

GRADE 5



Home-School Connection



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Calendars 467

Send a calendar home at the beginning of each month with activities, events, or announcements for parents and students.

Credits	475
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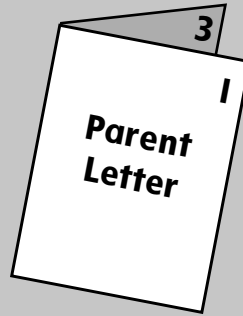
What to send home each week

- Parent Letter: in two languages
- Take-Home Story

How to assemble items to send home

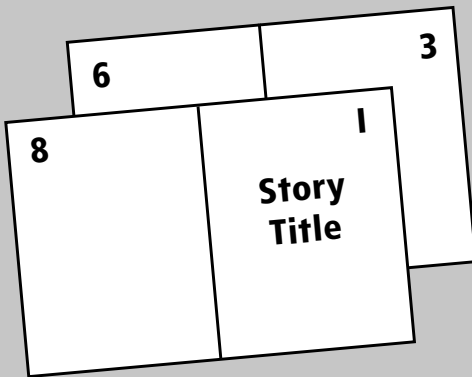
Parent Letter

Make a two-sided copy of each Parent Letter and fold.

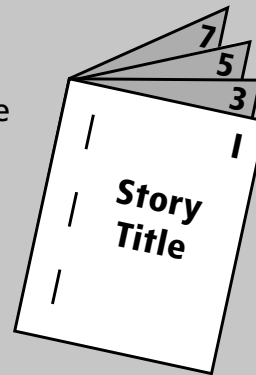


Take-Home Story

Remove the pages for the Take-Home Story and make two-sided copies. Place page 3 behind page 1.



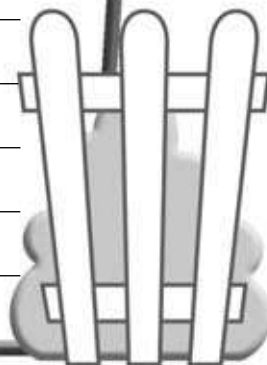
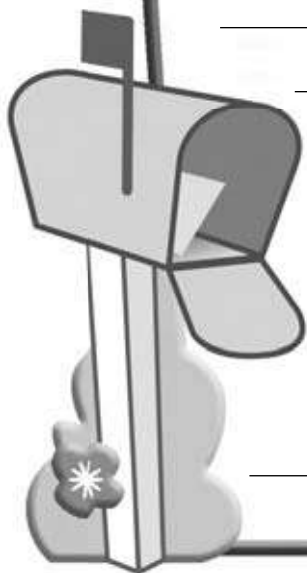
Fold and staple along the vertical line.



A worksheet titled "Letter Home" designed to look like a house. The title is at the top under a roofline. The main body is a large rectangle with horizontal lines for writing. At the bottom left is a white picket fence, and at the bottom right is a mailbox with a flower.

Letter Home

Handwriting practice lines for the letter home template.



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Welcome!

Dear Family Member:

Welcome! This year your child will be building important reading skills. You can help your child practice reading skills taught at school. By working together, you and your child can become partners in learning.

Each week your child will bring home:

- a **letter** that tells you about the book the class is reading that week.
- three **homework activities** that will improve reading skills and offer practice with words your child is learning.
- a **story** for the two of you to read together.

Reading is key to improving learning in all other subject areas. With that in mind, here are a few questions you may want to ask me when we meet:

- How is my child progressing in reading?
- Which area is my child's strongest?
Which is the weakest?
- How can I help my child's reading improve?

Your interest, praise, and encouragement are sure to lead to your child's success in school. Here's to an exciting year of learning!

Yours truly,

¡Bienvenidos!

Queridos familiares:

Este año su hijo(a) comenzará a construir habilidades de lectura muy importantes. Usted puede ayudarlo a practicar las habilidades de lectura que aprendió en clase. Trabajando juntos, usted y su hijo pueden convertirse en compañeros de aprendizaje.

