than one foot (30 centimeters) a day.

How Does a Glacier Form?

Glaciers form when more snow falls in winter than melts or dries up in summer. Snow builds up year after year, forming layers. Each new layer pushes down on the layer beneath. This pressure causes last year's snow to turn into grain-like pellets called firn. As more layers form, creating more pressure, the firn turns into ice. The ice finally becomes so thick and heavy, it begins to move.

How Does a Glacier Move?

The whole glacier slowly spreads out as it moves downhill. This general movement of a glacier is called *creep*. But some parts of the glacier move faster than others. The fastest moving are the top and middle layers, where ice is sliding over ice. The bottom, which rubs against the land, moves more slowly.

What Does a Glacier Do?

As a glacier moves, it changes the land. Its movement wears down the rock surface underneath, slowly carving out valleys. The icy bottom of the glacier also catches on cracks in rock. The heavy, moving ice rips out sections of rock and carries them along. As it continues to flow, the glacier peels back layer after rocky layer. It takes a river of ice to rip up rock!



LEVEL 14, UNIT 6

Watery Forest (Informational)

Along the seacoasts of warm lands, remarkable trees grow. They are mangrove trees. They have the special ability to live where most trees can't. Mangrove trees survive in salty ocean water. Their roots are able to remove most of the sea salt which can be damaging to plants. Mangrove trees send down roots from their branches. The tangled roots are partly underwater and partly above water. They help to hold up the tree in the soft mud.

Mangrove forests are also called mangrove swamps. A swamp is a kind of wetland. In swamps, the most common plants are trees and shrubs. People have viewed mangrove forests and other swamps as dangerous, useless places. Swamps have mud, mosquitoes, and creatures lurking in the shadows. Around the world, mangrove swamps have been cleared: cut down for houses, shrimp farms, and vacation spots.

However, many people are trying to protect mangrove swamps. They have learned how valuable these wetlands are.

Mangrove forests are a barrier between land and sea. They protect the coastline from strong waves during storms. They also protect the ocean from pollution. Water with chemicals from farms and industries flows into the mangrove swamp. There, tree roots filter out pollutants.

The roots also trap and collect silt from the water. Silt is made of tiny bits of rock. When piled up, silt helps build and form more dry land.

Mangrove forests are centers of life. Reptiles, amphibians, birds, and mammals find food and homes here. The network of roots shelters baby fish and shellfish. The endangered American crocodile lives in the mangrove forests of Florida. The rare Bengal tiger lives in the Sundarbans (SUN-duh-bunz) of Southeast Asia. The Sundarbans is the largest mangrove forest in the world.

When people think about saving the world's forests, they often picture rainforests. Mangrove forests are not as well known. Yet they deserve attention and protection. Mangrove forests are wonderful wetlands.



LEVEL 14, UNIT 7

High, Higher, Highest (Narrative)

“Oh, why did I let you talk me into this?” Miguel said to his cousin Luis. “You know I don’t like high places.”

The boys had just taken their seats in a car of the Ferris wheel at Seaside Park. “You’ll like it when you get used to it,” Luis answered.

The giant wheel turned and lifted their car into the air. Miguel could feel the car swinging and he squeezed his eyes shut. “I hate it, I hate it,” he said.

“Just relax,” Luis said. “It’s not going fast.”

“But...it’s...going...high,” said Miguel through clenched teeth. “I can’t look.”

The car rose higher, and then it swung in place. When it started up again, Miguel swallowed hard. “I hate it, I hate it,” he said in a shaky voice. His knees trembled and he gripped the safety bar so tightly his hands hurt. “I’m not looking,” he said.

“We’re at the top,” said Luis.

Miguel opened first one eye and then the other. He saw the colorful carousel and the racecar ride far below. All the people looked so small! The whole park spread before him as he looked down at the boardwalk, the sandy beach, and the crashing waves. The ocean stretched all the way to the sky. The car was rocking as gently as a cradle.

At last, the ride ended, and as the boys stepped out onto firm ground, Miguel said, “Let’s go on it again.”

LEVEL 14, UNIT 8

Nikki’s New Shoes (Narrative)

Nikki had brand-new sneakers. They were bright white, and she loved looking at them. “I’m going to be so careful with these sneakers,” Nikki announced to Momma. “I promise I won’t get a speck of dirt on them.”

“You can try,” Momma replied. “But you’ll have to be very careful.”

Outside, Nikki watched where she stepped on the sidewalk. Her head was down, so she did not see the little boy with the ice cream cone. BUMP! Nikki danced back fast. A blob of strawberry ice cream landed on her shirt. But nothing had dripped on her sneakers.

Nikki walked on with care. When she came to a puddle, she stepped around it. At that moment, a girl on a bike sped through the puddle. SPLASH! Wet splotches of mud spread across Nikki’s shorts. “I’m lucky that nothing splashed on my sneakers,” Nikki said to herself.

Nikki reached her friend Kayla’s house. They ate lunch together. Nikki sat with her feet tucked under her. She squirted mustard on her sleeve by mistake. Some grape juice spilled on her lap.

The girls played outside. Kayla’s backyard had a grassy hill that was perfect for tumbling. Nikki took off her sneakers. As she rolled down the hill, the grass stained her socks and clothes.

When Nikki came home, Momma looked at her in surprise. Nikki’s clothes had pink, brown, yellow, purple, and green stains on them. “I thought you were going to be careful,” Momma said.

“I *was* careful,” Nikki said proudly as she pointed to her feet. Her sneakers were still bright white.



LEVEL 14, UNIT 9

Cricket's Songs (Fable, Folktale, or Myth)

Long ago, Cricket wanted to make the most beautiful music in the world. So on warm summer nights, he would stand out in the meadow, clear his throat, and shriek: "I'm si-i-i-i-inging! Isn't it l-o-o-o-o-vely! I'm such a great s-i-i-i-i-inger!"

The other animals would roll over in their beds and put their hands over their ears, waiting for him to stop. It was awful to hear. But nobody wanted to hurt Cricket's feelings and tell him how terrible his singing was.

Nightingale tried giving him singing lessons. It didn't help.

Lark tried to teach him her lovely songs. It did no good.

Then one day, Cricket got a bad cold. He couldn't even speak, much less sing. The other animals were relieved not to hear his songs every night. But they were sorry he was sick. So they brought him food every day and tried to cheer him up.

After a while, Cricket got better. But something had happened. That night, he prepared to sing, standing up tall in the meadow and clearing his throat. When he tried to sing, nothing came out. He could still talk, but he couldn't sing!

The other animals were relieved, but Cricket was angry. He lay down and furiously kicked his back legs up and down.

"Creak! Creak! Creak!"

"Did I make that sound?" wondered Cricket. He rubbed his back legs together again.

"Creak! Creak! Creak!"

Cricket was overjoyed. He could still make music for the animals at night, when the weather was warm. The animals were thrilled because they liked his new "creaky" songs. They were like lullabies that helped them fall asleep.

And that is why, on warm summer nights, you'll hear crickets rubbing their back legs together, making lullabies for everyone to hear.



LEVEL 14, UNIT 10

The Underground Army of Emperor Qin (Informational)

In March of 1974, some farmers were digging a well in northwest China. They accidentally found some life-sized statues that had been hidden for more than 2,000 years. Since then, archaeologists have uncovered over 400 horses and 7,000 soldiers. This army of statues turned out to be part of a huge underground city.

All the statues are made of a kind of baked clay known as terracotta. The riderless horses are life-sized and look real. So do the soldiers. Each soldier has a different-looking face with a realistic expression. The soldiers' hair and clothing differ, too. These soldiers and horses are all lined up around the underground city. In the center of this city is the burial place of the first emperor of China.

This emperor was not quite 13 years old when he began to rule 2,200 years ago. He was called Prince Ying Zheng then. At that time in Chinese history, China was made up of different states with different rulers. They were always at war with one another. As he got older, Ying Zheng used his army to defeat these other rulers. Eleven years after becoming ruler, he united all the states into one country, China. He renamed himself "First Emperor of Qin" but is often known as Emperor Qin. (Qin is pronounced *chin*. From Qin, we get the name China.)

According to Chinese historians, Emperor Qin brought in 700,000 workers from all over China. They toiled day and night for eleven years to create the huge underground city. The city was protected by a huge army. This showed that Emperor Qin was still powerful, even after he had died.

LEVEL 14, UNIT 11

The Legend of the Chinese Empress (Fable, Folktale, or Myth)

Today, silk fabric is used all over the world. It is made from silkworm cocoons.

Silk making began in China thousands of years ago. Ancient Chinese silk was a valuable trade item. Wealthy, powerful people in many parts of the world desired Chinese silk fabric. The invention of silk fabric is one reason China became a powerful and rich country.

But nobody knows exactly how silk was discovered. One Chinese legend gives a possible answer.

Long ago, Lei-Tsu became China's first empress. The young empress enjoyed sitting in her garden. She often sipped tea in the shade of a large mulberry tree. One morning, Lei-Tsu heard a soft plop. Something had fallen from the tree directly into her teacup. It was a small, white cocoon.

Lei-Tsu watched the cocoon in amazement. The cocoon's shiny strands unraveled in the hot tea. The result was one long silk thread. The thread filled the cup and flowed onto Lei-Tsu's lap. The thread wound itself around her chair. Soon, the entire garden was covered with shimmering coils of strong, soft silk thread.

The empress wondered about the fine thread. What if many cocoons were unwound? Perhaps the threads could be woven into fabric. She imagined an elegant cloth made of this thread.

Lei-Tsu designed a machine to weave the fabric she imagined. Then, she taught the women in her court how to make the fabric, too. She showed them how to boil the cocoons, unwind the cocoon's strands, and weave the silk. She succeeded in keeping the craft of silk-making a secret for 3,000 years.

Or so the legend says.



LEVEL 14, UNIT 12

An Ancient Invention (Informational)

Two thousand years ago, a great scholar named Zhang Heng lived in China and served the emperor. He wrote books about planet Earth and space. He studied mathematics and geography. He was also an inventor.

One of Zhang Heng's inventions was a device to help the emperor and his whole empire. The device was made of a round, metal jar. Around the circular top were eight dragon heads. They pointed in eight directions. Each dragon held a ball in its mouth. Below the dragons were eight toads, each with an open mouth.

Zhang Heng showed his invention to the emperor's court. He explained how the device worked. Inside the jar, a pendulum connected to a set of levers. If the ground shook—even far away—a series of actions began:

- The pendulum swung and pushed a lever.
- The lever caused a dragon to drop its ball.
- The ball fell into the mouth of the toad below.
- The action made a loud clang.

Zhang Heng explained that the device could show in which direction an earthquake had just occurred. That is, the dragon that dropped its ball pointed to the earthquake.

In a vast and large land like China, people in the emperor's court wanted to know when and where earthquakes happened. That way, they could send help quickly. They wouldn't have to wait for a messenger to bring the news. But could Zhang Heng's dragons and toads really detect an earthquake?

One day, a ball dropped from a dragon's mouth. CLANG! Everyone in the emperor's court heard the loud noise even though nobody in the area had felt the earth tremble or shake. Several days later, a messenger arrived with news of an earthquake several hundred miles to the northwest. Zhang Heng's invention worked!

Zhang Heng invented the world's first seismograph. (Seismograph comes from Greek words for "shaking" and "recording.") A seismograph magnifies and detects ground motion. Modern seismographs help scientists monitor earthquakes worldwide.



LEVEL 14, UNIT 13

Seeds on the Move (Informational)

A maple tree is growing by the roadside. Nobody planted it here. Nearby are yellow dandelions. Nobody planted them either. How did these plants get here?

Maple trees and dandelions grow from seeds. Most plants make seeds. Each seed holds a future plant. That new plant can grow only if the seed finds a spot with the right soil, sunlight, and water. To reach those spots, seeds must travel.

Many plants rely on the wind to carry off their seeds. Maple trees produce seeds that glide through the air on flat parts that act like wings. Some plants, like dandelions, produce seeds with light hairs attached. The hairs keep the seed aloft in the breeze.

Plants also rely on animals to carry seeds to new places. Some plants make seeds that have fatty parts attached. Ants bring the seeds to their nest, eat the fatty parts, and throw out the seeds. Squirrels bury seeds for later eating, but some seeds stay buried. Birds carry off berries and drop the seeds after eating the fruit.

Some plants, such as cocklebur and sticktight, make seeds that have hooks and spines. These seeds cling to fur, feathers, and clothing. The seeds take long-distance rides.

Some plants make seeds that float. Streams carry the seeds to new shores. Coconut seeds are ocean voyagers. They can float for years.

There are even plants with exploding seeds! It's easy to see why the plants called touch-me-nots have that name. If a ripe seedpod is touched, the seeds shoot out. Other plants explode their seeds, too. The record holder may be the sandbox tree. It can shoot its seeds as far as 148 feet (45 meters).

Seeds are built for travel, but only some of them will have a successful trip. These seeds will put down roots. They may grow into plants that make seeds of their own.



LEVEL 14, UNIT 14

Strange, Squishy... and Smart! (Informational)

The octopus is unusual: It has no bones, eight arms, a huge head, and a mouth like a parrot's beak. It can change colors, squirt poison, and lift four times its own weight. And, scientists are learning, it seems to be smart!

Here are some behaviors that scientists know about:

- They've filmed small octopuses in the ocean carrying two halves of a coconut shell. When the octopus is in danger, it darts inside one half and pulls the other half over itself.
- Sometimes in the morning, aquarium workers would find fish missing from a tank. Then they'd see watery trails on the floor. They realized that octopuses were getting out of their tanks at night. They were crawling to the fish tanks, eating fish, and returning to their tanks.
- Curious octopuses are interested in toys dropped into their tanks. Scientists at the Lorenz Institute note that octopuses become attached to certain toys. They carry them around like a child with a stuffed animal.
- A giant Pacific octopus was being studied at the Seattle Aquarium. She was given a glass jar with food inside. She figured out how to screw off the top to get to the food all by herself.
- Octopuses have several ways to open shells to eat the shellfish inside. They smash mussel shells. They pry open some clam shells. They use their saw-like tongues to drill into stronger clam shells. Scientist Jennifer Mather and her team decided to trick some octopuses. The creatures were given clam shells that they usually just pried apart. But these shells were wired shut. The octopuses tried different techniques until they were successful.

Why is the octopus so smart? Mather has a theory. She explains that an octopus has no body protection and lives in a dangerous, ever-changing environment. It needs to be clever to survive.



LEVEL 14, UNIT 15

Light Moths, Dark Moths (Informational)

The white peppered moth gets its name from the black speckles that cover its white wings. These moths often rest on trees.

England is one place where peppered moths live. By the late 1800s, though, people in English cities and towns had noticed a big change in peppered moths. Most now had black wings! What caused the change?

Before the 1800s, peppered moths were hard to see against tree bark. That's because their pale wings and black spots camouflaged them. Camouflaged wings helped peppered moths stay hidden from predators.

During the 1800s, the environment in English cities and towns changed. Coal was burning in homes and factories. The air filled with powdery, black soot as a result. The black powder landed on trees, darkening the bark. White peppered moths were not camouflaged anymore. Birds and other predators found the white peppered moths against the dark, soot-covered trees.

But there were some peppered moths with an unusual trait. Their wings were black. This difference occurred naturally, in the cell parts called genes. Genes are passed down from parents to offspring. When the trees darkened, black-wing peppered moths were camouflaged! Hidden from predators, many of the black-winged peppered moths lived long enough to produce offspring. The moths with white and speckled wings were now much easier for predators to find and eat. Therefore, fewer and fewer white peppered moths survived long enough to reproduce. It was not long before people were noticing that most peppered moths were black.

In the late 1900s, England reduced the pollution from coal soot in the air. Tree bark lightened. White peppered moths became more common than black ones, again.

Scientific studies of these moths helped show how living things change. The studies also made peppered moths famous.



LEVEL 14, UNIT 16

Pergrin and the Mermaid (Fable, Folktale, or Myth)

In Wales, there once was a young fisherman whose name was Pergrin. One fine September morning, he was strolling on the rocks near a place called Pen Cemmes. As he looked about, he noticed a flash of green between two rocks. He crept closer and beheld an amazing sight: Up on the rocks, a beautiful young woman was combing her long green hair. At least, part of her was a young woman. Half of her was covered with scales that ended in a giant fishtail.

Pergrin circled around behind the rocks, until he was between the mermaid and the sea. Then he carefully approached, hoping not to scare her. But as soon as she spotted Pergrin, her eyes widened in fear and she began to cry.

“Don’t be alarmed,” he said. “I mean you no harm.”

But the mermaid would not be reassured. “Please let me go,” she begged. “If you do, I promise you something: I will give you three shouts in the time of your greatest need.”

Pergrin had no idea what she meant, but it upset him to see her weep. So he stood aside and let her slip back into the sea.

Time passed. One hot afternoon, Pergrin went fishing. His boat floated among many other fishing boats in the smooth and calm sea. Suddenly, beside his boat, the mermaid’s head burst from the waves. She shouted to Pergrin, “Take up your net! Take up your net! Take up your net!” Then she dived back into the sea.

Pergrin instantly obeyed her and rowed to shore. The other fishermen laughed at him. The sea was peaceful, so why was he so afraid? But as soon as Pergrin was ashore, a horrible storm came out of nowhere. Eighteen fishermen drowned that day. Only Pergrin was saved.



LEVEL 14, UNIT 17

A Blue-Ribbon Friend (Narrative)

Gloria and June had been best friends for years. When they heard about a city art contest for kids, they both decided to enter. They got together to paint pictures until they had several to choose from. Then they helped each other pick the best one to send in to the contest. Gloria ended up choosing her picture of a cat sleeping in a window while June chose her picture of a waterfall.

A week later, Gloria called her friend, bubbling with excitement. “The City Art Board sent me a letter. I won, June, I won! They gave me a blue ribbon! Did they call you, too?”

“No,” June said faintly and then spoke up. “That’s great, Gloria. I told you it was a wonderful picture.”

“Actually, you said it was a purr-fect picture of a cat,” Gloria said, laughing a little. “I’m sorry you didn’t win anything, June. I really liked your picture.”

“Oh, well,” said June. “At least we have the party to look forward to.”

“What party?” asked Gloria.

“Sachi’s party,” June answered. “You know Sachi. She’s in my class and you met her at my house.”

“She didn’t invite me to her party. Um, I have to go now,” Gloria said quickly. “I just wanted to tell you the news. Bye!”

June felt bad because she knew how much Gloria enjoyed parties so she decided to ask Sachi if Gloria could come, too. Sachi remembered Gloria and happily agreed that she could come. June called Gloria and told her the good news.

The next morning, June found a big envelope with her name on it in the mailbox. Inside was Gloria’s blue ribbon and a note: “You deserve a blue ribbon for being such a fantastic friend!”



LEVEL 14, UNIT 18

Dear Advisers (Opinion)

25¢back_jack:

Hey everyone! I have a question... Last year, I went to my cousin's birthday party and gave him an expensive sweater as a gift. When he opened the box, he just frowned. He never sent me a thank-you note, and he didn't give me anything for my birthday. Now I'm invited to his birthday party again, and I don't feel like bringing a gift. Should I? —Jack

i.got.th!s:

I can see why you're annoyed. There is no excuse for not showing appreciation for a gift. Your cousin is one rude dude! People like that are just not worth worrying about. In fact, if I were you, I wouldn't even go to his birthday party. Problem solved—if you don't go, you won't have to bring a gift.

i*am*k8:

You should go to your cousin's birthday party, and you should definitely bring a gift. Your cousin may have bad manners, but you don't. Gift giving is the custom at a birthday celebration. Also, it just feels satisfying to be generous without thinking about what you may or may not get in return. By the way, your gift doesn't need to be expensive. It really is the thought that counts!

pro_ad*vice:

Have you thought about talking to your cousin? Sometimes a simple misunderstanding can cause hurt feelings on both sides. Perhaps your cousin was embarrassed by such an expensive gift. Possibly he sent a thank-you note, but it got lost by the post office. Or maybe he simply forgot his manners in the excitement of the birthday party. You will never know unless you ask.

25¢back_jack:

Thanks for the tips, advisers. Now, the trouble is, I have too many choices. Which solution should I pick?



LEVEL 16, UNIT 1

The Crowded House: A Folktale (Fable, Folktale, or Myth)

Long ago, eight members of the Rubin family lived in a little house that seemed terribly cramped and crowded. Papa, Mama, their four children, Aunt Gert, and Grandmother Rubin were always getting in each other's way. They complained unhappily that one day they might burst right through the walls. So Papa and Mama went to the wisest man in the village, Reb Solman, to ask for advice.

Reb Solman stroked his beard thoughtfully as he listened. Then he said, "Yes, I can help you, but you must do exactly as I say, no questions asked." Papa and Mama eagerly agreed.

"The first thing you must do," Reb Solman told Mama, "is to invite your sister and her family to visit."

"But, Reb Solman," said Mama worriedly, "my sister and brother-in-law have three big sons, so how will five more people in our crowded house solve our problem?"

Reb Solman replied, "Remember, you promised to obey and ask no questions."

So the five relatives arrived, and everyone was elbowing each other and tripping over feet, and the walls trembled as if about to explode. After several days, Papa ran back to Reb Solman and pleaded, "Oh, it is unbearably crowded and noisy now. Please, what should we do?"

Reb Solman said, "Bring your chickens, goat, and cow into the house." Papa blinked hard when he heard that, but he had promised to obey, so he did as he was told.

A few days later, Papa returned to Reb Solman. In an exhausted voice, Papa said, "The noise, the smells, the crowding, the situation is impossible."

Reb Solman said, "Send your relatives home, and put the animals outside."

So the visitors left, and the animals went outside where they belonged. The eight members of the Rubin family breathed a big sigh of relief. "I never knew that our house could feel so big and spacious," said Mama as she looked around.

"It certainly feels as if our house has grown bigger," said Papa. "Reb Solman is a very wise man." And everyone, smiling in agreement, relaxed in their remarkably roomy house.



LEVEL 16, UNIT 2

Tall Tale Heroes (Informational)

Paul Bunyan was the most famous lumberjack in North America. He was unusual even from birth. As a baby, he had a black beard so thick his mother had to use a pine tree to comb it. He was so big that he caused an earthquake when he started to walk. When he grew up, way up, giant Paul took up logging. With just one swing of his ax, he could chop down ten strong pine trees. When he wanted to bring drinking water to his logging camp, he dug five holes. They became the Great Lakes.

Of course, Paul Bunyan was not a real person. He was a tall tale hero, a story character who could do impossible things that were presented as simple facts. Real lumberjacks may have enjoyed making up tall tales about Paul Bunyan just for fun or to impress each other with one amazing story after another. Stories about Paul Bunyan were first written down in the early 1900s.

The United States was a young and growing nation when the tall tale hero Johnny Appleseed appeared. People were heading west. They were clearing farmland and building towns. Storytellers described how Johnny Appleseed wandered through the country planting apple trees for newcomers to enjoy. Johnny Appleseed was a gentle fellow. He wore a tin pot for a hat and ragged clothes. He had bare feet, even in winter, and lived outdoors in the woods. Wild animals trusted him. One time, Johnny saved a wolf from a trap, and the wolf became his friend.

Unlike Paul Bunyan, Johnny Appleseed was based on a real person. A man named John Chapman really did plant apple trees for families settling in the Ohio River Valley. He really did live simply, owning few things. He told stories to people, and people told stories about him. The tales grew taller with retelling.

Paul Bunyan, Johnny Appleseed, the sailor Stormalong, and the tunnel builder John Henry—these and other tall tale heroes do remarkable things. Their stories are part of the American past and are still being told today.



LEVEL 16, UNIT 3

The Proud Weaver: A Retelling of the Greek Myth of Arachne (Fable, Folktale, or Myth)

Athena, goddess of wisdom, was a fierce warrior in battle, but in times of peace, she would teach the Greek people about art. One of her greatest skills was weaving, and her best student was a young woman named Arachne.

People came from far and wide to see Arachne's incredible designs. They would watch her skilled fingers bring beautiful images to life.

"Her gifts come from Athena," they would say.

This annoyed Arachne, and she would reply, "My gifts come from me. I need no goddess to make me a master weaver."

Her boastings reached Athena's ears, but instead of getting angry at the insult, Athena decided to give the girl a chance to take back her words. She disguised herself as an old woman and went to Arachne. "You seem to think you are as good a weaver as Athena, but you are not equal to the gods," she said.

Arachne would not back down and responded, "If I had the chance, I could prove that I am!"

Athena threw off her disguise and accepted the challenge. And so a contest began, the two of them weaving side by side. Athena worked swiftly and surely, weaving breathtaking pictures of the gods and their wondrous acts. Arachne worked slowly, a stubborn look on her face. She wove pictures that showed the gods doing foolish things. Athena had to admit that Arachne's work was flawless, but what the pictures showed filled the goddess with anger. She tore Arachne's work to pieces and destroyed her loom with the sweep of a hand.

Horrified, Arachne drew back. She saw that she had been a fool to challenge the gods. Her shame overwhelmed her so greatly that she began to go mad. Athena took pity on her and touched her forehead.

Immediately, Arachne felt herself shrinking and changing. Her thumbs disappeared, and her eight skillful fingers stretched into eight long legs.

"You have great gifts as a weaver, Arachne," the goddess said. "As a spider, you shall put those gifts to work and weave amazing webs."

And ever since, spiders have been called arachnids.



LEVEL 16, UNIT 4

Two Deserts (Informational)

Great mounds of golden sand bake under a blazing sun. A line of camels is crossing these sand dunes. The people riding the camels are dressed to protect themselves from the heat and wind-blown sand. What is this place? It is the Sahara Desert, the largest desert in the world. It spreads across northern Africa.

The Sahara's dunes may seem to stretch forever, but these "sand seas" cover only part of this vast desert. The Sahara also has flat, stony lands as well as mountains. In places, underground water rises to form springs where trees and plants grow. In these oases, farmers grow crops.

The Sahara is called a hot desert, but not all of it is hot year round. Still, the summer sun can roast the air. At one spot, the temperature once soared to a record-breaking 136 degrees F (58 degrees C).

All deserts are dry lands. The yearly rainfall in the Sahara is less than 10 inches (25 centimeters), and often is much less. Some places here get no rain for years. Yet the Sahara is not the driest desert in the world. That record belongs to the Atacama Desert of South America.

The Atacama lies between high mountains and the Pacific Ocean. The mountains stop moist air from reaching the desert land, and the cold ocean also acts to prevent rain. The yearly rainfall in the Atacama is less than .004 inches (.01 centimeters). Some spots have not had rain since record-keeping began 400 years ago! With soil this dry, no plants can grow.

Unlike the Sahara, the Atacama is a cool desert. There are few scorching summer days but on winter nights, the temperature is often below freezing.

The Sahara and the Atacama are both deserts. They are alike in some ways, and different in many others.



LEVEL 16, UNIT 5

Tropical Snow (Informational)

An imaginary line divides planet Earth halfway between the North and South poles. The line is called the equator, and it passes through regions called the tropics. In the tropics, the sun rises high in the sky. Tropical lands generally have warm to hot temperatures all year. People who live in the tropics never see snow. Almost never, that is.

The country of Tanzania (TAN-zuh-NEE-uh) lies in the tropics of eastern Africa. Along the coast of the Indian Ocean, the Tanzanian climate matches what the word *tropical* suggests: hot and humid. But in northern Tanzania, the land rises. There are mountains here, including Mount Kilimanjaro (kil-uh-mun-JAR-oh), a dormant volcano. Kilimanjaro is the tallest mountain in Africa. Its highest peak rises 19,340 feet (5,895 meters) above sea level.

Mountain climbers from all over the world come to tackle Kilimanjaro. It takes several days to reach the top. On their way up the mountain, climbers encounter changing climates.

The low hills at the base of Kilimanjaro receive the most rain, along with water that streams down the mountain. The rich volcanic soil is good for farming. Above these foothills, thick forests grow on the mountainside.

Higher up, wild grasses replace the forest trees. The wind becomes stronger, and less rain falls at this height. It can be very hot during the day, but night temperatures may drop below freezing.

At about 13,000 feet (4,000 meters), the mountainside becomes a desert. Little rain falls. The days are hot, the nights cold.

Higher than about 16,000 feet (5,000 meters), ice fields cover the slopes. Snow falls here. Temperatures drop well below freezing. At the summit are glaciers. The thick ice is massive, though the glaciers have been shrinking in recent decades.

Every year, thousands of people take guided hikes up Mount Kilimanjaro. This unique adventure has been compared to climbing from the equator to the North Pole.



LEVEL 16, UNIT 6

Flash Flood Rescue (Narrative)

It was a typically sweltering and humid August day. The sky held a few dark, towering clouds, and even more appeared as the afternoon wore on. Fat, lazy raindrops began to splatter across the windshields of the two vehicles on River Road—a car and a moving van. Within seconds, the wipers were battling a seasonal downpour. Sluggish at first and then with increasing intensity, the rain had become a waterfall!

The drivers could not see beyond their windshields, so they pulled over to the roadside and stopped to wait for the storm to pass. Rushing water was already sweeping over the roadway, and soon it was slapping against the tires and drenching the underside of the vehicles. It was a flash flood!

Without hesitating, the driver of the van jumped into the swirling water. He was a burly man who carried heavy loads for his living, yet he struggled to fight his way to the passenger car, just a short distance ahead. He frantically pounded on the driver's window, and a teenage boy slowly lowered it. "You need to get out now!" the man shouted through the heavy rain, but the teenager seemed frozen in panic. "Get out, and go to my van!" The man pointed behind the car, and the boy nodded robotically as if he understood.

The man made his way to his van. The water was now thigh-high and the current was so powerful it almost pulled him under. He hoisted himself up to the cab and looked back. Was the boy following? No, the boy was standing on the car's roof. The water had risen to the windows, and the boy was trying to balance as the car rocked under him, pushed by the roiling water.

The man remembered the strong ropes coiled in the van. Holding a long rope, he lowered himself into the water. He tied one end to the door handle and struggled once again to the car. He tossed the end of the rope to the boy, who managed to catch it. "Jump!" the man called.

With the rope as a towline, the man and the boy reached the van. They climbed onto the roof and watched as the car floated away towards the river.

Later, news reports told about the record-breaking rainfall for the region and about a heroic rescue on River Road. "I'm no hero," said the van's driver. "Anyone would have done what I did."



LEVEL 16, UNIT 7

Attack of the Spreading Plant (Informational)

There is a plant that grows so fast that one nickname for it is “the mile-a-minute vine.” The plant may not be quite that speedy. Still, it can grow at the amazing rate of one foot (30 centimeters) a day. In the southern United States, the plant buries everything in its path under thick, green leaves. The plant is kudzu.

Kudzu is a serious problem in the southern states, where there is plenty of warmth and water to help it grow. Kudzu is a climbing vine. As it climbs toward sunlight, it covers trees and utility poles, street signs, porches, and anything it can grab hold of. It forms a leafy curtain that cuts off sunlight from other plants, killing them. Just trying to keep kudzu growth under control costs millions of dollars a year.

It’s hard to believe that Americans once planted kudzu on purpose. But widespread planting is the main reason that kudzu is such a problem today. The plant was first brought to North America in the late 1800s from Japan. American gardeners thought that kudzu’s wide leaves and purple flowers were pretty. Kudzu also provided shade. People began to plant it by their homes.

There were other reasons to plant kudzu. It grew even in poor soil, and grazing animals liked eating it. During the 1930s, many farms in the United States were struggling with the loss of soil, which was blowing away. The US government paid landowners to plant kudzu because its deep roots held the soil in place.

Nobody predicted that kudzu would grow out of control. But it was not long before kudzu had a new nickname: “the vine that ate the South.”



LEVEL 16, UNIT 8

Potatoes and Tomatoes: From Poisonous to Popular (Informational)

What would the world of food be like without the potato and the tomato? Dishes from all over the globe contain these two popular plants. But these two have a lot more in common than their popularity.

They both began in the Andes Mountains of South America, around what is now Peru. For thousands of years, farmers in this region cultivated these plants as food crops. People outside of Latin America knew nothing of the potato and the tomato. They grew nowhere else.

Then, in the 1500s, armies from Spain invaded Latin America to conquer the Incas, the people that ruled in these regions. The invaders were called the Conquistadors (“conquerors”). The Conquistadors brought tomato and potato plants back to Europe.

For Europeans, both plants were a novelty, something unknown to grow and display. They were not eaten, however, because most Europeans were convinced these plants would kill them. This is not so strange. Both belong to the Nightshade family of plants, many of which are poisonous. And so are parts of the potato and tomato plants.

The part of the potato plant that we eat is the vegetable that grows underground. The leaves and stems that grow above-ground are the poisonous parts of the plant. The tomato is a fruit that grows above ground. The fruit is good to eat. It is the tomato plant’s vines and leaves that are poisonous.

But two cultures helped change people’s minds, turning tomatoes and potatoes into foods loved around the world.

Italy gets the credit for making the tomato popular in Europe. The Italians began growing and eating tomatoes in the mid-1500s on, making it a major part of their diet. (It still is!) By the 1700s, the tomato had spread around the world.

It took a bit longer for the potato. The people of Ireland, seeing how cheap and easy the potato was to grow, began to depend on it by the late 1700s. By the 1800s, the potato, too, had spread around the world.



LEVEL 16, UNIT 9

A Special Kind of Bank (Informational)

On an Arctic island, an enormous vault has been built deep underground. Like any bank vault, it holds treasures. But you won't find precious gems or metals here. This vault holds seeds from food crops around the world.

The Svalbard Global Seed Vault is in Norway. It is a seed bank, a place to store and protect seeds. From Japanese barley seeds to Syrian chickpeas, more than 800 thousand different seed samples rest here. All are dried and kept in temperature- and moisture-controlled conditions. This means that, unlike the conditions outside, the air in the vault stays dry and the temperature is always the same.

Many nations have their own seed banks, too. One main purpose is to make sure that even if crops fail, there will still be seeds for farmers to plant.

Another main purpose of seed banks is to protect diversity, the varieties of a crop. For example, there used to be thousands of varieties of apples. Now there are a few hundred. Loss of diversity can cause problems. That was made clear in Ireland in the 1840s. People grew and ate just one kind of potato, which had no defense when a disease struck. The potato crops failed, and one million people died as a result. Could a seed bank have provided a stronger variety of potato?

Seeds hold information for scientists. The seeds of plants that are no longer farmed may be useful. They might grow into plants that can resist pests and disease. They might grow where other plants can't. Even the seeds of an invasive plant like kudzu are saved in seed banks. Perhaps kudzu has uses that scientists will find someday.

A nation commonly has more than one seed bank. Still, a backup plan is a good idea. Floods, fires, war, and other disasters can destroy storehouses of precious seeds. That's why the Svalbard Global Seed Vault was created. The seeds come from all over the world, and they belong to everyone, not just one nation. That's why the seed vault is called Global.

The Svalbard Global Seed Vault is nicknamed the Doomsday Vault. If a worldwide catastrophe occurs, this special bank may help people survive. They will still have seeds to plant, crops to grow, and food to eat.



LEVEL 16, UNIT 10

In Grandfather's Day (Narrative)

Sharr and her brother Kaze were visiting Grandfather to celebrate his 75th birthday. Grandfather was born way back in the year 2000, and the two grandchildren always enjoyed hearing about what life was like when he was growing up at a time so different from their own.

“Grandfather, tell us what you did before there were Mindcaps,” Kaze begged.

“Well, sometimes we typed on a keyboard,” Grandfather replied, wiggling his fingers over an imaginary keyboard. “Or we tapped a touchscreen,” he added, demonstrating with two fingers.

“But it must have taken so long to get anything done that way!” observed Sharr.

“We didn’t have thought commands back then,” said Grandfather as he placed a Mindcap on his head and glanced at the Wallscreen. The wall lit up with a photograph taken of Grandfather as a boy. “I’m standing in front of our family’s car,” Grandfather explained.

“Was it fun to drive such a big car?” asked Kaze.

Grandfather chuckled. “I was only ten years old, so I couldn’t drive a car. Drivers needed special training because driving was dangerous. Today, accidents don’t happen. A child can sit in a Plugger, give a thought command, and off it scoots. Nobody dreamed of such a thing back in the early 2000s.”

Grandfather blinked at the Wallscreen, and a new image appeared, this one showing seven-year-old Grandfather and his mother in the kitchen of their house.

“What is Great-Grandmother doing?” asked Sharr.

“She is cooking a pot of stew on the stove,” said Grandfather. “It took hours.”

Sharr said, “I’m glad we have Menu-Mems because who wants to wait hours to eat? Just give a thought command to the slot, and out comes the meal.”

Grandfather was smiling as he stared at the picture. “I remember it like it was yesterday,” he said dreamily. “I helped peel potatoes while Mom chopped up carrots. The kitchen filled with spicy warmth as the stew simmered in the pot.” Grandfather breathed in deeply, as if sniffing a wonderful aroma.

Kaze and Sharr studied the picture. Then Kaze said, “I wonder what a home-cooked meal tastes like.” Sharr nodded in agreement.

“It is unforgettable,” said Grandfather with a sigh.



LEVEL 16, UNIT 11

Henry Ford's Plan (Informational)

“The horse is here to stay, but the automobile is only a novelty, a fad.” That’s what an American bank president predicted—wrongly—in 1903. At the time, horses provided transportation, as they had for centuries. For hundreds of years, horse-drawn vehicles carried people and goods. Horses did not get stuck on muddy roads, like those new “horseless carriages.”

Automobiles had been invented in Europe in the 1800s. The first automobiles were powered mostly by steam. Gasoline-powered automobiles began to appear by the 1890s. All automobiles were built by hand. That meant they were expensive. Automobiles seemed to be a toy for rich people.

Henry Ford played a big role in changing how the world viewed automobiles. Ford was an American engineer who built his first gas-powered car in 1896. He founded a car-making company in 1903. Five years later, the Ford Motor Company introduced the Model T. The price of this car was high at the time—\$850. Ford wanted to lower the price by lowering the cost of manufacturing.

Carmakers were already using a method known as an assembly line. In an assembly line, each worker performs one step in the manufacturing process. In 1913, Ford and his engineers developed a speedier process: a moving assembly line. The car body moved from station to station. Parts were carried on a moving belt to workers at each station. A whole car could be built in two and a half hours!

By 1915, the price of a Model T was under \$500, within the reach of middle-class customers. Known as the Tin Lizzie, the Model T became the most popular car in the United States.

Henry Ford helped put more cars on American roads. And within a few decades, horse-drawn vehicles were disappearing in cities and towns throughout the nation.

All those cars created new needs and issues. Traffic lights were developed. Highways were built. Car-related businesses grew. Car-related problems grew, too: traffic jams, accidents, and air pollution, to name just three.

Automobile technology has continued to change. In the near future, more drivers may choose electric cars. And more people may be letting cars do the driving for them. Regardless of the changes to come, automobiles are here to stay.



LEVEL 16, UNIT 12

An Ice Idea (Narrative)

“Oh, no, not again!” Mama cried when she opened the icebox. The melting ice that cooled the box was all gone, and now our milk and meat were spoiled.

“Charlie was supposed to come yesterday,” I said, “but it’s so hot out, he probably has more customers than ice.” Charlie is our ice man. He brings blocks of artificial ice from the enormous refrigerator building in town. But this summer has been so hot that everyone needs ice at the same time.

Mama let out a groan of disgust. “And this icebox smells terrible, Doris—as if someone has been neglecting her chore,” she observed, turning to me with a disapproving sigh.

“I cleaned out the drainpipe last week,” I said, and that was true. The melting water drained down a pipe, which filled with disgusting slime, and it was my job to clean it out with a long brush. “I did clean it,” I repeated.

That evening, after we ate a meatless supper, Mama brought out a magazine and showed Papa a picture in it.

“I’ve been saving,” Mama said, “and I think we can afford it.”

Papa and I looked at the picture. It was an advertisement for a Monitor Top, the brand-new 1936 model. It ran on electric power, and it didn’t need to be refilled with blocks of ice. “Can we get it?” I asked hopefully.