Cada semana su niño traerá a casa:

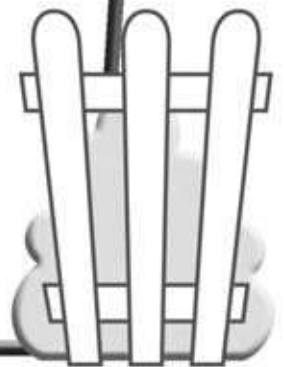
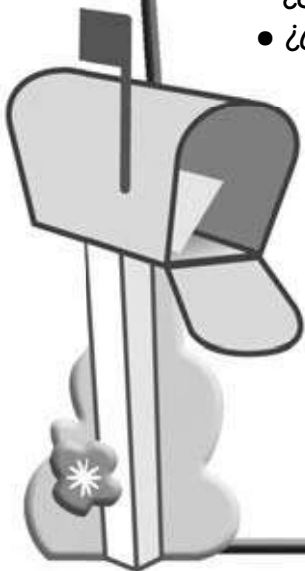
- una **carta** que le hablará sobre el libro que la clase está leyendo esa semana.
- tres **actividades de tarea** que mejorarán sus habilidades de lectura y le ofrecerán práctica de las palabras que su hijo(a) está aprendiendo.
- un **cuento** para que los dos lo lean juntos.

Leer es clave para mejorar su aprendizaje de todas las otras materias. Con esto en mente, aquí están algunas preguntas que usted tal vez quiera hacer cuando nos reunamos:

- ¿Cómo está mi hijo(a) progresando en lectura?
- ¿Cuál es el área más fuerte de mi hijo(a)?
¿Cuál es la más débil?
- ¿Cómo puedo ayudar a mejorar a mi hijo(a)?

Su interés, sus elogios y sus expresiones de ánimo seguramente conducirán al éxito de su hijo en la escuela. Estamos a punto de arrancar un emocionante año de aprendizaje.

Atentamente,





Home-School Connection

Word Workout

WORDS TO KNOW

autograph blurted approached clenched
fare permission scald spectacular

Word Partners I'll read each word below. See if you can tell me which vocabulary word means the same or almost the same.

exclaimed consent price neared
signature fantastic tightened boil

SPELLING WORDS

rough nick laugh fling notch
stump shrug guess gush scan
cot tenth sense dove batch
tough stuff damp lead jut

Spell Stop I'll say a word and then spell it out loud. I might spell it correctly or use the wrong spelling. If I spell a word incorrectly, say, "Stop!" Then tell me how to spell it correctly. We'll see how many mistakes I make!

Dear Family Member:

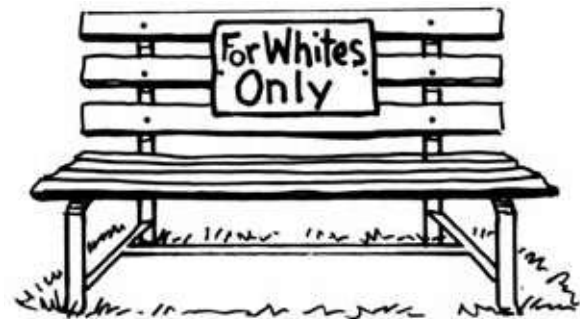
This week we are reading *Goin' Someplace Special*, a story about an African American girl who lived in the South during segregation. She is off to see her "Special Place," a public library, but all she sees are signs prohibiting her from sitting or entering places for whites only. She meets a neighbor who tells her, "Carry yo'self proud." I wonder if she will learn to be proud.

This Week's Skills

Comprehension: character and setting

Vocabulary: homophones

Spelling/Phonics: short vowels



Name _____

Signing In













Sometimes it's possible to envision an entire setting just from a sign. Let's see if we can describe the setting for the signs below.



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Who Is It?

Let's choose three people our family knows well, list traits about each one, and ask our relatives to identify them.



Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

autograph blurted approached clenched
fare permission scald spectacular

Compañeros de palabras Voy a leer cada palabra de abajo. Fijate si puedes decirme qué palabra de vocabulario significa lo mismo o casi lo mismo.

exclaimed consent price neared
signature fantastic tightened boil

PALABRAS DE ORTOGRAFÍA

rough nick laugh fling notch
stump shrug guess gush scan
cot tenth sense dove batch
tough stuff damp lead jut

¡Alto! Voy a decir una palabra y a deletrearla. Tal vez lo haga correctamente o tal vez lo haga incorrectamente. Si deletreo una palabra incorrectamente, di "¡Alto!". Entonces dime cómo deletrearla correctamente. ¡Vamos a ver cuántas veces me equivoco!

Queridos familiares:

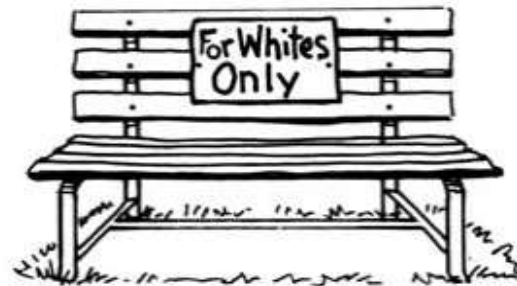
Esta semana estamos leyendo *Goin' Someplace Special*, un cuento acerca de una niña afroamericana que vivía en el Sur durante los años de segregación racial. Ella sale a ver su "lugar especial", una biblioteca pública. Pero lo único que ve son letreros que le prohíben sentarse o entrar a lugares que son para gente blanca solamente. Ella se encuentra con un vecino que le dice: "Mantén la frente alta". Me pregunto si Tricia Ann va a aprender a sentirse orgullosa de sí misma.

Destrezas de la semana

Comprensión: personaje y escenario

Vocabulario: homófonos

Ortografía/Fonética: vocales cortas



Nombre _____

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Letreros

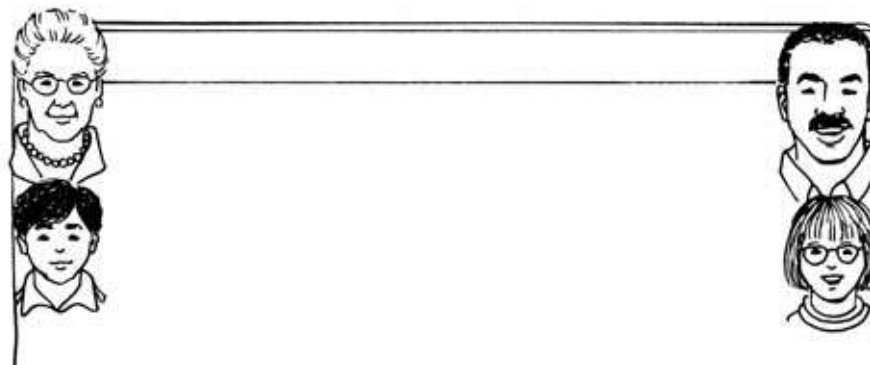
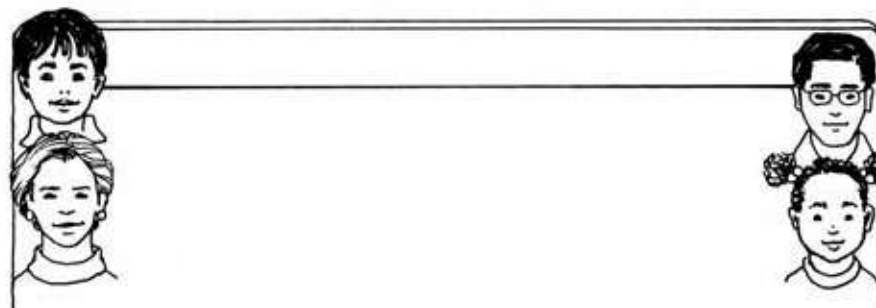
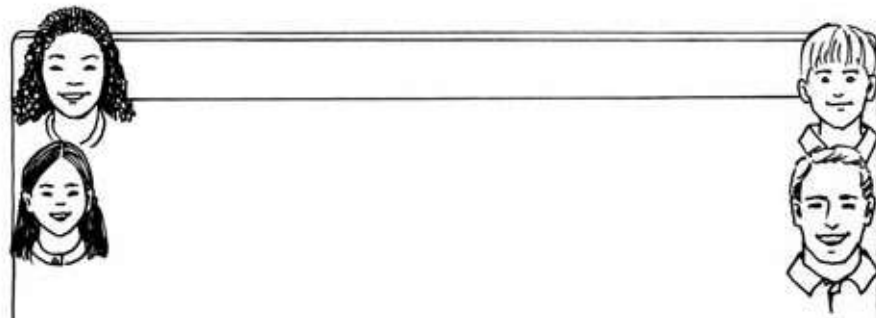
A veces es posible imaginar un lugar con tan sólo ver un letrero. Vamos a ver si podemos describir un lugar con los letreros de abajo.