“This should make our life easier,” Papa said to Mama and me.

When the Monitor Top was delivered, we plugged it in. This electric machine was much noisier than our old icebox, but when we opened the door (which we weren’t supposed to do for long), the air felt as fresh and cool as a mountain breeze.

No more spoiled milk and meat, and no more slimy chores! I feel bad for Charlie and the other ice men, though. These new home refrigerators are going to put them out of business.



LEVEL 16, UNIT 13

A Modern Day Dragon (Informational)

What do the words *giant lizard* make you think of? One of the enormous dinosaurs that once roamed the land? Or maybe the imaginary dragons from fairy tales and fantasy films? None of those lizards actually exist in our world, but there is a rather large lizard that does. It's even got *dragon* in its name.

Komodo dragons are the largest and heaviest lizards living on Earth. The biggest on record measured 10.3 feet (3.13 meters) in length and weighed 366 pounds (166 kilograms). But generally these creatures are smaller, about 8 feet (2.5 meters) long and weighing about 200 pounds (91 kilograms).

Like all lizards (and dragons), Komodo dragons have teeth, scaly skin, four legs, clawed feet, and a long tail. They can't fly like dragons. But like many other lizards, they can climb and swim. They also move like their smaller relatives, twisting from side to side, using their tails for balance. This movement comes from the placement of their legs. Lizards' legs stick out to the side, rather than under their bodies. This arrangement doesn't slow up Komodo dragons. They can reach speeds of 11 mph for short distances.

Something else the Komodo dragon has in common with dragons and smaller lizards is a long forked tongue. It uses its tongue to "smell" the air. If the wind is right, it can smell a dead animal up to 5 miles (8.5 kilometers) away.

The Komodo dragon cannot breathe fire, but its mouth contains a different weapon. Its bite is poisonous. This causes fatal infections in any prey that manages to escape. The Komodo dragon then tracks down the poisoned animal.

There are 3,000-5,000 wild Komodo dragons at any one time, all living on some volcanic islands in Indonesia. They are named for the largest of these islands, Komodo. According to fossil evidence, these creatures originated 25 to 40 million years ago. But the Komodo dragon was unknown to most of the world until about 100 years ago. Then some Dutch soldiers had a run-in with one and sent its photograph to a nearby zoo.

Now the world knows that there really *are* dragons.



LEVEL 16, UNIT 14

Sniffing the World (Informational)

Whenever dogs go for a drive, they love sticking their heads out the car window. Why? The most likely reason is that they're sightseeing—or rather, smellsniffing. Sniffing smells is how dogs get information about the world.

The human sense of smell is fine for detecting rotten food or enjoying perfumed blossoms. But no human nose could detect a teaspoonful of sugar dissolved in a tank of water the size of two Olympic pools. That's what a sniffing dog could identify, according to scientist Alexandra Horowitz. Some scientists say that a dog's sniffing ability is at least ten thousand times stronger than a human's.

Dogs are stupendous sniffers because of their nose design. Each doggy sniff brings air through the nostrils into the snout. As the air flows through the moist snout, it is cleaned. The air carries odor molecules. They reach an area at the back of the snout. Here, special cells catch and sort the odor molecules. The molecules are picked up by nerve-cell structures called smell receptors. A dog has hundreds of millions of smell receptors. (Humans have about six million.) The nerves connect to the brain. The brain interprets the signals from the smell receptors. The whole process happens quickly. The dog "knows" what the combination of odors means. "Hey, a squirrel ran across this lawn!"

The connections between a dog's nose and brain make for some amazing achievements. Trained dogs help rescue people buried in snow or in earthquake rubble. They follow a trail to a criminal or a lost child. They locate illegal material in luggage. Some dogs even identify diseases.

Of all dogs, the bloodhound is the best at tracking a scent. Bloodhounds put their noses to the ground. Their floppy ears stir up odor molecules for the dog to sniff. A trained bloodhound can follow a scent that is more than 10 days old. It can follow a trail for more than 100 miles (160 kilometers). Somehow, it is not distracted by countless other odors. It's no wonder that a bloodhound has been called "a nose with a dog attached."



LEVEL 16, UNIT 15

The Hidden Hunter (Narrative)

It was evening when a camp counselor led a group of youngsters on a narrow trail through the woods. Laughing and chatting, they did not suspect that they were being watched as they made their way to a campground by a stream. From high above, in the trees' leafy canopy, a pair of dark brown eyes observed the humans. Even if the campers had scanned the treetops with binoculars, they might have missed their observer. The creature sat still, perfectly concealed by his streaks and bands of brown, gray, and white feathers.

The creature had sharp eyesight. His eyes could capture light even on dark nights. Although his eyes could not move, he had no problem tracking the campers below. His neck was so flexible, he could almost turn his head in a complete circle.

Even after the campers had disappeared from sight, the creature knew where they were. His eyesight was excellent, but his hearing was phenomenal. His larger right earhole was positioned slightly differently from his left earhole. That meant each ear received sound waves in different ways. The creature's brain used the information from both ears to pinpoint the source of a sound. If a tiny animal scurried under a layer of leaves far below, the creature knew exactly where it was.

The creature stirred on his branch. It was time to hunt. He called loudly to announce himself to others of his kind.

All the campers heard the eight hoots floating through the trees. But they weren't familiar with woodland sounds. "That might be a hound barking," the counselor guessed.

The creature flew towards the stream. His fringed wing feathers muffled all sound. Silently, he landed on a tree branch. The campers were roasting marshmallows below. The creature focused his attention on shrubs behind the campfire. A faint squeak came from under a shrub. He launched himself at the spot.

"Did you see that?" asked a camper. "Something just flew right by us."

But nobody else had seen the owl make his sudden landing. In the darkness, nobody saw him lift himself into the air with a mouse held tightly in his talons.



LEVEL 16, UNIT 16

A Change of Heart (Narrative)

When Flora walked her little dog, Bella, past the house of the new family next door, she made sure to stay as far away as possible. A Rottweiler was living at that house, and Flora knew that Rottweilers were a fierce breed, trained to guard and protect. The dog's sharp teeth, muscular body, and enormous size made Flora shudder. In addition, Bella always barked when she glimpsed the Rottweiler sitting silently and menacingly on the front porch, so Flora tried to hurry her dog past the danger zone.

Once, the Rottweiler stood up as Flora walked Bella, and seemed to be heading their way. Flora let out a yelp and ran home as fast as she could. That night, she had a nightmare about the big dog. It sat beside her, growing ever more gigantic.

On one walk, a boy approached Flora and asked if he could pet Bella. As he patted the little dog, he introduced himself. "I'm Manny, and we just moved in," he said, pointing to the house with the scary dog. "Does your dog want to play with Otis?"

"Is Otis your Rottweiler?" asked Flora. When Manny said yes, Flora said, "That dog could eat Bella for breakfast."

"Otis?" said Manny, laughing. "He just looks fierce, but he's very obedient and well-behaved." Then he called out, "Otis, come!" The monstrous creature bounded from the porch toward them, making Flora gasp in horror.

But Bella seemed delighted, and the two dogs began play-fighting. Otis was careful to treat Bella gently, and Flora was impressed by how the big dog knew his own strength. "He seems so smart!" she blurted.

"He's our gentle giant," said Manny. "He loves people." As if on cue, Otis stepped over to Flora, wagging his tail, and looked up at her with smiling eyes. Before she knew it, Flora was stroking his sleek back. Otis had won her over.

I met the family who moved in next door," Flora informed her mother with a smile that evening.

"The ones with that huge, nasty guard dog?" her mother asked.

"Oh, that's just Otis," said Flora breezily. "He's a big sweetie-pie."



LEVEL 16, UNIT 17

Owen and Mzee (Narrative)

The baby hippopotamus was in trouble. He was all alone in the sea off the coast of the African country of Kenya. Strong, high waves had flooded the coast days earlier. Nobody knew where the baby's mother was. If the hippo was not rescued, he would die.

People tried to bring the scared hippo to shore. It was hard work because the hippo weighed about 600 pounds (272 kilograms) and thrashed at anyone who came near. At last, a man named Owen was able to hold the hippo while a net was fixed in place.

The hippo was taken to a wildlife park in Kenya. He was given the name Owen, after his rescuer.

At the park, caretakers placed Owen in an area with other rescued animals, including a giant tortoise named Mzee. The tortoise was about 130 years old, and he kept to himself. Mzee didn't like it when Owen headed right for him and nestled beside him. The grumpy tortoise crawled away. But Owen kept following.

It looked as if the hippo was seeking comfort from the tortoise. Maybe the humped shape of the giant tortoise reminded Owen of his mother. As the days passed, Mzee stopped trying to get away from Owen. At times, Mzee followed Owen!

The pair began spending all their time together. They swam and ate together. They rubbed noses. They slept side by side. They communicated with gentle nips and nudges. The wildlife experts at the park had never seen a friendship form between such different animals. It was a strange and wonderful thing.

Owen and Mzee's story was told in photos, videos, articles, and books. All over the world, people learned about the hippo and tortoise that were friends.

When Owen grew too big and fierce to live safely with Mzee, they were separated. But many visitors still come to the park to see Owen and Mzee, two animals that formed a famous friendship.



LEVEL 16, UNIT 18

You Can't Always Tell (Fable, Folktale, or Myth)

Once upon a time, a poor father and son farmed a small plot of land. One spring, heavy rains caused a nearby river to flood. The farmers' land lay underwater, and their hut and meager furnishings floated away. "Oh, what a terrible disaster!" cried the son.

The father said, "Things look bad now, but you can't always tell." He suggested that they ask the wagon driver to take them to the village, where it would be dry.

So the pair waded through water and trudged through mud until they reached the wagon driver's house. They learned that the wagon driver had just left for the village. "Nothing is going right for us!" wailed the son.

"Well, you can't always tell," said the father. "Something good may come of this."

The farmers set out on foot for the village, many miles away. They finally arrived late at night. When they asked at the inn for a place to sleep, the innkeeper told them that every bed was taken.

The son moaned with despair, "All our luck is bad!"

"Well, you can't always tell," said the father, leading his son to the stable, where both made a bed of straw. Exhausted, they quickly fell asleep.

Just before dawn, shouts and shrieks awakened them. From the safe distance of the stable, they saw the inn engulfed in flames and watched people pouring frantically from its doorway. "How lucky that we weren't inside," observed the father.

Later that day, the farmers met the wagon driver, but he no longer had a wagon. On the way to the village the day before, the wagon driver's horse had stumbled, his wagon had rolled down a steep hill, and he had injured his leg when the wagon crashed at the bottom of the hill.

"How lucky that we weren't passengers in your wagon," exclaimed the father, "for an accident like that can be deadly."

When the floodwaters receded, the farmers returned home. On the spot where their home had been, they found an ancient chest. Long buried, it had been dislodged by the flood. Inside the chest were glittering jewels worth a fortune, so the farmers were never poor again.

When it comes to luck, you can't always tell!



LEVEL 17, UNIT 1

Animal Fact, Animal Fiction (Informational)**Owls**

In folktales, owls are wise characters who give good advice. In Greek mythology, the ancient Greek goddess of wisdom, Athena, was often shown holding an owl. A person who understands many things is “as wise as an owl.” And, in nature, owls’ enormous, staring eyes and their accurate hunting skills make these birds seem like observant thinkers. But are real owls wise?

In fact, owls are not ranked among the most intelligent birds. To scientists who study learning, a smart animal is one that can solve a problem it has never seen before. Owls are not known for this ability, and people who train owls report that these birds are not quick to learn new tasks.

Ostriches

Someone who is not facing up to a problem may be compared to a different bird—an ostrich. The person is told, “Don’t be an ostrich. Don’t bury your head in the sand.” Does an ostrich really bury its head in the sand?

In fact, ostriches never cover their heads with sand. They need to see danger to stay safe. These big, flightless birds have sharp eyesight. They are fast runners and strong fighters. So, how did people come to believe that ostriches bury their heads? Ostriches lower their heads to move eggs in their nest on the ground. Seen from a distance, their heads appear buried by sand. An ostrich may also lie still with its long neck stretched out on the ground as a way of hiding when it senses danger.

Crocodiles

Sometimes, a person who is only pretending to feel sadness is compared to a crocodile. “What crocodile tears!” others say about the false show of feeling. It was reported that crocodiles cried while eating animals they had just killed—as if they were sorry about the deed. Do crocodiles really cry tears?

In fact, crocodiles do cry tears. As the crocodile eats, bubbles form in the corners of its eyes and sometimes result in tears that drip down the animal’s face. But these tears are not caused by strong feelings, like sadness about its poor victim. The tears are caused by the action of eating, and they work to keep the crocodile’s eyes moist. The glands that produce tears are squeezed as the animal works its mighty jaws.

Owls aren’t wise, ostriches don’t ignore danger, and crocodiles don’t show false sorrow. Some ideas about animals turn out to be more fiction than fact.



LEVEL 17, UNIT 2

Expressions from the Ancients (Informational)

Greek myths and legends belong to a time long gone by, but traces of them can be found in our language. Here are three expressions and the stories behind them.

Midas Touch

If someone is lucky with money and gets rich easily, that person might have a Midas touch. Midas ruled the kingdom of Phrygia. To reward him for a kind act, the god Dionysus granted him a wish. Without thinking, the king wished that everything he touched would turn to gold. The wish was granted. The king enjoyed turning things in his garden into gold, but when he became hungry, he found he could not eat. Any food that touched him immediately turned to gold. So did his loving daughter when she tried to comfort him. Midas begged to have his wish undone, and Dionysus agreed.

Pandora's Box

If someone creates trouble, people might say that person opened a Pandora's box. In Greek mythology, Pandora was the first woman on Earth. Each god gave her a particular gift, such as beauty or musical talent. Zeus, the king of the gods, gave her a sealed jar (not a box) filled with all the miseries of the world. Pandora was told not to open the jar, but one of the gifts she was given was curiosity. She opened the jar, as Zeus must have known she would, and out flew terrible things. By the time she managed to close it again, only one thing remained because it was at the bottom of the jar: hope.

Trojan Horse

These days, one meaning for *Trojan horse* has to do with computers. It is something that seems to be useful software but turns into a virus when installed on a computer. The original Trojan horse was built during the Trojan War. The Greeks were trying to conquer the Trojans, who ruled the city of Troy. This city was surrounded by a huge wall. The Greeks wanted to sneak some men into the city to open the gates. So a huge wooden horse was constructed. It was hollow, so some soldiers could hide inside. Then the armies withdrew, acting as if they had given up on the war. The horse was left before the gates of Troy as a gift. The gullible Trojans fell for the trick and took the horse inside. Soon after, they lost the war.



LEVEL 17, UNIT 3

Poincils (Narrative)

Jacinda’s class was studying how businesses make and sell products. The students were supposed to come up with ideas for new products and show why people would want to buy them. Thinking hard, Jacinda tapped her pencil on her desk. When its point broke, she started to look for her little plastic sharpener, but suddenly stopped. She had an exciting idea!

She eagerly told her product idea to the group. “When your pencil loses its point, why hunt for a sharpener? A sharpener can be attached right to the poincil!” Jacinda heard a few giggles. One girl in her class, Kayla, called out, “That’s funny! You said poincil, not pencil!”

Jacinda knew she had mispronounced a word, and her face grew hot. She was embarrassed for making such a silly mistake. At that moment, the teacher, Ms. Greco, spoke up. “Jacinda, you’re as inventive as Lewis Carroll!”

Ms. Greco told the class that Lewis Carroll was a famous writer of the 1800s. She wrote chortle on the whiteboard. “The word chortle comes from Lewis Carroll’s nonsense poem Jabberwocky, which includes a lot of made-up words. He invented the word chortle by putting together parts from the words chuckle and snort.” Ms. Greco told Kayla to look up chortle in a dictionary and read the definition aloud. Then she asked everyone to chortle.

After the chortling died down, Ms. Greco explained that Lewis Carroll also invented a name for words like chortle. He said they had “two meanings packed up in one word.” They were like a portmanteau, which was a suitcase with two parts. Ms. Greco wrote portmanteau word on the whiteboard and had Kayla do a dictionary check on that one, too.

“Jacinda has invented a portmanteau word—poincil—that combines point and pencil,” said Ms. Greco. Jacinda knew she hadn’t invented the word on purpose. Still, she felt pleased with her accidental creativity. When Ms. Greco asked, “Do you think that Poincils is a good name for pencils that never lose their points?” Jacinda could already picture the product package.

Jacinda’s portmanteau word inspired her classmates. Connor came up with an idea for a fridgeradio that could keep food cold and play music at the same time. Angel and Madison were designing a robunch, which was a robot that delivered lunch in the cafeteria. Brianna’s motoskoard was a motorized skateboard.

“Can I work with you on designing Poincils?” Kayla asked Jacinda. “I think that your product is a great idea!”



LEVEL 17, UNIT 4

Keystone Species (Informational)

Ecosystems are filled with connections. An ecosystem is all the plants, animals, and nonliving things in a particular area. One connection that can have a big impact on an ecosystem is the link between predator and prey animals.

What to Know About Keystone Species

- *Keystone species are living things that have a major impact on how an ecosystem works.*
- *If you take a keystone species away, the whole ecosystem suffers.*
- *They are often, but not always, a predator. (They eat other animals.)*
- *A sea otter is an example of a keystone species.*

Take the example of sea otters and sea urchins. Sea otters are mammals that live in the North Pacific Ocean. They are supremely suited for marine life. Their flipper-like hind feet help them swim. They sleep and eat while floating on their backs, often among the large seaweeds called kelp.

Sea otters eat an enormous amount of food. The animals they eat are called prey animals. A preferred prey animal is the sea urchin. Sea urchins are small, spiny animals with round bodies. They live on the sea bottom, eating algae and a type of seaweed called kelp.

During the 1700s and 1800s, it was a profitable business to hunt sea otters for their wonderful fur. Otter-fur hats and coats were popular. Overhunting brought sea otters to the edge of extinction. Not until the twentieth century did laws protect them. By then, damage to marine ecosystems had already been done.

Without sea otters to prey on them, the numbers of sea urchins grew nonstop. Sea urchins munched on kelp plants. They kept gobbling until the kelp forests disappeared. The giant green plants were central to the ecosystem where they grew. All sorts of marine life depended on kelp. Kelp provided not just food but also shelter. When the kelp vanished, so did the fish and shellfish that needed it to survive.

Kelp is also helpful to the physical environment. These plants absorb carbon dioxide. Carbon dioxide is a “greenhouse gas.” Greenhouse gases trap heat and raise global temperatures. The result is harm to life on land and sea.

Biologists have a name for an animal that plays a key role in the health of its ecosystem. It’s called a keystone species. Sea otters are a keystone species. With protection, some populations of sea otters have made a comeback—and so have the valuable kelp forests they live in.



LEVEL 17, UNIT 5

Saving the Rainforests of the Ocean (Informational)

Coral reefs are called “the rainforests of the ocean.” Like real rainforests on land, they are home to a rich variety of life—sea life. For example, thousands of different species of fish, outrageously colorful, may live around a single reef.

The rock-like reefs are built by coral, tiny animals related to jellyfish. Each coral is called a polyp. It is a simple organism with a stomach and a mouth surrounded by tentacles that it uses for feeding. It builds a hard skeleton around itself for protection. Thousands of identical polyps live together, their skeletons connecting to form a hard structure. As they live and die, new skeletons are built. The reef grows.

The living coral are closest to the surface. They need sunlight, so their “roommates” can provide a steady diet of food. Each polyp has plant-like algae living with it, protected by its skeleton. The algae use photosynthesis to create food from sunlight, sharing this food with the polyp. They also give the coral reef its color.

Thousands of living things rely on a single reef for food and shelter. When it dies, its inhabitants are suddenly homeless. And coral reefs are dying.

The outward sign that all or part of a reef is dying is something called “coral bleaching.” Bleaching results when the algae in the coral are killed or driven out. There are two main causes for this: climate change and pollution.

Coral need clear water and a certain temperature range to stay healthy. Even a rise of one degree in the average water temperature hurts them. Climate change is slowly raising the temperature of the ocean. If the temperature rises around them, coral polyps are damaged and expel their algae. With the algae gone, the reef loses its color and the polyps starve.