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¿Quién es?

Vamos a escoger tres personas que nuestra familia conozca bien y vamos a hacer una lista de las características de cada una. Luego, les vamos a pedir a nuestros familiares que los identifiquen.



Comprehension Check

Summarize

What does Josie want at the beginning of the story? What happens to her dream, and how does she deal with it at the end? Use the Character, Setting, Plot Chart to organize your summary.

Character	Setting	Plot

Think and Compare

1. Look back at page 15. Summarize the reasons Mr. Bradley gives for refusing to show the house to the Williams family. What do his actions show about attitudes and prejudices in the 1950s, when the story takes place? (**Analyze Character, Setting, Plot**)
2. Think about a time when you were treated unfairly, as Josie and her family are in this story. How did you react? What did you do about it? (**Analyze**)
3. From what you have learned about events in American history since the 1950s—for example, the civil rights movement—do you think an incident such as this would be likely to happen today? (**Synthesize**)

Grammar's Garden

by Barbara Brooks Simons
illustrated by Annabel Kendall

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Chapter |

The Dream Garden

The late afternoon sun was going down behind the buildings across the street from Josie's house. It turned the sky behind the brownstone townhouses red and gold. The colors reminded Josie of autumn trees, though it was a sweltering, hot summer day. Josie and her brother, Franklin, wiggled on the steps of their front stoop, trying to find a cool spot. They wondered how their grandmother always managed to look cool even on such a hot day. Ignoring the heat, Josie and Franklin turned their attention back to the story that Gramma was telling.

Gramma settled back in her chair. She fanned herself gently and resumed telling her story. "Well, there was a creamy, white fence all around the house and yard. And one big old magnolia tree next to the house. Oh my, that house was a pretty sight to behold."



When the two came back, the smiling woman handed them a little yellow card that read "Plot K14." Gramma and Josie found their plot. Right now Plot K14 was just a bare patch of ground, but as Gramma and Josie began to clear the earth, they pictured hollyhocks and tomatoes—and, of course, roses, all in a blaze of beautiful colors. Gramma suddenly reached over and hugged Josie tightly. Into her ear she whispered, "Hold tight to your dreams and make them come true—whatever you want." Josie promised she would, and the two began to create their dream garden.

Historical Note

While white American families by the thousands moved to suburbs in the 1950s, many real estate developers refused to sell to members of minorities—mainly African Americans and Hispanic Americans. Sometimes neighbors made private "covenants" to keep out minorities. The Civil Rights Act of 1968, often called the Open Housing Act, made such discrimination illegal. Nevertheless, even in the 1970s and 1980s, some families still had to go to court to gain the right to live where they wanted.

Josie wanted to laugh out loud. Here in her own neighborhood Josie had found her dream. Josie shook her head and remembered that her Gramma had told her to be patient and that things would work out.

Josie stood in line and politely waited her turn. She was so excited she could hardly speak, and when she did the words just raced from her mouth. "Ma'am, I live in the neighborhood and so does my Gramma. My name is Josie Williams, and we both really want a garden, so can just anybody get one?"

The woman at the table looked up and smiled and told Josie that, of course, she and her Gramma could have a garden plot. All Josie had to do was put her autograph and address on the piece of paper in front of her.

Josie scribbled it so quickly that she had to double-check it to make sure she'd written the correct information. This was one time Josie did not want to make a mistake. Then she raced home to get her grandmother.

Gramma continued describing the yard. "First there were sky-blue morning glories. Then we planted hollyhocks. They were a spectacular sight, believe me, in shades of red and rosy-pink and yellow. Why, it was like a rainbow blooming."

Josie and Franklin had heard Gramma's stories many times, but they never got tired of them. There was something so comforting about Gramma's voice. Josie felt like she was being wrapped in a warm, fuzzy blanket when she listened to Gramma's stories. And even though Franklin was 14 going on 15, he still liked to hear Gramma's stories about her life in the South.

Now Franklin got up from the step where he had been sitting. "Gramma, I have to go do my math homework. I'll see you at dinner."