Pollution also plays a part. It encourages the growth of harmful algae. This algae covers the top of the reef, blocking out sunlight. This kills the good algae and soon kills the coral.

A report released in June 2017 announced that three quarters of coral reefs worldwide have suffered extreme damage. Experts predict that coral reefs could disappear completely by 2050. But scientists have been working on the problem. They are looking for ways to move heat-resistant algae into the reefs. They are finding ways to rebuild damaged reefs. With skill and luck, they will help save “the rainforests of the ocean.”



LEVEL 17, UNIT 6

Rachel Carson (Informational)

Growing up in rural Pennsylvania, USA, Rachel Carson (1907–1964) loved exploring nature. She also loved to write. In college, Carson decided to become a marine biologist. After she earned a master's degree, she found a job with the United States Bureau of Fisheries. She worked on the agency's publications, combining her writing skills and science knowledge.

Carson wrote her own books, too. *The Sea Around Us* was published in 1951. Using vivid and poetic language, Carson explained science concepts in ways that the public could appreciate. The book became Carson's first bestseller. The money from it allowed her to leave her government job and become a full-time writer.

Carson's research showed her that manufactured chemicals in use since the 1940s were causing great harm. Pesticides such as DDT were widely sprayed to kill off insects. Farmland was sprayed. Communities were sprayed. Chemical weed killers were sprayed on roadsides and fields. The chemical industries insisted their products were safe. Carson knew that all those poisons in soil, air, and water were killing more than their intended targets.

Carson was a quiet, studious person who did not seek fame. But she was determined to sound an alarm. She spent years uncovering facts and evidence. She carefully built a case to prove that uncontrolled use of chemical poisons was damaging the earth and its living things.

Her book *Silent Spring* was published in 1962. It became a bestseller immediately. The book begins with a fable about a pleasant American town. Suddenly, sickness and death arrive. When spring comes, there is "a strange stillness. The birds, for example—where had they gone?" The fable ends with the cause: "The people had done it themselves."

Silent Spring then explains the real-life effects of overusing chemical poisons. Pesticides designed to kill crop-eating insects also harmed everything that ate the poisoned insects and everything that ate the eaters. Carson argued that "in nature nothing exists alone." Human-made poisons were destroying entire ecosystems.

The chemical industries fought back. They claimed that the book was fiction and that Carson was not a real scientist. Despite being very ill, Carson spoke publicly to defend her book. She had written the truth.

Silent Spring became one of the most influential books of the twentieth century. It led to new laws about pesticide use and environmental protection. Because of the book, people thought differently about their relationship to all living things.

Rachel Carson changed how we view the earth.



LEVEL 17, UNIT 7

Lost on the Trail (Narrative)

Clyde and his friend Ajay often walked on Pine Lane, a dirt path beside a wooded area known as the Enchanted Forest. One day, the boys were walking with Clyde's dogs, Bric and Brac. Suddenly, both dogs barked excitedly and ran into the woods. Clyde called after them again and again, but when the dogs did not return, he told Ajay, "We'll have to go and get them."

The two boys entered the woods and called loudly for the dogs. There was no sign of Bric or Brac, but there was a sign on a board nailed to a tree. The boys walked right past it. They didn't notice that it read, "Magic Wish Trail."

After calling vainly, Clyde said, "There are so many trees and shrubs, we'll never be able to see Bric and Brac. Too bad we're not dogs because we could track those pups in no time. We'd just use our amazing sense of smell."

Ajay rolled his eyes and said, "Yeah, I wish!"

At once, a breeze ruffled the boys' hair. "I feel strange," each said simultaneously. Looking at each other, both cried out, "You're a bloodhound!"

The bloodhounds shouted at each other for a while, using their low, hoarse voices to howl their shock and alarm. But then, without thinking, they both began sniffing the ground. "A fox must have taken this trail," said Ajay.

"Three foxes," corrected Clyde, "probably a mother and two young kits."

The two bloodhounds trotted along, sniffing and commenting on the aromatic information that creatures had left behind. They detected the moist fragrance of frogs, the damp smell of rodents, and the wispy perfume of insects.

"And here is the route that Bric and Brac took," said Clyde confidently. "They were chasing a squirrel, but it climbed that tree over there, so they gave up and went this way." The bloodhounds followed the scent until they reached the edge of the Enchanted Forest. Before them, on Pine Lane, Bric and Brac stood waiting.

Stepping out of the forest and onto the path, the bloodhounds passed through an invisible wall. They transformed instantly into human boys.

"Oh, look," Clyde said to Ajay. "Bric and Brac came out of the woods on their own."

"I'm glad we didn't have to go into the Enchanted Forest," added Ajay. "I've heard that weird things happen there."



LEVEL 17, UNIT 8

What Lester Heard (Narrative)

Lester was lying on his back in the corner of the classroom and his friend, Harold, was lying nearby. All the students were lying on the floor because they were following the instructions of their teacher, Mr. Taylor.

“Direct all of your attention to sounds and try to remember everything you hear,” Mr. Taylor told the class. “Do not speak, and do not squirm, just lie still and listen. After fifteen minutes, we’ll return quietly to our seats and write a description of our soundscape. Ready, set, begin!”

As Lester listened attentively, he heard the blinds tapping against the glass, a bird chirping outside, and footsteps in the hallway.

Lester turned his head to glance at Harold, who was lying still, eyes shut. Lester closed his eyes, too, and listened harder. He heard voices in the hallway, a truck backing up, and a ball bouncing on the tennis court. Lester was surprised at how many different sounds were in the soundscape.

Lester heard a squirrel calling loudly, while, in the distance, someone was using a lawn mower and a siren wailed. He heard a plane overhead and a car horn in the street. He also heard a low hum that seemed to be coming from the classroom. Lester could not tell what was causing the hum, so he listened more closely. He decided that it wasn’t an insect, and it wasn’t a machine. It sounded like a purring cat. This was a puzzle!

Lester wondered if Harold was hearing the same sound. He looked over at Harold and then smiled because he solved the puzzle.

Mr. Taylor clapped his hands and said, “OK, now it’s time to write about what you heard.”

At his desk, Lester listed all the sounds he remembered and then described them in a poem.

The Soundscape

Footsteps and murmurs in the hall.

The echoes of a bouncing ball.

A truck’s beep-beeps fill the air.

A siren whistles, “Watch out, beware.”

A honking horn, a growling mower.

Will that buzzing plane come even lower?

A squirrel chip-chips loud and long.

A bird sings a cheerful two-note song.

The blinds give the window a gentle tap.

And Harold snores as he takes a nap.



LEVEL 17, UNIT 9

Taste Tests (Informational)

Here's a taste test you can do with a friend. Together, set out four teaspoons. Fill one with sugar water, one with lemon juice, one with salt water, and one with tonic water (a soft drink made with quinine). Close your eyes, and have your friend give you one teaspoon at a time. Will you be able to identify the taste in each teaspoon? No problem! It's simple to tell apart sweet, sour, salty, and bitter tastes.

Scientists have long known about those four basic taste types. It wasn't until the year 2000 that scientists worldwide agreed about a fifth taste, identified by Japanese scientists many years earlier. The fifth taste is called umami (oo-MAH-mee). The name is Japanese for "deliciousness." In English, the word savory describes the umami taste. It is found in foods such as mild beef broth and parmesan cheese.

Sweet, sour, salty, bitter, and umami tastes come from molecules in food. How do we sense taste from these molecules? Structures on the tongue, mouth, and upper throat work together to send taste signals to the brain. Specifically, the tongue has tiny bumps called papillae (puh-PIL-ee) that contain microscopic structures called taste buds. Taste buds have small openings that lead to taste-receptor cells inside. When a taste molecule touches the papillae on our tongues, the molecule enters the taste buds and is picked up by the receptor cells inside. Chemical signals from the taste receptors cause nerves to carry signals from the mouth to the brain. As a result, the eater becomes aware of flavors.

Think of a favorite food. It's not just taste that makes the food appealing. Other senses are involved, too. The food is your favorite because of its color, shape, texture (how it feels in the mouth), and maybe even its sound (does it crunch?). Most important is its smell.

Smell receptors in the nose detect many more kinds of molecules than taste receptors do. Try this test with a friend. Cut a slice of an apple and the same size slice of a raw potato. Close your eyes, and pinch your nose shut. Have your friend feed you one of the slices. Can you tell which one is in your mouth? Probably not. Distinguishing flavors requires the sense of smell, as you've probably discovered if you've ever had a bad cold.



LEVEL 17, UNIT 10

The Great Blondin (Informational)

The date was June 30, 1859 and the place was a natural wonder of North America, Niagara Falls. Located between the United States and Canada, the Niagara River roars down mighty waterfalls into the Niagara Gorge. On this date, a rope was strung above the gorge, ready for the man known as the Great Blondin, a world-famous tightrope walker from France.

Thousands of people had come to Niagara Falls to see the Great Blondin attempt this dangerous crossing. One slip and he would tumble more than 150 feet (46 meters) into the deadly, rushing river.

Starting from the American side of the gorge, Blondin stepped onto the rope holding a long, heavy pole for balance. The rope was more than 1,000 feet (305 meters) long. Blondin made his way to the middle of the rope where... he sat down! The amazed onlookers watched as he lay down! Then he stood up easily and proceeded to the Canadian side where, before stepping off, he did another trick—a back somersault! Then he crossed back. What a show!

The Great Blondin made many more crossings that summer and the next. He came up with all kinds of surprises to awe spectators. He crossed holding a chair, placed it on the rope, and stood on it. He crossed while blindfolded and he crossed on stilts. In the middle of one crossing, he stopped to light a little stove and cook an omelet! The crowd loved it.

The Great Blondin also crossed carrying a man on his back. This was probably the most terrifying feat of all. It certainly was for Harry Colcord, the man being carried, who was Blondin's manager. He wrapped his arms around Blondin's chest as the crossing began. He tried not to move, and he tried not to look below but then Blondin told him to get off! Carrying him was hard work, and Blondin needed to rest. Somehow, Colcord eased himself onto the swaying rope, clutching Blondin's shoulders and somehow, he climbed on Blondin's back again. Blondin had to rest four more times before the pair finally reached land. The crossing took 42 frightening minutes. What a show!

For about 50 years afterwards, other tightrope walkers showed their skills at Niagara Falls but none matched the fame of the first to do it, the Great Blondin.



LEVEL 17, UNIT 11

The Boy with the Ball (Narrative)

Hector's family moved to Tilton Springs at the start of summer. When Hector discovered that no other kids his age lived in the neighborhood, he knew he'd need to find a way to entertain himself. He found a lightweight ball that bounced well and had a rough texture that was easy to grip. Hector devised ball games to play alone on the small concrete patio behind his house.

He set up increasingly complex challenges for himself. For how long could he bounce the ball low and fast while walking? Could he throw the ball high and catch it behind his back? Could he bounce the ball, spin around, and catch it? Could he spin around twice and still catch it? Hector practiced almost every day.

On the first day of school, Hector realized that all the students in his class already knew each other from earlier grades. He put on a brave face, concealing his worry. Would the other students accept a newcomer, or would they exclude a stranger and ignore him? Hector wanted to make a good first impression, but he wasn't sure how to begin.

During recess, when the teacher passed out a few balls, Hector was astonished to see that the balls at his new school were exactly like the one he had played with all summer. He took a ball. Holding it felt as natural as breathing.

Hector spun the ball on the tip of one finger and then passed it to a fingertip on the other hand. He tossed the ball into the air and bounced it off his ankle onto his head and into his hands. A group of students began to watch.

Hector bounced the ball hard, spun around twice, and caught it with one hand. He threw it vertically and caught it between his elbows. He dribbled it smoothly between his legs while running in a circle. The crowd of students watching Hector grew larger as he balanced the ball on his head and rolled it behind his back from one shoulder to the other. Hector heard excited whispering and even applause from the spectators.

When recess was over, Hector's classmates gathered around him.

"Where did you learn those tricks?" someone asked.

"You're like a pro ballplayer!" remarked another classmate in an admiring voice.

"Can you teach me?" asked someone else.

"Sure," replied Hector with relief. This was a good beginning.



LEVEL 17, UNIT 12

Talent Show Tryouts: A Skit in One Act (Drama)

Cast of Characters

DIRECTOR

NELLY, a singer

KELLY, Nelly's singing partner

VINCE, a mind reader

MILLARD, a magician

[*The DIRECTOR is sitting on a chair in an auditorium. NELLY and KELLY walk arm-in-arm onto the stage.*]

DIRECTOR. Welcome to the tryouts for the Stixville Talent Show. I'll be directing the show. What are your names, and what is your talent?

[*NELLY and KELLY speak together, jumbling their replies.*]

NELLY. I'm Nelly, she's Kelly. We're a singing duo...we sing together.

KELLY. I'm Kelly, she's Nelly. We sing together...a singing act.

DIRECTOR. Huh? Well, show me what you can do.

[*NELLY sings one song while KELLY sings a clashing song.*]

DIRECTOR. Stop! Stop! Couldn't you two agree to sing the same song?

[*NELLY and KELLY respond simultaneously.*]

NELLY. We didn't have time to rehearse.

KELLY. I told her we needed more practice.

DIRECTOR. I'll say! Go home and practice—please.

[*NELLY and KELLY exit. VINCE walks confidently onto the stage.*]

DIRECTOR. Welcome to the tryouts for the Stixville Talent Show. I'll be directing the show. What is your name and your talent?

VINCE. I'm Vince the Mind Reader.

DIRECTOR. [*Skeptically*] You can tell what I'm thinking?

VINCE. Sure! Right now, you're thinking that I can't really read minds.

DIRECTOR. True, but too obvious. Let's get a sample of your act.

[*VINCE takes a deck of cards out of his pocket and shuffles the cards.*]

VINCE. Pick a card, any card, and I'll tell you what it is.

DIRECTOR. OK, I've picked a card.

VINCE. Now put it back in the deck, anywhere at all.

[*As the DIRECTOR puts the card back in the deck, VINCE leans over to view the card.*]

**Talent Show Tryouts: A Skit in One Act** *(cont'd.)*

DIRECTOR. [*Surprised*] Hey, you just looked at it before I put it back!

VINCE. No, I didn't.

DIRECTOR. Yes, I saw you look right at it!

VINCE. OK, OK, I had to take a peek because I haven't perfected the trick yet.

DIRECTOR. [*Sighing*] Go home and practice—for a long, long time.

[*VINCE sulks and exits. MILLARD walks onto the stage.*]

DIRECTOR. Welcome to the tryouts for the Stixville Talent Show. I'll be directing the show. [*Under his breath*] If there is one. [*To MILLARD*] What is your name and your talent?

MILLARD. I'm Millard, and I have a magic act based on scientific principles. I pull a tablecloth out from under dishes and glasses, without disturbing them.

DIRECTOR. [*Skeptically*] Have you practiced this trick?

MILLARD. Yes, many times.

DIRECTOR. At last! Well, Millard, show me what you can do. Use that table over there. It's already set up for dining.

[*MILLARD walks to a table covered with a tablecloth and set with tableware.*]

MILLARD. [*Confidently*] Ladies and gentlemen, Millard the Magician will now remove the tablecloth, and only the tablecloth. One, two, three...

[*MILLARD yanks the tablecloth off of the table. The tableware crashes to the floor. DIRECTOR and MILLARD stare silently at the mess.*]

DIRECTOR. Um, I thought you said you practiced this trick.

MILLARD. Well, I did... but it never worked at home either.

DIRECTOR. There's a broom. Please sweep up the mess before you go.

[*MILLARD sweeps up the broken glass and then exits.*]

DIRECTOR. [*Thoughtfully*] Directing a talent show is a lot harder than I thought it would be. Of course, it is my first time. I might need more practice.



LEVEL 17, UNIT 13

Rainbows (Informational)

There's something magical about a rainbow. That's probably why people everywhere have told stories about these wonderful arcs of colors. The ancient Greeks said that the goddess Iris used a rainbow as her stairway from the sky to the earth. In Ireland, folktales are told about leprechauns guarding their pot of gold at the end of a rainbow. The Cherokees of North America described a rainbow as the beautiful clothing of the thunder god.

Rainbows seem magical, and in a sense they are. A rainbow is an optical illusion. No one can go to a specific spot in the sky and touch a rainbow because it is not really there. But if a rainbow isn't really there, why does it appear?

What to Know About Light

- Light is a form of energy that travels in waves of different lengths. The length of each wave is called a wavelength.
- We perceive light as white, but it is actually a mix of 7 (yes, 7!) colors: red, orange, yellow, green, blue, indigo, and violet.
- Each color in the spectrum of light has a different wavelength: red is the longest, violet is the shortest.
- Prisms break white light apart so that we can see the spectrum of colors. Raindrops can act like tiny prisms.

How Rainbows Appear

When you look up toward the sun, you see white rays of light shining down. Rainbows form when white light travels through raindrops in just the right way. Imagine it is late in the afternoon, just after a thunderstorm. As rays of sunlight break through the clouds, they strike the millions of water droplets still in the air. If the beams of light pass through the water droplets at just the right angle, the light bends (refracts) and then bounces back (reflects). What happens when white light bends and bounces? To put it simply, it breaks apart into separate colors. And—you guessed it—these colors are the colors of the rainbow. A rainbow appears.

How to Find a Rainbow

You'll need a day when sunlight follows rain and the sun sits fairly low in the sky. Stand with your back to the sun. Scan the sky before you. Water droplets will bend and split the sunlight passing through them. Some of the light will be reflected, or bounced back, towards your eyes. The angle from the sunlight to the droplets must be the same as the angle from the droplets to you. If it is, you'll see red from high droplets, violet from low droplets, and all the rainbow colors in between.

How to Make a Rainbow

A natural rainbow is hard to find, but you can make your own. You'll need a garden hose and a sunny day. Stand with your back to the sun, and spray fine droplets into the air. Watch as the droplets split the sunlight into your very own rainbow.



LEVEL 17, UNIT 14

Cellphone Signals (Narrative)

On a hike with other campers, Lily stopped to check her cell phone. “Too bad. I can’t get a signal here,” she said to herself. When she looked up, she saw that she was alone, so she jogged ahead on the trail to catch up to the group.

After a few minutes, Lily knew that the campers had not taken this trail, so she ran back, but wasn’t sure where to stop. Her heart was beating fast from running, and from fear. She found a path and started walking on it, uphill and down through the woods. When the path forked, Lily sometimes went left, sometimes right. Finally, she came to a grassy clearing where she sat on a large rock and said to herself, “Stay calm, and think!”

She looked in her backpack and found an apple, a half-empty water bottle, a sweatshirt, and the useless cell phone. The back of the cell phone was shiny silver, and she saw her worried face reflected in it.

Lily took a sip from the water bottle but she decided to save the apple until she was hungrier.

She pictured the counselors trying to find her. All she had to do was wait and the clearing seemed like a good spot, because she could be seen more easily in the open.

After three hours of waiting, Lily ate the apple.

It began to drizzle, and Lily put on her sweatshirt. She realized that evening was coming, and she needed better shelter. Earlier, she had noticed a rocky overhang in the woods. To make sure she would find the way back to the clearing in the morning, Lily collected twigs. She placed pairs of them in a crisscross pattern to mark her path.

Lily sat under the rock ledge, her chin resting on her knees. The rain made gentle music, and as darkness came she dozed off.

The songs of birds awakened her to a sunny morning and she followed her twig path back to the clearing.

After a while, Lily heard a loud buzzing overhead and looked up. A rescue helicopter! She leaped up and waved her arms. “Here! I’m here!” she shouted but it seemed that the helicopter was moving away. “Don’t leave!”

Lily grabbed her cell phone and held it up, tilting its silvery back this way and that, trying to catch the sunlight. Would the flashes be seen?

News reports later told about the rescue. “Lily’s cell phone had no signal,” said one reporter, “but this resourceful camper used it to send a message anyway.”



LEVEL 17, UNIT 15

City Lights (Poetry)

Blazing lights

flicker

flash

glitter

gleam

twinkle

sparkle

bedazzle

beam

so

brilliantly

bright.