Josie stayed where she was. Like Gramma, Josie loved nature, but living in the city didn't provide much. She looked around the neighborhood. Outside their second-floor apartment, Gramma had planted window boxes, bright with red and white geraniums. Other than that a few spindly trees that grew between the sidewalk and the curb were the only green, growing things that Josie could see.

Other neighbors were sitting on their front stoops, too, hoping for a cool evening breeze. A streetcar rumbled by. Some of Franklin's friends were showing off on their bikes in the street.

"I sure wish you had a picture of that house and garden," Josie said.



One spring afternoon Josie decided to walk home from school. She could save her bus fare to buy a new record. Letting the sun shine on her, Josie decided to take the long way home. As she strolled down a street that she hadn't seen for months, it dawned on Josie that the street had changed.

A rickety old building had once stood on the corner. It had fallen into disrepair. Josie blinked her eyes hard. But no, she was not seeing things, the building had vanished. In its place was an empty lot. Then Josie looked closer—the lot wasn't really empty. Rows of string marked off garden plots with dirt paths that ran between them.

A big sign on the lot read, "Neighborhood community garden. Sign up now!" Several pleasant-looking women were sitting at a card table, taking people's names. A couple of people were waiting in line to sign up. Others were already working on the ground with hoes and rakes. In some plots, little green plants were already pushing out of the ground.



A New Dream

Months went by, but Josie couldn't forget that day, no matter how much Gramma tried to comfort her and tell her that it could have been worse. Josie didn't understand how it could have been worse. That nasty Mr. Bradley had insulted her father and her family. In fact, he'd insulted all black people!

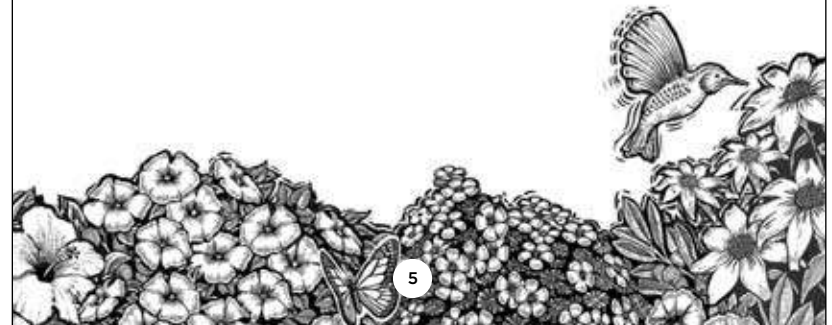
Gramma sighed heavily and told Josie not to carry on so about it. She pulled Josie onto her lap and held her as she whispered that things would get better. Josie wasn't so sure. She didn't have her Gramma's optimism. But as the days wore on, Josie did let go of her anger and disappointment. She truly believed that her Gramma was right when she told Josie that holding onto her anger like that would be giving Mr. Bradley power. And Josie certainly did not want to give that man anything!



"Child, I don't need any picture to remind me," Gramma answered. "I can see it all plain as day in my mind's eye. Flowers for the spirit and herbs for the kitchen. I can even *smell* that garden." She tilted her head back and half-closed her eyes, taking a deep breath.

Gramma's voice was soft, as if she were talking to herself. "There were roses all over. They were the old-fashioned kind of roses, with that rich smell like perfume. We had purple-blue foxglove and delphiniums. Sometimes I'd pick nasturtiums—all yellow and orange—and put them in an old blue china bowl.

"But that garden was for real food, too. We grew scarlet runner beans—pretty red flowers and tasty beans. We had salad greens and tomatoes and beet greens for the pot, too. Nothin' tastes better than fresh greens or tomatoes all warm from the sun!"



Gramma shook her head and let out a loud sigh. Josie knew that Gramma regretted having to leave her garden behind when she and Grandpa moved North more than twenty years ago. Gramma chattered on and told Josie that she and Grandpa had moved North in the 1930s for opportunities. Josie sat up straighter as she knew this part of the story was critical. Gramma and Grandpa had wanted to escape the Jim Crow laws that restricted the black people's lives in the South. Gramma hated that she had not been allowed to drink out of a water fountain or ride at the front of a bus and had to sit in the back of the luncheonette.