Reasons

why

city

stays

awake

all

night.

—Lee Bennett Hopkins



LEVEL 17, UNIT 16

The Tarahumara People: Life on the Run (Informational)

Imagine that you and your people lived for centuries in steep, rugged mountains, in thousands of homes scattered over the mountainside and in canyons. How would you get around? Horses and wagons would not be practical over such difficult land. For the Tarahumara people of northern Mexico, the answer was and is to travel by foot. They run.

The Tarahumara have built their way of life around running. Their name for themselves is Raramuri, which means “one who walks well” or “runner.” A good runner, in their world, is not one who runs fast but one who can run for a long time. These people raise their children to run with incredible endurance.

It is not unusual for a Tarahumara to run 50 or more miles (80 kilometers) in a single day. Tarahumara hunters run down their prey. If they are trying to catch and kill a deer, rabbit, or wild turkey, the hunters will run after the animal until it is too tired to run anymore. They have also been known to chase and catch wild horses.

The Tarahumara do not train themselves or their children to run. Instead, they make it part of their daily lives and place a high value on being a good runner. They hold races that help bring the communities together, one for men and one for women. These races can last for days. The men’s race consists of two teams of 3 to 10 men who must run up and down mountain trails for anywhere from 12 to 150 miles (20 to 240 kilometers). Not only that, but team members must continually kick a small wooden ball back and forth as they run. The women’s race is quite similar, except the women throw and catch hoops with long sticks while they run.

Now, after centuries on their own, the Tarahumara are having to deal with outsiders. Railways have made it easy for tourists to visit many of their communities. Their forests are being cut down by lumber companies, and the valuable ore beneath their land is being dug out by mining companies. In spite of all these changes, the Tarahumara have held on to their great tradition of running.



LEVEL 17, UNIT 17

The Legend of the African Crowned Crane (Fable, Folktale, or Myth)

Once, long ago, an African king became separated from his companions while out hunting in the dry grasslands. The king was lost and he did not know how to find the oasis where the royal court was set up. It was a hot day, and the king knew that he would die of thirst if he did not find water soon.

Zebras were grazing nearby. “Please help me,” the king said to the zebra chief. “I must find my court. Can you lead me to it?”

The zebra chief turned away from the king. “We cannot help you, for you have hunted us.”

The king then asked the elephant queen for help but she, too, refused. “We do not help those who want to kill us,” she said.

The king asked the antelopes, but they also said no because they were favorite game animals of hunters such as the king.

A flock of long-legged, long-necked birds called cranes landed near the king. Weakly, the king begged the cranes for help. They did not turn away. Instead, the cranes brought water to the king and then, led him to his court.

The grateful king ordered his goldsmith to make a crown of gold for each crane. The next day, the cranes flew off wearing their crowns, but the day after that, they returned with bare heads. The cranes said that the other animals had become envious and angry when they saw the golden crowns. The animals had stolen the crowns and destroyed them.

The king had new crowns made, not of gold, but of golden feathers that could not be removed. Each crane flew off wearing its gold-feather crown.

And that is how African crowned cranes received the beautiful, shimmering crowns of gold that they still wear today.



LEVEL 17, UNIT 18

Cave Dwellings (Informational)

Who lives in caves? Well, a cartoon image of a cave dweller shows a fur-clad hunter of the Stone Age carrying a club and drawing on a cave wall. The image is supposed to be silly—and it is.

Real-life Stone Age people lived by hunting and gathering food, rather than farming. For them, caves provided shelter at times. Caves had sacred uses, too. However, people didn't actually begin turning caves into homes until about 5,000 years ago. That was after they had learned to raise animals and grow crops. Instead of moving into natural caves, people who lived in caves built their own from rocks in the environment.

Cave dwellings made sense in dry environments where there weren't enough trees to use as lumber for building. If the rocks of the region were soft enough, people developed the tools to carve out underground rooms. Underground, they were safe from sandstorms. And they escaped the extreme differences between day and night temperatures common in deserts.

Tunisia

Cave dwellings are found in the North African country of Tunisia. The settlement of Matmata is famous. People of the Berber culture began building this village centuries ago. Some of them still live underground, protected from sun and wind. The homes here were built into the walls of a deep pit by cutting into the desert sandstone, a soft rock. A four-cavern hotel is popular among tourists, especially Star Wars fans. (Scenes from the Star Wars movies were filmed here.)

Spain

The town of Guadix, in Spain's Granada province, is also known for cave dwellings. For hundreds of years, people have lived in cave houses here. The underground dwellings are naturally cool during the summer and warm during winter. There are 2,000 cave dwellings in Guadix. The multi-room homes have an airy feel and all the modern conveniences.

China

In China today, more than 30 million people live in caves. Many of these dwellings are found in Shaanxi province. This region has cliffs that are easy to dig into. Most of these homes are simple rooms, but some are as spacious and modern as city apartments.

Throughout the world, fewer cave dwellings are being used and preserved. But architects study these homes to learn about the benefits of living underground. Today, underground homes are being built that have up-to-the-minute technology. They are heated and cooled naturally, are safe from stormy weather, and blend into the natural landscape—just like cave dwellings of the past.



LEVEL 19, UNIT 1

Balancing the Needs of People and Plovers (Informational)

Certain kinds of plovers, such as the piping plover, hooded plover, and western snowy plover, build their nests on sandy beaches. They build them between dunes or sea walls and the high-tide mark. This is precisely where beachgoers like to lay down their towels to enjoy a day at the beach.

This has created quite a debate. On one side are the cute little birds that have been described as “cotton balls on toothpicks.” Their light brown, white, and gray coloring makes them hard to spot on the sand. In spring, these birds lay their tiny, sand-colored, hard-to-see eggs in shallow nests dug into the sand.

These nests face danger from many sources. Storms and surging waves may wash them away. The eggs may be crushed by careless humans (on foot, in off-road vehicles, and with dogs). They may also be eaten by predators (such as foxes, cats, gulls, crows, and ravens).

If the eggs survive and hatch, it takes over a month for the chicks to grow strong enough to fly. To help them grow, plovers look for food by the water’s edge or in seaweed on the beach. If they’re frightened by people or predators, they run and hide wherever they can. This running and hiding uses up valuable energy. If it happens often enough in a day, a chick will starve.

Because the number of beach-nesting plovers is so low, their status is “threatened.” This means there are laws to protect them and organizations looking out for them. Some of the techniques used to protect nesting plovers include putting ropes around nests and providing little wooden shelters for chicks to hide in. The most extreme of all is closing off part or all of a beach during nesting season (which occurs between April and August).

All this protection angers the other side of the debate: beachgoers. Plovers are drawn to exactly the wide, sandy beaches that people like to frequent. When it has come down to the plovers’ right to protection or people’s beach-going rights, plovers have won. People find themselves cut off from favorite beaches and crowded into what is left. But all this may be changing.

Plover experts now believe that the biggest dangers to plover nests are storms and predators. Nothing can be done about storms, and destroying or relocating plover predators creates new problems. But it does seem that predators stay away from beaches often filled with people. So some beach communities have begun to have a more “relaxed” attitude. They rope off any plover nests and post warnings to protect the plovers, but they don’t close off the beach. The little birds seem willing to coexist with people, as long as the people don’t disturb their nests or chicks.

Maybe, just maybe, we can all get along!



LEVEL 19, UNIT 2

An Uninvited Guest (Narrative)

The dark-winged, unidentified flying object swooped from the ceiling toward the family seated in the kitchen and back up again. Bashir screamed, and his sister Aisha slid off her chair to hide under the table. “Don’t worry,” their grandmother said calmly. “It’s just a bat.”

“What do you mean it’s just a bat?” Bashir shrieked, waving his arms frantically to keep the winged creature away. “Those things carry rabies!”

Aisha peered out from under her hiding spot. “Babies? I don’t see its babies.”

Bashir shook his head and answered, “Not babies—rabies, rabies! It’s a disease you get from bats. They bite you, and then you die.”

Aisha started to cry, and their grandmother said, “Let’s not overreact. First, very few bats carry rabies. Second, there’s a medical treatment for rabies. And third, this poor bat is probably just as afraid of you as you’re afraid of it.”

“Who’s afraid?” asked Bashir in the bravest voice he could muster. Just then, the bat spread its wings and glided toward Bashir’s head. He screamed again and ducked behind Aisha under the table.

“I heard that bats like to get tangled in people’s hair!” Aisha shuddered.

“That’s only a myth,” reassured their grandmother as she quickly gathered a blanket that had been draped over a chair. “And this poor animal will soon exhaust itself.” Sure enough, after a few more swoops around the room, the bat finally settled on a high shelf. A quick toss of the blanket succeeded in trapping the bat in its soft folds.

“You caught it!” exclaimed Bashir. Every time he visited his grandmother, he was always impressed that she knew exactly how to handle any situation.

Bashir crept closer to the bundle in his grandmother’s arms and saw that the bat’s eyes were fixed on him with a combination of what he thought might be curiosity and fear. “Now what should we do with it?” he asked in a hushed tone.

“We need to set it free, of course,” their grandmother asserted, walking to the door and opening it. “I’m not sure if this bat wants to make a home in our attic or if it’s lost, but it will be much more comfortable outside.” She shook the blanket gently to release the bat, and they watched it soar into the distance until it disappeared.

Bashir breathed a sigh of relief, and his grandmother smiled.

“I’m always happy to see bats flying around *outside* because they devour mosquitoes by the thousands,” she remarked. “Without bats, the world would be much buggier than it is. We need them, even though we don’t like to share our indoor spaces with them.”

One evening not long after the weekend visit with his grandmother, Bashir noticed familiar black figures circling swiftly against the dimming sky outside his apartment window. He recognized them immediately and murmured, “Hello, my mosquito-eating friends,” pleased that this time he did not feel afraid at all.



LEVEL 19, UNIT 3

The Business of Zoos (Informational)

Early in the twenty-first century, conservation groups in Thailand protested against shipping elephants to zoos in Australia. Supporters of animal rights in the United States claimed that elephants in city zoos were being harmed. The leader of one animal-protection group asked, “Is there any value having elephants at zoos other than to allow people to see them in person?”

Allowing people to see exotic animals is a main purpose of zoos. Ever since ancient times, wild animals from distant lands have been put on display, simply for people’s viewing pleasure.

A zoo animal was placed in a cage with bars. Keepers fed it and cleaned its cage, but paid no attention to its other needs. A caged animal had nothing to do. Zoo visitors might see a lion or a bear endlessly pacing in its tiny cell. They might see a gorilla sitting on a concrete floor, staring blankly. At times, visitors felt more sadness than awe.

It was not until recently that many zoos began to change. Zoos created natural-looking environments, such as rainforests and large outdoor enclosures. Many zoos offered animals more space and stimulating activities. But zoo critics point out that, even in natural-looking environments, most animals have nowhere to hide, as they would in nature. They must be on display for visitors.

Some opponents of zoos say that there is no need for people to see exotic animals up close anymore. Television and the Internet make it easy to view wild animals in their natural habitats.

Supporters of zoos argue that educating the public about wildlife is a worthwhile goal. When people get close to a mighty gorilla or an adorable panda, for example, they are willing to give money to help save these animals’ threatened habitats. The people who work at zoos are often active in conservation groups that protect species in the wild. Many zoo doctors have saved the lives of sick animals in wildlife preserves.

Zoo supporters also highlight that today’s zoo animals are mainly born in captivity. They are not caught in the wild and brought to the zoo. Some zoos even run captive-breeding programs. These programs are designed to return the zoo’s baby animals to the wild one day. For example, the breeding program set up by a New York zoo in the early 1900s saved the American buffalo, a kind of bison, from extinction. Today, tens of thousands of bison roam the North American plains. These kinds of programs tend to be costly, however. They also have a low success rate. To survive in the wild, most animals need to be born there.

Very few people want to ban zoos entirely. Zoo critics and supporters alike, including many in the zoo business, have some shared goals. They want to make sure that captive animals live well, and that wild animals can live freely.



LEVEL 19, UNIT 4

When Lightning Strikes (Informational)

Imagine two huge lightning bolts simultaneously strike the tips of two skyscrapers. Impossible? Well, just such a thing happened in Chicago in 2010, and one photographer was lucky enough to capture the spectacular moment. But then, lightning flashes often have a way of being highly dramatic.

Most of us don't see many lightning flashes in a year, but don't be fooled. According to recent satellite data, over three million lightning flashes occur worldwide every day. Most travel from cloud to cloud, but about 860,000 of them strike either the ground or some water surface on Earth.

Lightning travels at the speed of light, which is 186,282 miles per second (299,792,458 meters per second). The reason the thunder we hear trails far behind the lightning we see is that the speed of sound is comparatively slow. It takes five seconds just to travel a mile in warm summer air. This difference in speeds provides a quick way of estimating how close an electrical storm is. As soon as you see a lightning flash, start counting seconds (*one thousand and one, one thousand and two*). Stop when you hear the thunder and divide by five to get the number of miles.

As enjoyable as lightning is to watch, it can do tremendous damage. Lightning strikes are the major cause of forest fires and frequently cause power outages. A lightning strike in northern New York caused a blackout that paralyzed New York City in 1977. More importantly, about 24,000 people are killed by lightning every year. Ten times that number are seriously injured. So if you see a flash of lightning, start counting. The latest guidelines say to head for shelter as soon as that number is under 30.

If you're in a car, make sure the windows and doors are closed. If you're outdoors and can't reach a building, avoid anything tall in your area. Lightning tends to take the most direct route to Earth, striking the closest (tallest) object that happens to be in its path. Stay away from single trees, high fences, and other such structures, especially metal ones that conduct electricity. Avoid open areas. If you can't get out of the open, crouch close to the ground. If you are swimming in water, get out.

If you make it indoors, you still have to be careful. These days, buildings include various forms of lightning protection, but lightning is tricky. It can travel through phone lines, so only use cell phones for calls. It can come through faucets, so don't take a shower or wash anything during a storm. Don't stand close to windows.

Electrical storms are amazingly beautiful, but don't forget that they are also amazingly dangerous!



LEVEL 19, UNIT 5

Hail (Poetry)

The hail flies
on furious hooves.

It batters cars
and rooftops,
slamming anger,
and then melts away.

– J. Patrick Lewis



LEVEL 19, UNIT 6

Walls of Fire (Narrative)

“Alana, is everything going to be okay?” Lidia asked me. We were holding hands tightly in the rec center, waiting for rescuers. Not long before, we’d been swimming in the pool with other campers when the camp director suddenly appeared. She announced that everyone had to get out, get dressed, and follow the counselors to the rec center—fast!

Inside the wooden building, we sat on the floor while the director told us, “We must evacuate the camp because there’s a fire in the woods. Buses are coming to drive us out of here, but we have to wait for them to arrive.”

That’s when I realized that the burning sensation in my eyes didn’t come from the pool water, but from smoky air. Gray-black clouds swirled above distant treetops.

The rec center had a TV, and someone turned it on. We watched a live news report about a wildfire. The cause was unknown—maybe a lightning bolt or a stray spark from a campfire. The long drought in the region meant that dry leaves, grass, and sticks caught fire easily. Then the wind spread the flames, and walls of fire rose high into treetops. Video showed teams of firefighters with chainsaws, shovels, and other tools, laboring in the hot-oven forest to clear vegetation and control the blaze. Yellow-orange flames crept and leaped in the background.

The reporter pointed to three parked buses, explaining that they could not get through to a children’s camp because of burning trees that had fallen across the dirt road. “The children are trapped,” he said.

The director turned off the TV, but we had already seen too much. Those trapped children were US! Trapped! Some of the campers were crying. Fear grabbed me by the throat, and I gasped for breath.

The nature counselor tried to calm everyone down by telling us about wildfires—how common they were and how some trees even depended on fire to spread seeds. I wondered if I’d ever see my family again.

Waiting was agonizing. The air thickened with smoke. Harsh odors filled our nostrils.

Two long hours later, flashes of color appeared through the haze. Had the flames reached the camp? No, three yellow school buses were on the road. We cheered as our rescuers pulled up in front of the building.

On the drive out of the camp, we could barely see the woods through the smoke. And when we finally reached the open highway, it was like emerging from a dark, deadly, alien world.

This happened six years ago, but the events are burned in my memory. It was the scariest day of my life!



LEVEL 19, UNIT 7

Join the North School Walkers (Opinion)

Dear Parents of North School Students:

Have you heard about our walking-school-bus program? It began last year with 30 students. As the new school year begins, 50 students have enrolled. It would be great to see 100 or more students participate, because this program has many benefits that will help our children and our community.

Here's how the program works. Your child waits for the "bus" each morning at an assigned time and place. The bus is not a vehicle, but a group of students with one adult leading and one adult following. All the walkers stay together, with the adults making sure that everyone crosses streets safely. At the end of the school day, the walkers reverse their route. Right now, the adults are volunteers, but we hope to find the money to pay workers soon.

Even with paid workers, the program saves money for our school district. Because of sharply rising fuel costs, school buses take a big bite out of our district's budget. Fewer buses mean lower costs. Saving money to use for education instead of transportation is a major reason for this program, but there are other reasons, too.

The walking-school-bus program is good for everyone's health. Health experts point out that today's youngsters are not getting enough exercise, and are at risk of developing health problems as a result. Walking is a simple and effective physical activity. And it doesn't pollute the air with vehicle fumes!

In addition, students have a safer way to get to school. The walking-school-bus program reduces not just the number of school buses, but also the number of parent-driven cars that clog the streets by North School. When students no longer have to dodge traffic to enter the building, safety will be improved.

There has been an unexpected bonus to the program—a greater sense of community among the walkers. What better way to feel part of a neighborhood than by taking a daily walking tour! Help your child and our community by enrolling in the North School Walkers program. Sign-up sheets are in the school office.

Sincerely yours,

Edda Freeman and Tony Palermo

Parent Coordinators of the North School Walkers



LEVEL 19, UNIT 8

Support Art in the Park (Opinion)

Dear Editor,

I'm writing to urge everyone to come to Art in the Park this Saturday in Broad Creek Park, from 9 AM to 6 PM. There is no admission fee, and there's so much to do and see. Over 150 local artists will be showing their work, hoping to sell some of it to you. There will also be an art show featuring the best work of fifty students from local schools. The student works have already been judged, so you can see if you agree with the judges' choices. They have awarded blue, red, and white ribbons to some of the up-and-coming artists in our local high school, middle school, and two elementary schools.

This year, we are introducing a special section set aside for even younger artists. It is called Kids in the Park. It comes equipped with fingerpaints, chalk, watercolors, crayons, and lots of paper so kids can make their own artistic creations. And don't worry about mess. We provide smocks for kids to wear to keep their clothes clean!

A local band, the Snow Squalls, will be providing country music to keep things lively. And a food court, run by Aroma Market, will have a wide variety of scrumptious treats. (As everyone knows, Aroma Market is famous for its tasty food!)

This is the third year for Art in the Park. We have been encouraged by the number of people who attended the first two times, but we need more of you to come! Supporting art in our community has so many benefits for you, for your kids, and for our local artists.

It's a chance for you to get to know other community members as you stroll through the show. It's a chance for you and your kids to experience different kinds of art: paintings, photographs, sculpture, pottery, carvings, jewelry, and more. It's a chance for you to discuss what you see with the artists themselves. Don't be afraid to ask questions or to share opinions. Talking with community members is one of the main reasons the artists enjoy participating in this event!

So imagine yourself, strolling through our beautiful park, listening to entertaining music and eating delicious food. As you view a wide range of art, one piece in particular catches your eye. You have an interesting chat with the artist and then you decide to buy the piece. It didn't cost that much, and you know it will look just beautiful in your home.

Now stop imagining, and experience the real thing! Support and get to know your local artists, encourage student artists, help your community, and enjoy yourself.

We hope to see you this Saturday!

Antony Alvarez

Art in the Park Chairman



LEVEL 19, UNIT 9

We Can All be Winners Here! (Opinion)

By Lamar Green, Grade 6

If you listen to the news these days, you know that everybody is concerned that kids aren't eating enough nutritious food. If any of these concerned citizens ever visited our cafeteria at lunch time, they might worry even more! Yes, the daily hot lunch features healthy food, but the vegetables taste terrible. They're either overcooked frozen vegetables, or if they're in salads, they are not very fresh. And then what happens? Kids leave the vegetables untouched. Who wants to eat mushy broccoli or wilted lettuce? So the school spends money on food that gets thrown away, and we kids don't get a complete, nutritious meal. Everybody loses.

But there's a way for everyone to win: Our school could set up a farm-to-school program. Over 2,000 schools all across the country already have farm-to-school programs that are running successfully. Here's how it works: The school sets up an arrangement with local farmers, who sell certain fresh fruits and vegetables to the school every few days. Farm-to-school programs also include classroom visits from farmers, who help kids understand what's involved in farming, and field trips for kids to see real farms firsthand.

The farmers win because they have a nearby market for their crops that they can depend on. They don't have to drive around, selling their food to different stores at a lower price, so the stores can turn around and sell it at a higher price. This means farmers earn more money and don't have to spend as much on transportation.

The school wins, too, because it gets to know the local farmers. It can work with farmers to decide which kinds of fruits and vegetables to grow. (Maybe we kids can make suggestions, too—that would be cool!)

But most of all, kids win. We get tasty, fresh fruits and vegetables to eat. Think how fantastic it would be if our cafeteria also included a great salad bar! And along with eating better, we could learn more about where our food comes from through classroom visits and field trips. We'd get to know the farmers in our community and see for ourselves how our food is grown.

I hope I've made it clear why our school should set up a farm-to-school program. Everybody wins!



LEVEL 19, UNIT 10

Borrowing Nature’s Designs (Informational)

Imagine a day when doctors could help a person grow a replacement body part—just like starfish and lizards can do. What if bridges were built from something much stronger than steel—fibers made of spider silk! Some engineers study nature’s designs in order to develop new technologies. These engineers are using a kind of science called biomimetics. *Biomimetics* comes from the Greek words *bios* “life” and *mimesis* “to imitate”.

Prickly Plant Parts

In 1941, a Swiss engineer named George de Mestral went for a hike with his dog. Afterward, picking off burrs from his clothes and dog’s fur, he became curious. How did the burrs manage to stick so well? He studied the structure of each burr and discovered that the spines ended in tiny hooks. He went on to invent a kind of fastener made of tiny hooks. He helped start a company to produce the fasteners. Velcro® is still a trade name for these burr-inspired fasteners. They are used on clothing, shoes, school binders, and many other products.

Sticky Feet

Little lizards called geckos have an astounding ability to cling to walls, ceilings, and other surfaces. For decades, scientists have studied gecko feet to figure out what makes them so sticky. Experiments show that millions of microscopic hairs on each toe are mainly responsible for a gecko’s grip. Molecules on the hairs interact with molecules on the surface. The resulting forces pull the toes and surface together. But geckos don’t just stick to a surface—they unstick, too. To do that, a gecko tugs the foot in the opposite direction, releasing the grip. Like Velcro®, products that can stick firmly yet be removed easily have practical uses. So far, engineers have developed gecko-inspired robots that climb walls. They’ve made a fabric-like material that can stick to smooth surfaces. They’re also working on grippers that might someday be used to pick up junk floating in space.

Rough Skin

Sharks are extremely speedy swimmers. Any solid body moving through water encounters drag, a force that resists forward motion. A shark’s streamlined body shape reduces drag. So does its skin. Powerful microscopes reveal that sharkskin is covered in tiny toothlike structures called denticles. Denticles roughen the skin in a way that makes water flow more smoothly over it. That enables sharks to swim faster using less energy. Engineers designed materials with denticle structures to make swimsuits first used by Olympic swimmers in 2008. Denticles also prevent organisms like algae from attaching themselves to the shark’s skin. Engineers are experimenting with denticle structures to create a material that repels bacteria. If it works, hospitals may coat surfaces with this material to reduce infections.

What problems will biomimetic engineers try to solve next? One thing is for sure: nature will provide inspiration for new solutions.



LEVEL 19, UNIT 11

Splendid Spiders (Informational)

Fear of spiders is common. “Ugh!” people say, “Keep that creepy thing away from me.” Many people get out the broom when they see a spider in the house. And some people panic when they see just a photo of a spider. Fearful reactions may be common, but they are not sensible. Only a few kinds of spiders can harm people. Spiders are actually helpful because they eat insects. Spiders are fascinating creatures that deserve to be admired.

Spiders belong to a class of animals called arachnids. Unlike insects, spiders have eight legs, not six, and no wings or antennae. There are more than 35 thousand known species of spiders, with more species yet to be discovered. Spiders are successful predators that live all over the world.

Spiders are one of the only organisms with the ability to produce silk from their bodies. About half of the world’s spiders use their silk to spin webs, which are highly effective traps. The spider rests quietly in the web or nearby, waiting for its prey. An insect that lands on the sticky strands of silk cannot escape. Webs come in many shapes, including funnels, sheets, and messy-looking cobwebs. The most familiar image of a web belongs to orb-weavers. Orb-weavers, such as the garden spider, create large, delicate, and beautifully patterned webs that glisten with dew.

Spider silk is famous for its strength and its ability to stretch without breaking. The very large webs of certain orb-weavers have even been used as fishing nets. A spider produces different kinds of silk for different purposes. Dragline silk, for example, is a lifeline for a dangling spider. It is stronger than a steel wire of the same width, and much more stretchable. Engineers and scientists study spider silk as they try to make a fiber that is equally strong and flexible. Such lab-made spider silk could have many uses, from ultra-strong fabrics to supports for broken bones.

Spiders do amazing things. For example, they taste their food by using the hairs on their legs. They digest their food before they swallow it, using chemicals to turn it into liquid. Young spiders leave their birthplace by “ballooning”—riding air currents on lightweight silk threads. In addition to spiders that trap prey, there are spiders that jump, spiders that spit, and spiders that fish. Trapdoor spiders live in silken burrows with removable lids. When an insect passes by, the spider pops out from under the lid and grabs its prey in a flash.

People may say, “A spider—ugh!” However, once they learn a little more about spiders, it might be more fitting to say, “A spider—wow!” Spiders are marvels of the natural world.



LEVEL 19, UNIT 12

The Secret Song (Poetry)

Who saw the petals
drop from the rose?
I, said the spider,
But nobody knows.

Who saw the sunset
flash on a bird?
I, said the fish,
But nobody heard.

Who saw the fog
come over the sea?
I, said the pigeon,
Only me.

Who saw the first
green light of the sun?
I, said the night owl,
The only one.

Who saw the moss
creep over the stone?
I, said the gray fox,
All alone.

– Margaret Wise Brown



LEVEL 19, UNIT 13

A Review of *Treasure Island* (Opinion)

Reviewed by Ellison Shih, Grade 8

The book *Treasure Island* is on every list of classic adventure stories. This book is described with words like *suspenseful*, *rousing*, and *fast-paced*. Robert Louis Stevenson wrote the book a long time ago. It was published in 1883. I wondered whether it would still seem as exciting as people say. I'm a big fan of adventure stories, so I decided to read the book for myself.

The story takes place in the 1750s. The narrator is 12-year-old Jim Hawkins, who has found a map to a treasure that pirates buried on a distant island. Jim serves as a cabin boy on a ship sailing to the island. He is befriended by the ship's cook, Long John Silver, who is none other than the cruel leader of the pirate gang that is pretending to be the regular crew on the ship. The author drops clues to what is really going on. But Jim realizes the truth only after he overhears the pirates making their plans to find the treasure and take over the ship. He escapes to the safety of a wooden fort on the island, along with the captain, the ship's owner, the doctor, and a few honest sailors.

In the following battles against the mutineers, Jim is an action hero, brave, lucky, and clever. He performs daring deeds, and more than once outwits his scheming, heartless enemy.

The character of Long John Silver is one of the most interesting in the book. He is a mean-spirited pirate, who is still able to charm others. He can talk his way out of trouble and find opportunity in situations that seem hopeless.

Sometimes the language of the book is hard to understand. The characters use words and expressions that are not spoken anymore, and there are many sailing terms that I didn't know. But I understood enough to follow the action, and action is the most important feature of the book. As I read, I kept thinking that the story would make a great movie or graphic novel.

It turns out that *Treasure Island* has been made into a movie more than once. I plan to watch a movie version, because it's always interesting to compare a book and a movie that tell the same story.

On a scale of 1 to 10, I give the book *Treasure Island* a 7. It is old-fashioned in some ways, but I did want to keep reading to find out what would happen next.



LEVEL 19, UNIT 14

A Movie for Everyone (Opinion)

by Riya Sharma

Are you looking for a film to rent that the whole family can enjoy? I've got the perfect movie for you. It has something for everyone: adventure, suspense, comedy, tragedy, and best of all, singing and dancing. Even if you don't think you like movie musicals, give it a try. I don't like most musicals, but I love this movie.

The name of the movie is *Oliver!* (The exclamation mark isn't from me. It goes with the title.) It was released in 1968 and went on to win a raft of awards, more than most films ever will. Since then, audiences of all ages have been happily viewing it again and again. The movie is based on *Oliver Twist*, a classic book by the British writer Charles Dickens.

Oliver! sticks to the part of the story that tells about *Oliver Twist*'s childhood, which takes place in the early 1800s in England. The boy, who is an orphan, gets swept up in a gang of kids who are thieves and pickpockets. These kids are tough, but they aren't mean. They really look out for each other. Their leader is an outrageous old man named Fagin. He's not so nice, but you'll love to hate him! And he'll have you helpless with laughter as he instructs the boys, singing "You've Got to Pick a Pocket or Two."

Almost as memorable is a gang member called the Artful Dodger. (His nickname means that he's quite good at getting himself out of danger.) Dodger welcomes Oliver into the group with a song, telling the orphan to "consider yourself part of the family." He then becomes Oliver's loyal friend and protector.

I mention some of the songs because they, and the other great songs, fit so well with the story. You'll want to sing along with these powerful tunes, so I strongly recommend going online to find and print out the song lyrics. After all, you'll be sitting in your own home, not bothering anyone else. Why not sing along? And while you're at it, enjoy the fantastic dance sequences as well.

Let me add just a few words of caution. If really young children are watching, tell them that everything turns out all right for young Oliver. Otherwise, they might get upset by some of the things that happen, especially when nasty Bill Sykes is around.

But *Oliver!* isn't meant to be a frightening movie. It's really a celebration of love and friendship, full of fun and energy. It has interesting characters that little kids will like and that older kids and parents will get a kick out of. After you see *Oliver!* you'll know why they added that exclamation mark to the title!



LEVEL 19, UNIT 15

Just Listen to This! (Informational)

How often do you listen to classical music? If you're like most young people, your answer is "Never." Well, you're missing out on a terrific listening experience. Give classical music a try and you may find that you like it.

The term *classical* describes a style of music that was developed in Europe in the 1700s and 1800s. One kind of longer classical work, called a symphony, is composed for the instruments of an orchestra. If you want to listen to a symphony for the first time, find a recording of Symphony Number 6 by one of the greatest composers (some say the greatest) who ever lived: Ludwig van Beethoven.

The reason to start with the Sixth Symphony, also known as the Pastoral, is that Beethoven suggested feelings and images for each movement. (A movement is a separate work within the symphony.) Each of the five movements presents a scene that listeners can picture, so as you listen, try to imagine the setting. How does the music convey the mood and the action? Listen for repeated melodies, called themes. Listen for how the different sections of the orchestra play with and against each other. Listen to how the music grows softer or louder to express gentle or strong feelings. Try to identify the different solo instruments you hear.

The first movement of the Sixth Symphony brings listeners to the countryside. Beethoven loved the country, and the music conveys calm and happy feelings. Listen for the solo clarinet and you will feel the pleasure of being in this beautiful place.

The second movement takes place by a brook and you may hear the murmuring water of the stringed instruments. Listen carefully to see if you can hear the calls of birds. There is a flowing, dreamy feeling to this movement.

In the third movement, the country folk gather for a lively dance. Picture the joyous whirling of the dancers as you listen. Next, something arrives to disturb the dance: a thunderstorm!

In the fourth movement, drums make rumbling thunder. Listen to the trombones sound like rain and imagine the darkening skies with everyone hurrying for shelter. You can even hear the high notes of lightning.

The melody of a shepherd's song ends the fourth movement and begins the fifth. The storm is over. If you've ever wondered what sunshine sounds like, just listen to this music. The glorious sun lights the world again, and everyone gives thanks.

Beethoven completed his Sixth Symphony in 1808. He had begun to lose his hearing six years earlier, suffered from loud ringing in his ears, and his deafness was increasing. Yet, this genius was able to hear this wonderful music in his "mind's ear," and share it with listeners for all time.

Listen, and enjoy!



LEVEL 19, UNIT 16

Adventure Island (Narrative)

David's class was studying maps. For homework, each student was supposed to find a map of an interesting place to share. David wished he could show Adventure Island. He wouldn't be able to find a map of it, though, because it wasn't a real place but one he sometimes daydreamed about.

David was getting ready for bed when a great idea came to him. Instead of finding a map, he could make one! He placed a large sheet of paper on his bedroom floor and began to draw a map of Adventure Island.

Adventure Island was, of course, surrounded by water, so David showed it in the middle of Lake Wonder. He drew Golden Beach, which had glittering sand, and Roller Coaster Hill, which was fun for bike riding, and Pirate Cove, where treasure lay buried. There was a blank area in the northeast, and David closed his eyes, trying to picture what to put there.

Suddenly, David heard the sound of flowing water. It grew louder. With a startling WHOOSH, David was no longer in his bedroom, and night had turned to day. He looked down to see his bare feet standing on mossy rocks. He looked up to see a waterfall spilling over a rock wall to a pool of water below. Without hesitating, he slipped into the cool water and began swimming toward the waterfall with strong, sure strokes. David had only learned to swim that summer and was still at the doggy-paddle stage in the town pool. But this water was different—it seemed to propel him, and he was hardly making any effort at all.

He felt the waterfall beating on his back, pushing him underwater, but he wasn't frightened. He wriggled like an eel toward a rocky ledge behind it. He climbed up on the ledge and peered through the curtain of water at the wondrous sunlit pool and the rolling green hills beyond. He almost couldn't believe that he had arrived on Adventure Island, but here he was, and it was even better than he had imagined!

A fish with silvery scales darted back and forth under the ledge, and David bent to get a closer look. It moved its lips in a fishy way and spoke out loud. "You must..." it said, but David couldn't make out its words. "You must..." it repeated, then louder, "You really must..."

The waterfall vanished, and David was lying on his bedroom floor. "You really must get into bed now," said his dad. "It's past midnight. The floor isn't a comfortable spot for sleeping."

As David got into bed, Dad asked, "Why is your hair so wet?"



LEVEL 19, UNIT 17

The Harpies: A Greek Myth Retold (Fable, Folktale, or Myth)

The brave hero Jason set out on a quest to find the Golden Fleece, the wool of gold from a magical ram. He journeyed with a group of other heroes, all seeking adventure. Among them were the sons of the North Wind: two mighty warriors with the gift of flight. Jason, the winged sons of the North Wind, and the other heroes sailed on their magical ship, Argo. They were known as the Argonauts.

On their quest, the Argonauts voyaged to many strange lands and encountered extraordinary creatures. This is the tale of their adventure in the land of King Phineus.

It was twilight when the Argo arrived on the shores near Phineus' kingdom. When the Argonauts reached the palace doors, they were met by an old and weak man who could not see. The blind man walked on trembling legs to greet them. He seemed barely alive, as if made of skin pulled over jutting bones.

The Argonauts were surprised to learn that this man was, in fact, King Phineus himself. "I am starving, though I have plenty of food," Phineus told them. "I have waited for your help, knowing that you would come." Jason and the Argonauts were eager to hear more. Why was King Phineus weak and starving? How did he know they would come?

King Phineus told his story. The god Apollo had granted Phineus the gift of seeing into the future. With Apollo's gift, Phineus knew what was to come. He used his new skill to warn people of future danger. Zeus, the king of all gods, was not pleased.

Phineus explained, "Zeus grew angry with me for telling mortals what was to come. He punished me, and his punishment has turned me into the starving, miserable person you see. Watch as I try to eat."

The king's servants laid out a feast. But as soon as Phineus reached for the food, terrible winged monsters with long claws and knife-like teeth dived from the sky and devoured almost everything. Even worse than their savagery was what they left behind—a smell so repulsive it was unbearable. The few remaining food scraps were utterly spoiled and reeking with the scent.

"What are those monsters?" asked Jason. Phineus' eyes grew wide. "Those hideous creatures—they are Harpies."

Phineus turned to the Argonauts and said, "Recall Apollo's gift to me: the gift of viewing the future. I have foreseen that among you are the ones who can save me from the Harpies. Please help and perhaps I can help you in return."

The Argonauts took pity on Phineus. But which hero among them was destined to defeat these winged monsters? Not one hero, but two, stepped forward eagerly. The two sons of the North Wind were determined to save the king. They drew their swords and pledged to drive the Harpies away. The wings on their ankles fluttered, ready to take flight.

Food was once again placed before Phineus. As before, when the old king brought a bite to his lips, the Harpies swooped down.

This time, however, the sons of the North Wind flew up after the Harpies, striking at them with their swords. The Harpies fled their fierce attackers, barely escaping with their lives. This moment was the last time the Harpies tormented the old king.

That night, Phineus and the Argonauts feasted undisturbed. In return, Phineus gratefully used his ability to see the future to tell the sailors how to survive the next dangers on their voyage. With this knowledge, the Argonauts awoke the next morning to continue on their search for the Golden Fleece.



LEVEL 19, UNIT 18

Five Children and It: An Excerpt (Narrative)

The classic novel *Five Children and It* tells about brothers and sisters who are visiting a country house in England. In this excerpt, Cyril, Anthea, Robert, and Jane are digging in a nearby gravel pit just for fun, when Anthea excitedly reports that she has heard a voice underground say “Let me alone.”

Then Anthea cried out, “I’m not afraid. Let me dig,” and fell on her knees and began to scratch like a dog does when he has suddenly remembered where it was that he buried his bone.

“Oh, I felt fur,” she cried, half laughing and half crying. “I did indeed! I did!” When suddenly a dry husky voice in the sand made them all jump back, and their hearts jumped nearly as fast as they did.

“Let me alone,” it said. And now everyone heard the voice and looked at the others to see if they had too.

“But we want to see you,” said Robert bravely.

“I wish you’d come out,” said Anthea, also taking courage.

“Oh, well—if that’s your wish,” the voice said, and the sand stirred and spun and scattered, and something brown and furry and fat came rolling out into the hole, and the sand fell off it, and it sat there yawning and rubbing the ends of its eyes with its hands.

“I believe I must have dropped asleep,” it said, stretching itself.

The children stood round the hole in a ring, looking at the creature they had found. It was worth looking at. Its eyes were on long horns like a snail’s eyes, and it could move them in and out like telescopes; it had ears like a bat’s ears, and its tubby body was shaped like a spider’s and covered with thick soft fur; its legs and arms were furry too, and it had hands and feet like a monkey’s.

“What on earth is it?” Jane said. “Shall we take it home?”

The thing turned its long eyes to look at her, and said—

“Does she always talk nonsense, or is it only the rubbish on her head that makes her silly?”

It looked scornfully at Jane’s hat as it spoke.

“She doesn’t mean to be silly,” Anthea said gently; “none of us do, whatever you may think! Don’t be frightened; we don’t want to hurt you, you know.”

“Hurt me!” it said. “Me frightened? Upon my word! Why, you talk as if I were nobody in particular.” All its fur stood out like a cat’s when it is going to fight.

“Well,” said Anthea, still kindly, “perhaps if we knew who you are in particular we could think of something to say that wouldn’t make you cross. Everything we’ve said so far seems to have. Who are you? And don’t get angry! Because really we don’t know.”

“You don’t know?” it said. “Well, I knew the world had changed—but—well, really—do you mean to tell me seriously you don’t know a Psammead when you see one?”