Gramma said that things up North were so much better. She and Grandpa could go to the movies. Grandpa got a fine job at a factory, earning good money. And Gramma could sit in the front of the bus as she rode to her daily cleaning job. Then she sighed and Josie knew what was coming next.

"But still I thought there'd be more green around. I love the parks, but I sure do miss my own little plot of land."

The real estate man went on angrily, as if he hadn't even heard a word that Mr. Williams had uttered. He told Mr. Williams that he could get fired for showing them the house. Why, some of the neighbors might come out and throw rocks at them. Mr. Bradley glared at Mr. Williams and asked him in a very low, threatening voice, "Do you want to start a riot? You don't want to see your family hurt, do you?" Just as he finished, Mr. Williams noticed that several men had come out of their homes and were watching them.

Without saying another word, Joe Williams started the car and shoved it into first gear. Josie could see how tightly he clenched his jaw, as if to keep angry words from spilling out. Her mother just looked sad.

Franklin didn't even try to hold back his anger. "We don't need your permission or anyone else's to live where we want!"

Josie looked back at the house. She couldn't hide her disappointment. She started to cry—big, salty tears that felt hot enough to scald her cheeks. "It's not fair, it's just not fair," she wailed.

The real estate agent was standing on the front steps of a small gray house, writing in his notebook. He looked up when he heard the car pull up to the curb. But when he saw the Williams family in the car, his eyes got very wide and he dropped his notebook. Before the Williams family could even open their doors, the real estate agent had hightailed it to their car. The speed with which the man moved amazed Josie.

He leaned into the car window, spluttering with anger. His face was very red and his voice shook. "You—you didn't say on the phone that you were black!"

"I guess you must be Mr. Bradley then," Josie's father said in a very soft, but very angry voice. "I shouldn't have to tell you anything about my color. This is America. Skin color's not supposed to matter. I fought in a war for this country. It shouldn't matter whether I'm black or white or polka-dotted!"



Josie jumped to her feet and blurted out excitedly that she had an idea. Josie and her Gramma would plan a garden. Josie raced inside the Williams's apartment. When she came back, she was carrying a drawing pad and a box of colored pencils. For the next couple of hours, until it was dinnertime, she and her grandmother drew busily, making plans and lists.