LEVEL 20, UNIT 1

The Tunguska Blast (Informational)

On the morning of June 30, 1908, a violent blast shook a forested region of central Siberia. From a distance, witnesses saw the sky in flames and heard loud booms. One man later reported being tossed out of his chair and feeling as if his shirt were on fire because the heat was so intense. A woman described how a powerful wind carried off the reindeer-hide cover of her family's tent. Her sleeping bag went up in flames. Afterwards, she saw that the forest was gone.

Instruments around the world detected shock waves from the blast. Dust from the explosion lifted high into the atmosphere, scattering sunlight that could be seen in far-off Europe at midnight.

War and other difficulties prevented scientists from reaching the blast zone. The first researchers did not arrive until 1927. They saw that 800 square miles (2,150 square kilometers) of forest had been leveled. Tens of millions of trees lay on the ground, all facing away from a central point. There were no signs of an earthquake or a volcano, so a likely cause was an object from space crashing into Earth. But why was there no crater marking the place of impact?

For more than 100 years, theories have been offered to explain the Tunguska event, named for a river of the region. Native people believed that a god who sent fire and thunder had struck the forest. Science fiction writers imagined that a spacecraft from another planet had exploded. Scientists proposed various ideas, including underground gases that erupted.

In 2007, researchers claimed that they had discovered a crater made by a space rock. The crater was now a lake. It was about 5 miles (8 kilometers) from the epicenter of the blast. Other scientists disagreed, saying the area around the lake did not have the features of an impact crater.

Today, the generally accepted explanation is that a chunk of an asteroid, or possibly a comet, entered Earth's atmosphere at an extreme speed, creating extreme heat. It blew up over the Tunguska region, releasing many times more energy than a nuclear bomb. Because the blast occurred above Earth's surface, there was no impact crater.

Asteroids are rocky bodies that orbit the Sun. Some come near Earth. Space agencies monitor Near-Earth asteroids that are at least 0.6 miles wide (1 kilometer), because an impact could cause global damage. So far, none of these large asteroids poses a threat.

The Tunguska blast, the largest in recent history, may have been caused by a fairly small asteroid, only about 164 feet across (50 meters). On average, asteroids of this size enter Earth's atmosphere every few hundred years. Another Tunguska-like event is sure to occur, though two obvious questions remain: *When?* and *Where?*



LEVEL 20, UNIT 2

Mysteries of the Deep Sea (Informational)

Tales have long been told about kingdoms under the sea, which could be visited only by magic. The deep ocean was a mysterious realm, closed to real humans.

Fishing nets brought up strange-looking creatures from the depths, but nobody knew how these animals lived in their natural habitat. In 1934, the world's first submersible, or deep-sea diving vessel, dropped to the remarkable depth of 3,028 feet (924 meters). The two explorers in the submersible looked out the window and saw astonishing things.

Scientists are still learning about the astonishing life forms of the deep sea. Today's research submersibles can go deeper than ever before. At great depths, there is not even a glimmer of sunlight. The water is icy cold, and its pressure is body-crushing.

In the dark ocean depths, lights flash and glow. The lights come from the bodies of jellyfish, squid, fish, and other living things. The lights serve different purposes. Some animals may suddenly light up to startle a predator. Others may flash to attract prey, or a mate.

Green plants are the base of Earth's food chains, but without sunlight, no green plants can grow in the deep ocean. Animals here depend on "marine snow," tiny bits of dead plants and animals that drift down from the upper ocean layers. As with all food chains, the eaters become prey for other eaters.

The viper fish is a fearsome-looking predator. Its oversized jaws are filled with sharp teeth that curve inward. A full-size viper fish is only about 12 inches long (30 centimeters). But other deep-sea creatures are giants.

Oarfish live about a mile (1.6 kilometers) below the ocean surface. They are the longest bony fish in the world, up to 36 feet long (11 meters) and weighing 600 pounds (272 kilograms). It's possible that early sightings of giant oarfish led to stories about sea serpents.

Unlike the oarfish, the giant squid is an invertebrate, an animal with no backbone. Like the oarfish, the giant squid is probably the source of tales of sea monsters. The giant squid is nearly 60 feet long (18 meters)! Each of its enormous eyes is the size of a human head. In spite of its huge size, this deep-sea dweller is hard to find. A living giant squid was not photographed until 2004. Another squid, known as the colossal squid, lives in deep Antarctic waters. It is even bigger and harder to find than the giant squid.

Scientists are trying to understand how deep-sea creatures become so enormous in an environment that seems to have a small food supply.

There are many other questions to answer, and many other deep-sea species to discover. Most of the deep ocean is unexplored. It remains a realm of mystery.



LEVEL 20, UNIT 3

The Mystery of the Nazca Lines (Informational)

Near the coast of northern Chile and southern Peru, between two deep valleys, is the Nazca Plain. It is long and narrow, about a mile wide (about 1.6 kilometers) and extending roughly 37 miles (about 60 kilometers). There is almost no wind here and the rains come rarely, maybe once every several years.

This plain is the site of something that has been puzzling the modern world since the 1930s. There are outlines of about 70 animal and plant shapes made by shifting rocks and soil. Many of them are enormous. The largest, a pelican, is about 935 feet long (285 meters). There are also various mathematical shapes, including straight lines, triangles, spirals, circles, and those uneven four-sided shapes known as trapezoids. Some of them are quite sizable, too. The longest straight line extends 9 miles (14.5 kilometers).

Scientists believe they know the who, when, and how of these shapes and lines. It's the why that is the mystery.

Who? The Nazca people flourished in this area 1500-2000 years ago. They were an advanced farming culture that built waterways and created beautiful bowls and jars. And they are responsible for these shapes and lines known as the Nazca Lines.

When? Scientists believe that the earliest work was done between 500-200 BCE. The majority of the work came later, between 200 BCE and 500 CE.

How? In the earlier works, gravel was often removed and piled inward so that the outlines of the figures were raised above the ground. But mainly, the reddish gravel was carefully removed to uncover the lighter sand underneath. In most regions, this work would barely last a year, brushed away by wind or washed away by rain. But on these dry and windless plains, the Nazca Lines have remained.

Why? Here is a sampling of the many theories for the existence of the Nazca Lines.

- Since these lines and drawings can best be seen from the height of a low-flying plane, one outlandish, unlikely idea was that they were alien landing strips. (The loose gravel on these plains would have made for very poor spaceship landings.)
- A less unlikely theory suggests that the giant drawings were offerings to the gods above, in hopes of receiving good weather for crops.
- It was suggested in the 1940s that the lines might be a guide to the stars, but later studies have challenged this idea.
- One theory links the drawings to religious practices. The straight lines are thought to be roads people traveled to get to important religious sites.
- The mathematical figures seem to match up with actual underground water sources. A theory proposed that they were maps to guide people to water.

No single theory covers all the lines and shapes. It is most likely that the Nazca people had many reasons for creating these fascinating pictures that they left for us to puzzle over.



LEVEL 20, UNIT 4

The Maiden Wiser than the Tsar (Fable, Folktale, or Myth)

There was once a powerful tsar who ruled with great intelligence. His kingdom almost ran itself, so he was often bored. One day a poor peasant came before him seeking employment. The tsar was amazed by this man's gift for speech.

"How is it that you, an uneducated man, are so eloquent?" he asked.

"My daughter taught me how to speak so well," the peasant replied. "She was born wise."

The tsar was immediately interested and decided to test this lady's wisdom. He gave the peasant thirty eggs and commanded, "Tell your daughter to hatch these eggs. If she does, I'll reward you. If she does not, I'll throw you into prison." The eggs, it should be noted, were hard-boiled.

The next day, the tsar was making his daily journey down the royal road when he saw the peasant in a nearby field, planting cooked beans.

"What are you doing?" the astonished tsar asked.

The peasant smiled timidly. "My daughter says that she will hatch cooked eggs, if I can grow plants from cooked beans."

Her cleverness made the tsar more interested, so the next morning, he sent a messenger to the peasant. The messenger handed over a bundle of flax and announced, "Your daughter must spin this into cloth and make sails for the tsar's ships by tomorrow or you'll be thrown into prison."

The peasant returned to the tsar that afternoon. Nervously holding up a small block of wood, he said, "My daughter says that if, by tonight, you turn this block of wood into a loom to weave the flax, she'll use it to weave the sails by tomorrow."

The tsar could contain his curiosity no longer and had the daughter brought to the palace. Almost as impressed by her beauty as he was by her intelligence, he asked her to marry him and become tsarina. The lady had enjoyed the contest as much as the tsar and consented—if he would sign an agreement. It stated that if he became displeased with her and sent her away, she would be allowed to take with her the thing she liked best.

Soon after their marriage, the tsar and tsarina got into a silly argument. The tsar demanded that she leave. The lady agreed, but not before making herbal tea for her husband's bedtime drink.

The next morning, when the tsar awoke, he was confused to find himself in the peasant's home. His wife explained that she'd put a sleeping potion in his tea. Then she pulled out the agreement he'd signed. "You agreed that when I left, I could take with me the thing I like best," she said, smiling.

The astonished tsar roared with laughter. He and his tsarina returned to the palace and had a long, happy life together.



LEVEL 20, UNIT 5

Wealth and Worries (Drama)

*Cast of Characters*MR. CHEN, a rich merchant

MRS. CHEN, his wife

MR. LI, a poor laborer*Scene 1*

[Late in the evening in the courtyard of the Chen family's house. MR. CHEN is sitting at a table while MRS. CHEN stands nearby.]

MR. CHEN. [Counting a large pile of gold coins] Forty-one, forty-two, forty-three, forty-four, forty-five...
[Continues counting as MRS. CHEN comes closer]

MRS. CHEN. [Placing her hand on MR. CHEN's shoulder] My dear husband, you're working much too hard. I am worried about your well-being.

MR. CHEN. [Looking up] Yes, my hours are long, but I must work hard if we are to remain rich.

[Melody of flute is heard from neighborhood.]

MRS. CHEN. [Listening] That's a lovely tune. Neighbor Li must be playing his flute. He knows how to have fun after a day's work.

MR. CHEN. Li works all day digging ditches and chopping wood. He earns pennies. What a terrible way to live!

MRS. CHEN. But isn't that music sweet? Li and his family seem happy, even though they are not rich. We have piles of gold, but are we happy?

MR. CHEN. I'd be happier if I could count these coins in peace without that music distracting me. I have an idea: I'll give Li enough money to make him a rich man. He'll soon be too busy to bother with that flute. First thing tomorrow, I'll have a servant bring Li to me.

[Curtain]

Scene 2

[Early morning in MR. CHEN's courtyard. MR. LI stands respectfully before MR. CHEN, who is seated at a table that holds a small sack.]

MR. CHEN. Neighbor Li, you work so hard yet have no fortune to show for it. I've been thinking of your future. I am giving you the gold pieces in this sack. There is no need to repay me, but you must use it wisely. [Hands the sack of coins to MR. LI, who looks startled]

MR. LI. My family and I have never had such riches. I am grateful. [Bows and leaves the courtyard]

[Curtain]

**Wealth and Worries** *(cont'd.)***Scene 3**

[The same courtyard, three days later]

MR. CHEN. *[Speaking to his wife]* Well, three days have passed since I gave Neighbor Li a sack of gold. My plan worked. He has finally stopped playing that silly flute. Now I can count my gold in peace.

[MR. LI enters holding the sack of gold. He looks exhausted. He bows to MR. CHEN and MRS. CHEN.]

MR. LI. Please forgive me for interrupting you, but I must return this gold. *[He places the sack of gold before MR. CHEN.]* These past few days, I have spent every hour worrying about what to do with such a fortune. I worried about spending it. I worried about making more of it. I worried about someone stealing it. I worried about my children fighting over it. I thank you for the gift, but I must return it. *[MR. LI places a new flute next to the sack of gold.]*

MR. CHEN. *[Looking surprised]* What is this?

MR. LI. This flute is my gift to you. Please accept it. When you gave me the gold, I felt the heavy **burden** that you must bear every day. I am most happy when I am making music with my family. I hope that you, too, may find such peace and joy.

[MR. LI bows and exits. MR. CHEN and MRS. CHEN look confused. Then, MR. CHEN picks up the new flute and begins to play. MRS. CHEN smiles.]

[Curtain]



LEVEL 20, UNIT 6

From *Songs for the People* (Poetry)

Journalist, public speaker, activist, and poet Francis Harper was born during slavery in the United States to free parents in 1825. She dedicated her life to African-American rights, women’s rights, and the anti-slavery movement. Today, she is known as the “First African-American Protest Poet.” In this excerpt from her poem, Harper suggests a way to bring the world together in kindness and peace.

Let me make the songs for the people,
Songs for the old and young;
Songs to stir like a battle-cry
Wherever they are sung.

Our world, so worn and weary,
Needs music, pure and strong,
To hush the jangle and discords
Of sorrow, pain, and wrong.

Music to soothe all its sorrow,
Till war and crime shall cease;
And the hearts of men grown tender
Girdle the world with peace.

– Frances Ellen Watkins Harper



LEVEL 20, UNIT 7

The Travels of Marco Polo (Informational)

“Here are seen huge serpents, ten paces in length. . . . The jaws are wide enough to swallow a man.”

This description of crocodiles comes from one of the most influential books ever written. Its author, Marco Polo, lived from 1254 to 1324.

Marco Polo was born in Venice, a city in present-day Italy that was a leading center of trade. His father and uncle were wealthy merchants and the first Europeans to visit the court of Kublai Khan, the Mongol ruler of China. When the Polo brothers set off from Venice to visit the Great Khan again, 17-year-old Marco went with them.

The Polos took an overland route. They braved many dangers, from murderous bandits to flooded rivers. They journeyed over mountains and through deserts, finally arriving at Kublai Khan’s court after a journey of three and a half years.

Kublai Khan took a liking to Marco Polo. The young man spoke several languages and was a sharp observer. Kublai Khan made Marco Polo a trusted ambassador and sent him to the provinces of China and beyond, to report back about the lands and customs. The Polos became members of Kublai Khan’s court.

When the three merchants returned home to Venice, they had been gone for 24 years.

Venice and its rival city of Genoa fought a war. Marco Polo was captured in battle. He entertained a fellow prisoner with stories of his travels to the Far East. His cellmate, who happened to be a writer, wrote down the stories. After his release from prison, Marco Polo had copies made.

The book, *The Travels of Marco Polo*, described things that were new to Europeans. Marco Polo reported that throughout China, paper money was used instead of metal coins. He said that homes were heated with black stones (coal) instead of wood. He described messengers riding in relays over long distances—a postal system.

Polo told about busy cities larger than any in Europe. He described silks, jewels, furs, and other finely made objects. He described elephants on parade and grand banquets. He told about the peoples of the empire and how the Great Khan ruled over all.

Did Marco Polo really serve in the court of Kublai Khan? Had he really seen what he described? From his own day to the present, many people questioned the truth of his accounts. It was said that on his deathbed, Marco Polo was urged to confess that he had told lies in his book. He claimed, “I have only told the half of what I saw.”

Versions of Marco Polo’s book were printed in many languages. In the late 1400s, the book inspired another explorer, Christopher Columbus, to set sail on an ocean route to the lands of wealth that Marco Polo so vividly described.



LEVEL 20, UNIT 8

Dots and Dashes (Informational)

Dit-dit-dit, dah-dah-dah, dit-dit-dit. Three short, three long, and three short tones are the internationally recognized call for help: S-O-S. Once used by ships and aircraft in trouble, this message is based on Morse code. In Morse code, sequences of dots and dashes stand for numbers, letters, and punctuation. The dots correspond to quick tones (dit), and the dashes correspond to longer tones (dah). The sounds were tapped out by operators of a device called a telegraph.

Early Discoveries

- *A scientist in Denmark, Hans Christian Oersted, discovered the connection between electricity and magnetism in 1820. A wire carrying an electric current could make a magnetized needle move.*
- *Oersted’s discovery led other inventors to develop devices that used electric pulses to make needles point to letters of the alphabet. These were the first telegraphs.*
- *The word telegraph is based on the Greek word parts tele, meaning “distant,” and graph, meaning “writing.” In other words, writing that could travel across distances.*

A patent for the telegraph was given to the American inventor Samuel F. B. Morse in 1840. As with all new technologies, Morse’s telegraph was based on earlier discoveries. Morse spent years improving the technology, with help from a scientist and an engineer. During that time, he wrote about what the telegraph might achieve, explaining that the telegraph could make “one neighborhood of the whole country.” How? By shrinking the time it took to send information back and forth.

Before the invention of the telegraph, communication over long distances depended on mail delivery. Mail traveled across oceans by ship, which could take months. It traveled across land only as quickly as the person, animal, or vehicle that carried it. Morse’s telegraph could send pulsing electric signals across wires faster and farther than ever before. It was the first invention that used wires and electricity to send messages, and it would change long-distance communication forever.

How did the telegraph work? A person operating the device sent a message in Morse code using pulsing electric signals. At the receiving end, another skilled operator decoded the signals into words. Once the operator translated the message into English, it could be shared.

Telegraph technology required wires strung across land and cables set underwater. After those systems were set up, high-speed, long-distance communication became possible for the first time. Businesses, news reporters, railroads, and the military used telegraphs to send and receive information.

Individuals also sent written messages called telegrams. Telegrams were messages sent by telegraph and then hand-delivered in written form. These communications were limited to special events because they were expensive.

Telegraphs were in use for about one hundred years. Eventually, they were replaced by faster technologies, including telephones. Telephones also relied on wires and electricity, however, they transmitted voices. This difference meant that Morse code was no longer needed: individuals used telephones to talk and listen over long distances.

Other advances in high-speed communication included the radio. In fact, before there was radio (as we know it), there was something called wireless telegraphy. This early form of radio sent radio signals wirelessly—through the air—but in Morse code. In the early twentieth century, many rescues at sea happened because radio operators on ships sent out this call for help: dit-dit-dit, dah-dah-dah, dit-dit-dit.



LEVEL 20, UNIT 9

Propaganda or Truth (Informational)

On February 15, 1898, the American battleship *Maine* blew up in the harbor of Havana, Cuba, killing 266 sailors. But why? Had Spanish forces set off an explosive device? Spain denied it, claiming that the explosion was caused by an accident on board. American newspaper publishers rushed to blame Spain, even without all of the facts. Newspapers urged revenge and called on Americans to “Remember the *Maine*.”

Did Spanish forces actually sink the *Maine*, killing American sailors? Even today, the answer is unknown.

Yellow Journalism: A Brief History

During the late 1800s and early 1900s, strongly expressed opinions without much care for proof were common in American newspapers. This kind of biased reporting came to be known as “yellow journalism.” (The name came from “The Yellow Kid,” a popular comic strip in the newspapers.) This type of journalism was designed to offer exciting stories and sell more papers. It was also designed to influence people and events.

In the case of the *Maine*, yellow journalism worked dangerously well. In response to what they read in newspapers about how the ship sank, many Americans angrily demanded war against Spain. Historians say that yellow journalism played a major role in causing the Spanish-American War.

The Problem: Propaganda

There’s a term for information that gives just one side of an issue and makes people think and act in certain ways: propaganda (PROP-uh-GAN-duh). Often, propaganda supports a political cause. Propaganda uses several strategies to influence people and events. For example, propaganda builds on people’s trust in the source of information. In addition, news stories with propaganda include only some facts and leave out others. Propaganda also often appeals to human emotions like anger and fear. Lastly, propaganda tends to have slogans that are easily repeated, like “Remember the *Maine*.”

Unfortunately, biased reporting in the form of propaganda did not end with yellow journalism of the late 1800s and early 1900s. It still exists today and the problem is worse in some ways. Today, the internet makes instant global communication possible—it’s easier than ever to spread the misleading ideas and half-truths of propaganda.

One Powerful Solution: Critical Thinking

How can people resist the pull of propaganda? They can think critically about what they read and hear. When citizens think critically, they try to understand more than one side of an issue and they look for the truth. They ask themselves questions like

- Is this a fact or an opinion?
- Are the facts actually true? How can I check?
- Are the opinions based on evidence?
- Why might someone disagree?
- Are there words that quickly make me feel angry or scared?
- Who wrote this? Is the writer likely to be biased?
- Where can I find another point of view?

When people notice propaganda, they can try to think critically and decide for themselves whether to agree or disagree with its message.



LEVEL 20, UNIT 10

Dora, the Dog Wonder (Narrative)

Have you ever noticed that sometimes, as you're getting to know new friends, they do things that surprise you? There might be a kid who sits in the back of the class and acts goofy, but then you hear him singing a solo in the chorus, and you think, "Wow, he's so talented!" Or maybe you meet a kid who hardly ever speaks and seems shy, and then you're startled to find out she's earning a black belt in martial arts. Something like that happened with my friend Dora last week, and I'm still feeling amazed.

Dora is not a human friend—she's a dog. She came to our family about six months ago, when her owner, my uncle, took a job that required traveling. He couldn't care for her, so we took her in. Dora was the biggest dog I'd ever seen, but she was gentle and enjoyed being near people. My four-year-old sister, May, was always hugging her, and Dora welcomed the cuddling. You didn't have to give Dora a command to lie down, because that's what she was doing most of the time anyway. I liked Dora, though she did seem...well...lazy.

Last Saturday my family went to Riverside Park for a picnic, and we brought Dora along. It was the first day without rain in a week, so the river was higher than usual. A family of ducks was on the riverbank, and Mom and May went to look at them.

All of a sudden, I heard Mom screaming. Dad and I jumped up and ran to the water's edge, where we saw Mom thrashing in the wild, foamy water. But May was nowhere to be seen. "May fell in!" Mom shouted. Dad quickly leaped into the water, but I just stood there, frozen like a statue, my mind blank with terror. Then, about twenty feet downstream, I saw something bobbing in the swirling foam. It was Dora's head, and clinging to her neck was May! I hadn't even seen Dora jump into the water. Now I watched her battle the current, swimming powerfully through the moving water until she reached the shore. When she delivered May to Mom and Dad, they couldn't stop sobbing with relief.

May was coughing but otherwise fine. I put my arm around Dora and felt how hard she was panting from her lifesaving swim. "What a wonder you are!" I whispered to her again and again and again.



LEVEL 20, UNIT 11

Rip Tide! (Narrative)

Mira looked up and down the deserted beach, at the choppy water and immense waves, and then at her friend Ashley. “We’re here so early, the lifeguards aren’t even on duty yet.”

“Yes,” her friend agreed, “and the beach is empty, so we have it all to ourselves!”

The two girls were visiting Ashley’s grandmother, who lived a couple of blocks from the beach, and they had woken up at six o’clock to take an early morning swim.

“I’d feel a lot safer if there were lifeguards watching out for us,” Mira fretted.

“But we’re not swimming alone,” Ashley insisted, “and that’s the first rule of swimming safety. Besides, you know we’re both good swimmers, and we’ll look out for each other.”

Ashley tossed her towel on the sand, took off her hoodie, and started trotting toward the surf. Mira frowned and then shrugged, eagerly racing to catch up with Ashley. As the girls dove under an enormous wave that crashed over them, something bizarre happened.

When they surfaced, both were quite a distance from shore. Treading water, the astonished girls looked at each other and then began swimming in, but when Mira looked up to check their progress, she gasped. They were now even farther from shore!

She caught up to Ashley and grabbed her friend’s arm to stop her. “What’s happening to us?” she sputtered. “It doesn’t make sense that we keep getting farther and farther from shore.”

Ashley’s eyes widened as she recalled a news report she had heard a few weeks ago. “I’ve heard about something like this. We must be in a rip tide, which is caused by big waves that have created a break in a sandbar offshore. This sets up a fast-moving current that pulls everything in it out to sea, and we’re in it!”

Mira felt a sense of panic rise up in her throat as she twisted her head around and looked back at the shore. “Oh, no, we’re even farther from shore now and we’re going to drown!” she moaned desperately.

“We’re going to be OK, Mira,” Ashley reassured her friend. “We just have to swim parallel to the shore, not into shore, because rip currents aren’t that big and we’ll be able to swim out of it.”

Mira nodded, and the girls began swimming. Once they stopped feeling the pull of the current, they turned and headed into shore. Exhausted from swimming, they dragged themselves across the beach and dropped onto their towels. Mira turned and hugged her friend.

“Ashley, you saved us!” she cried gratefully.

Ashley grimly shook her head and confessed, “No, I put us in danger by not listening to you in the first place when you wanted to wait for the lifeguards. They would know by looking at the water that something is wrong.”

“I’ve got an idea,” said Mira. “When we go home let’s get on your grandmother’s computer. We can learn more about rip tides!”



LEVEL 20, UNIT 12

A Close Circle of Friends (Narrative)

“Field Day is this Friday,” Ms. Kanner told Class 6A during the morning’s announcements, “and our class needs four speedy runners for the relay race.” She looked around the room. “How about you, Felipe?”

Felipe nodded and gestured to his two buddies, Ruben and Jack. Ms. Kanner listed the three names and said, “We need one more.”

Nelson felt the urge to volunteer because he loved races, but he hesitated. He had been in this school for only two weeks, and it felt as though nobody had even noticed him. Maybe it was because he was small and easy to overlook. Plus, everyone already was part of a circle of friends. Ms. Kanner picked Thomas, whose hand was up, and Nelson tried not to think about his disappointment.

That afternoon Nelson sat on the grass by the track as Felipe, Ruben, Jack, and Thomas practiced running the 400 meters around the oval and passing the tube-shaped baton. Thomas had the fastest time, so he was assigned the anchor leg. After they left, Nelson jogged around the track a few times, just to loosen up his muscles, before increasing his pace.

On Friday morning, Thomas arrived in school with a sorrowful expression and a limp. He explained that his toe had been broken in a skateboarding accident. When Ms. Kanner asked for a replacement for the relay race, Nelson spoke up. “I can run,” he offered without hesitating.

Looking at Nelson skeptically, Felipe asked, “You sure about that?”

“I can run anchor,” asserted Nelson quietly but with confidence.

Felipe ran the first leg of the 1600-meter relay, pacing himself well. He saved a burst of speed for the last 50 meters and then passed the baton to Ruben. Ruben held the lead until the halfway point, when two runners caught up to him. He barely managed to keep up with them. Straining, he reached for Jack’s outstretched hand, but there was a fumble, and Jack couldn’t hold onto the cylinder. A dropped baton meant precious seconds lost. By the time Jack had completed his leg and passed the baton to Nelson, Team 6A was in third place.

Nelson eased into the run, keeping his eye on the runner ahead of him. After 100 meters, he pumped harder and passed on the right. At 200 meters, Nelson was on the heels of the first runner, letting her set the pace. “Stay with her, stay with her, stay with her, and GO!” Nelson reached inside for the power he needed. His legs and arms and lungs were in perfect sync, and he heard his teammates screaming for him when he crossed the finish line first.

As Nelson leaned over, hands on knees, to catch his breath, Felipe slapped him on the back and laughed, “Man, you’re pretty good. What’s your name again?”

A few days later, Felipe and his two buddies on the basketball court. “Hey, Nelson, I’m glad you’re here!” Felipe called out. “Now we can play two-on-two.”



LEVEL 20, UNIT 13

The Pollinators (Informational)

A bee lands on a blossom to sip sweet nectar that the hive will use to make honey. The bee's hind legs collect tiny grains of pollen to bring back to the hive as food. Other pollen grains stick to its body and drop off at the next flower the bee visits.

Pollen must be transferred between male and female plant parts in order for the plant to make seeds and reproduce. Wind is one method that plants use to transfer pollen. But 75 percent of the world's flowering plants require animals to do the job. The most common pollinators are bees.

Sweet flower scents and nectars attract other insect pollinators, such as flies, beetles, butterflies, and moths. Unlike bees, these insects don't collect pollen on purpose. Like bees, as they travel from flower to flower, their bodies pick up and drop off the sticky grains.

Birds are pollinators, too. A hummingbird hovers above a flower and uses its long bill to sip nectar. When it flies off to the next flower, pollen is clinging to its feathers. Other pollinators are mammals such as bats and small rodents. It's estimated that 100 thousand different animal species pollinate plants throughout the world.

Plants depend on pollinators. People who grow plants, including fruit crops, depend on them, too. Worldwide, some pollinators have been declining. There are many causes: disease, pesticide use, pollution, loss of habitat, loss of food plants, and more. In an apple-growing region of China, for example, wild bees began vanishing in the 1990s. To keep producing apples, every year thousands of villagers spent days hand-pollinating the apple blossoms with feathered sticks. Eventually, most growers switched to crops that do not need pollination. It was the end of the apple industry in that region.

Everywhere in the world, people can take action to help pollinators. Here are a few ideas.

- *DO learn about flowering plants that are native to your region and produce a lot of nectar and pollen. Plant a garden with a variety of those plants, so that they flower at different times of the growing season. Even if you live in a city apartment, you can plant window-box flowers to attract pollinators and keep them fed.*
- *DON'T clear every brush pile or cover every bare patch on the ground. They provide materials that bees, birds, and other animals use to build nests.*
- *DO provide shallow water sources for butterflies and other pollinators, especially when it is hot and dry.*
- *DON'T try to kill off all the insect pests that eat plants in your garden. Try not to use chemical pesticides to reduce their numbers. Instead, use natural methods, such as including plants to attract predators that eat only harmful insects, not pollinators. Removing pests with gloved hands is another option.*

We all need pollinators, and pollinators need us.



LEVEL 20, UNIT 14

Life Underfoot (Informational)

Most of us don't even notice soil. We call it dirt and make sure to wipe our shoes before bringing that dirty stuff into the house. But as farmers know, soil is precious and essential to life. Without soil, land plants would not grow; without plants, every plant-eater and every living thing that eats plant-eaters would die. Soil is that important! But what is soil?

Little Bits

Soil contains mineral particles from rocks that have broken down. If you were to look at a handful of soil from different places, you would see that not all soil is the same. There are differences in color, feel, and the ability to hold onto water. Particle sizes differ, ranging from sand to silt to clay. A good garden soil, called loam, is a mix of sandy, silty, and clay particles. But soil isn't just made of minerals. It also contains vegetable matter, such as pieces of leaves and twigs. Animals' bodies provide other organic matter. And feasting on all that matter are all sorts of organisms. The nonliving, the once-living, and the living are all components of soil.

Decomposers

Soil is home to animals that you can see easily, like earthworms and insects, munching on organic matter. If you look closely at a fallen leaf, you may see threadlike fungi spreading on it. You won't be able to see the microscopic bacteria in soil, though they're amazingly abundant. Countless numbers of fungi and bacteria live in soil. A single gram of soil can contain thousands of different kinds of living organisms.

Living organisms in soil are called decomposers because their eating breaks down, or decomposes, organic matter. In other words, they make things rot. Over time, the decomposers' actions create humus (HYOO-mus), the rich, organic material that makes the best soil for growing crops. Decomposers in soil provide another essential function: They are nature's sanitation department. Without them, the earth would be one gigantic garbage dump, piled high with once-living things that never decay.

Maintaining Healthy Soil

Soil is essential for life on earth. As a result, healthy soil is important for all. But how do we know what makes soil healthy, and how do we keep it that way? Healthy soil does not blow or wash away easily, stores air and water well, and provides nutrients for plants. There are a few simple strategies for maintaining healthy soil:

- Leave soil alone—Let decomposers do their work without disruption.
- Grow a variety of plants—Each kind of plant helps soil in a unique way.
- Let roots stay where they are—A plant's roots make nutrients in soil.
- Cover soil up—Soil loves to stay cool and moist.



LEVEL 20, UNIT 15

Living with “Good Germs” (Informational)

We wash our bodies to keep our skin clean. We wash our hands and our food to keep disease-causing germs from getting into our bodies. These are healthy practices, but they don't begin to keep us germ-free. Our bodies are the home planet for an enormous variety of tiny creatures, some of them on us and some of them in us. And that's a good thing.

For starters, tiny mites make their homes on our faces and in our eyelashes. Although they are actually relatives of spiders, these creatures are invisible to the naked eye. Each one is less than 0.016 of an inch (0.4 millimeters) long. They can slip easily into facial pores, those extremely small openings on the nose, forehead, cheeks, and chin. These face mites particularly like to nestle inside our follicles, the pores from which hair grows. The tiny creatures feed on the oil and dead skin cells in our follicles and also lay eggs there. But don't worry about rising mite populations! Our immune systems, the collection of processes in our bodies that protect us from disease, work constantly to keep down these mites' numbers. As a result, we don't even notice them.

Our skin is also home to much, much smaller forms of life, each consisting of just a single cell: bacteria. We generally have over 200 kinds of bacteria living on our skin. Instead of harming us, these beneficial bacteria help with the healing of wounds. But that's nothing compared with the bacteria inside our bodies.

A healthy human body contains about 30 to 50 trillion cells—and about that many bacteria, too! Our immune systems target other microorganisms that cause us harm but not these bacteria. Like the ones on our skin, these bacteria are basically harmless or even helpful.

Let's start with our mouths. Some 25 kinds of bacteria live around our teeth and in small openings in our gums. Brushing and flossing each day keeps their numbers down and prevents them from forming sticky deposits called plaque. But there will always be a large colony of bacteria in our mouths, and that's good. They compete for the same food as the bad bacteria that can get in our mouths, helping to prevent illness.

There are very few bacteria in our stomachs because the stomach is such a high-acid environment. But our guts generally contain at least 500 kinds of bacteria, numbering in the billions. These bacteria help us digest our food (we couldn't do it without them!), produce vitamins, absorb nutrients, and fight off harmful bacteria that have invaded our digestive systems.

So don't worry about all the extra company our bodies contain. It's perfectly healthy!



LEVEL 20, UNIT 16

It Came From Space (Informational)

Whenever the planet's creatures looked up, they saw a sky filled with familiar things. There was the sun, which appeared and disappeared each day. There was the moon, which grew and shrank, and could bring light to the night. There were clouds, which cast shadows and sometimes brought lightning and rain.

High above the gases surrounding the planet, way beyond the moon, millions of other unseen bodies were orbiting the sun. These rocky bodies weren't as large as planets. Many were as small as pebbles, but others were several miles across, even larger. At times, some bodies came close to the creatures' planet, which pulled at them. Then they left their orbit and zoomed toward the planet. Because they were small, they burned up in the atmosphere before ever reaching the planet's surface.

But then something happened never before seen by the creatures. Their planet's gravity drew in a body that was unusually large, at least 6 miles wide (10 kilometers). This gigantic object did not disintegrate in the air above. It crashed through the atmosphere, burning like a tremendous torch. As powerfully as a fist punching through water, it smashed right into the planet's crust. The explosion was deafening.

Anything living near the crash site was wiped out instantly. Creatures far away saw the flaming sky, heard the crash, and felt the heat. Many ran or hid. They had no understanding of what happened and no idea that the sky would soon change and no longer hold its familiar sights.

The impact carved out a deep crater about 112 miles (180 kilometers) across. Billions of tons of rocks and dust shot into the atmosphere. Fires spread across the land. Smoke and dust blocked sunlight, and endless night came to the planet for months. Without sunlight, plants died. The animals that once ate the plants died, and their predators starved, too. Without sunlight, temperatures dropped. The cold killed off animals that needed warmth to live. Smaller animals—those with fur or feathers—were better able to survive the cold. They found food in the dead plants and in the seeds that plants left behind. Eventually, the skies would clear, revealing a very different planet.

The crash of a giant body from space—an asteroid—occurred on Earth 66 million years ago. The event and its effects form the leading scientific theory to explain the extinction of dinosaurs and the rise of mammals.



LEVEL 20, UNIT 17

Phaethon: A Greek Myth (Fable, Folktale, or Myth)

Phaethon was just a boy when he ventured into the land of the sunrise. The Sun's home could not be visited by mortals; however, Phaethon was only half-mortal because his mother was mortal but his father was a god, the Sun himself. Phaethon had never met his father before.

Phaethon entered the Sun's brilliant palace, shielding his eyes from the blazing light. As he approached the Sun's sparkling throne, the Sun asked "What brings you here?"

"My mother tells me that you are my father, but my schoolmates tease me for saying that I am your son. I am here to find the truth," said Phaethon.

The Sun smiled kindly and replied, "Yes, Phaethon, I am indeed your father and now that you are here, I can show my love for you. Ask anything of me, and on my oath, you shall have it."

Phaethon recalled how often he had watched his father in his fiery chariot flying in a high arc across the sky. It was an amazing sight that made him burst with pride; how thrilling it would be to make that sky journey himself! "I wish to drive your chariot," Phaethon said.

The Sun immediately regretted his promise. "I cannot take back my oath," he told Phaethon, "but you do not realize what you are asking. No god but me is strong enough to drive the chariot across the sky. The horses are mightier than any you have known, and the dangers are too great. Please, ask for something else."

But Phaethon's mind was made up and he pleaded, "Just for one day." The Sun did not have time for more arguments, for the day's chariot ride was about to begin.

Phaethon stepped into the golden car and took the reins in his hands. As the horses galloped out from the gates, their feet flew over the clouds at breathtaking speed. Phaethon held on as the chariot climbed swiftly, but his grip on the reins felt as light as air to the horses. Instead of following their steady path, they swerved to the right and to the left. Out of control, they soared up to the starry heavens, nearly touching the hideous fangs and claws of the Scorpion. Phaethon dropped the reins and huddled in terror.

Then the chariot made a steep plunge all the way down to the earth, setting it ablaze. The rivers turned to steam, the forests burned to ash, and green lands turned into vast deserts. Phaethon, choking on burning smoke, wished for an end to this terrifying ride.

Zeus, the king of the gods, heard Earth crying out for help. He looked down from Mount Olympus and saw the Sun's chariot careening wildly. Zeus hurled a thunderbolt at the reckless chariot, causing it to shatter. The horses galloped into the sea, ending the journey.



LEVEL 20, UNIT 18

The Moon: True or False? (Informational)

How much do you know about Earth’s moon? Take the quiz to find out.

Earth is the only planet in our solar system that has just one moon. True or False?

Neither Mercury nor Venus has a moon. Mars has two moons. All of the giant outer planets—Jupiter, Saturn, Uranus, and Neptune—have multiple moons. Saturn and Jupiter, for example, have at least 53 moons each, with more being discovered. So the answer is *True*.

The moon’s craters were mostly formed by volcanoes. True or False?

Scientists have found evidence of volcanic eruptions on the moon, mainly ending 3–4 billion years ago. But most of the large, bowl-like holes on the lunar surface are not from volcanoes. They are impact craters. They formed when asteroids, comets, and pieces of those space bodies were pulled by the force of gravity and crashed into the moon. The enormous Orientale crater, which can be seen on the lower left edge of a full moon, is more than 600 miles (900 kilometers) wide. Scientists say that it was caused by an asteroid crash about 3.8 billion years ago. The answer is *False*.

The earth’s shadow causes the moon to change shape in phases. True or False?

Every 29 1/2 days or so, the moon completes a trip around Earth—a lunar orbit. As its position changes, different amounts of sunlight are reflected to Earth. The changing views of the sunlit surface are called the phases of the moon.

- On Day 1, no sunlight is reflected from the moon to Earth; that’s the “new moon” phase.
- Next, the moon appears to grow fatter (the growing moon is called a waxing crescent).
- On Day 8, the half-lit moon is in its “first quarter” phase.
- On Day 15, the “full moon” appears.
- On Day 23, the half-lit moon is in its “last quarter” phase.
- We then see a shrinking (waning) crescent.
- On the 29th day or so, we’re back to “new moon.”

The answer is *False*. Earth’s shadow does not cause the phases of the moon.

The moon has a “dark side.” True or False?

It takes the moon one month to orbit Earth. As it revolves around Earth, the moon is also spinning, or rotating, on its axis. This rotation is very slow. A lunar day—the amount of time it takes the moon to spin once around its axis—actually takes one month. Because the moon’s orbit around Earth and its rotation are the same amount of time, the same side of the moon always faces earth.

From our viewpoint on Earth, we always see the same side of the moon lit by the sun. We never see the other hemisphere when it is lit by the sun. In other words, viewed from Earth, the moon does have a “dark side.” However, the sun does shine on both moon hemispheres. Viewers from Earth just never get a glimpse of the other side. Therefore, the answer is *True* (only from the viewpoint of Earth) and *False* (from a solar viewpoint).