Chapter 2

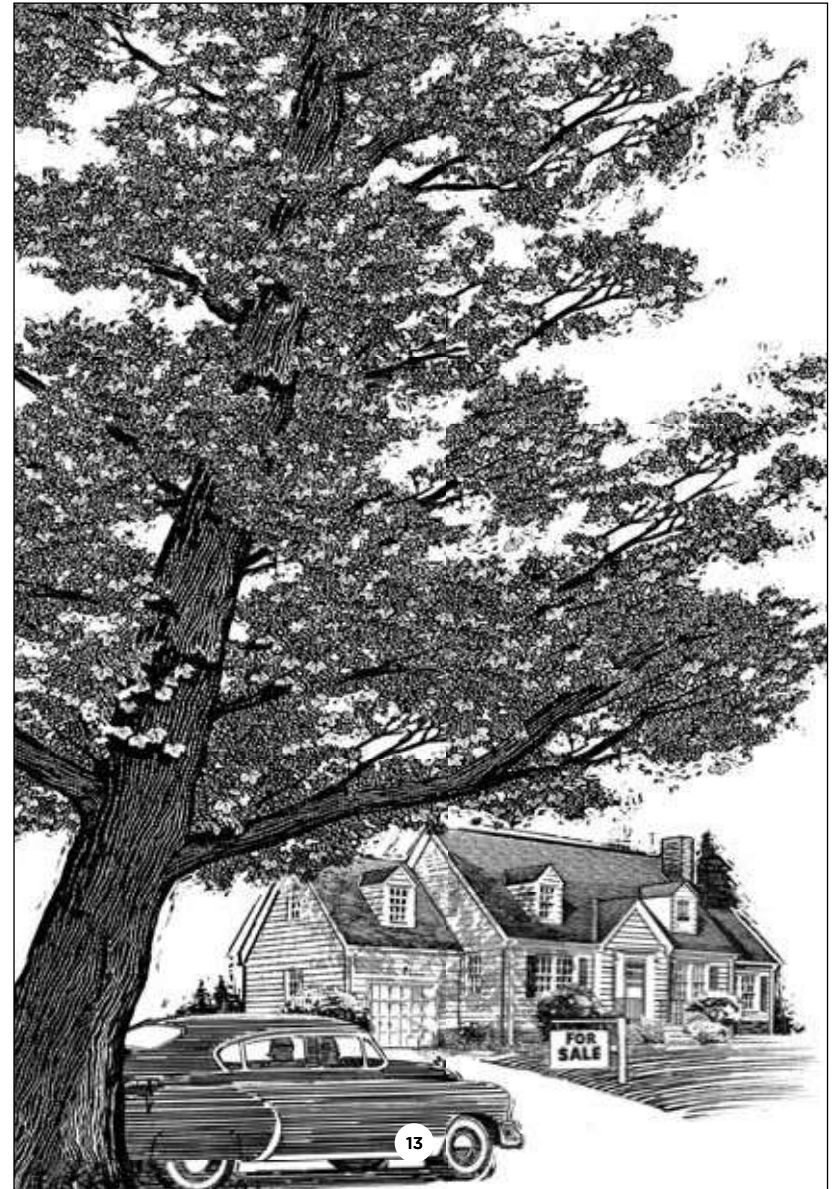
The House

Josie couldn't stop thinking about Gramma's dream. She just had to figure out a way for her family to have a garden. Finally, it dawned on Josie that in order for the family to have a garden, they would need to have a house. Josie liked their neighborhood, but she thought how much better a house with a garden would be.

But how to find that perfect house? One day Josie heard a classmate talking about moving. Her classmate's family had found a house in the newspaper. Josie decided she would check the newspaper.

Every Saturday morning Josie hurried to get the newspaper. She kept her plan a secret. Josie carefully studied all the ads for the perfect house and yard—a yard that could hold a garden.

Then one day she found it. She ran into the kitchen holding the newspaper.



After driving about half an hour, they reached the edge of the city. Right away, Josie began counting the trees that lined the streets. She turned to Franklin and loudly proclaimed that she had already counted twelve trees. Her mother told her to settle down. Josie silently kept counting. Her mother seemed nervous and Josie didn't want to upset her. Her father kept asking her mother for directions and he looked nervous, too, but they found the street just fine.

As they approached, Josie saw that two large rocks stood on either side of the street like gateposts. The words "Maple Gardens" were chiseled into the stones. "Gardens," Josie whispered to herself. "That's got to be a good sign."

The neighborhood was made up of curving streets lined with trees. The houses were all different colors—green, gray, yellow, white, even a pale blue. Most of them weren't big, but they had neat yards with bushes and flowers and trees.

Mr. Williams stopped the car in front of a house with a For Sale sign in the yard. Josie realized that the house had everything she had been dreaming about.

The kitchen smelled of breakfast. Her father carefully pushed his bread past the eggs and sausage and used it to scoop up buttered grits. Her mother and Gramma chatted as they finished their breakfast. Franklin chowed down on eggs and bacon. They all turned to Josie as she burst into the room.

"I've found it! It's perfect!" she said.

Her parents looked up. "Found what? What were you looking for?"

"The house," she said impatiently. "The house with the yard for the garden that Gramma and I want. I found it. You have to call the owners."

Josie's parents looked at each other. A sad look came over her mother's face, and even her Gramma looked upset. Her father immediately began talking and saying that their apartment was just fine. Then Franklin said he couldn't move since his baseball team needed him. Josie's eyes began to fill with tears. Gramma asked Josie to read the ad aloud, and Josie did so in a quavering voice.

"Well, it does sound like a nice house," Mr. Williams said. "I don't suppose it can hurt to look at it." He smiled at Josie. Josie smiled back at her father.



But Josie's mother still looked worried. She spoke quietly to her husband. She asked him if he really thought they could buy a house. It might be in a suburb where they would be the only black family. Josie saw her father give her mother's hand a quick squeeze. Gramma looked over. "A phone call won't hurt," she said solemnly. Josie's father agreed and left the kitchen.

He came back and told the family that they had an appointment for this coming Saturday at 1:00. Everyone except Gramma said that they would go. Josie noticed that her mother still had a worried look on her face, though she tried to hide it behind a big smile.



Meeting Mr. Bradley

"Gonna plant a garden, gonna grow flowers." Josie was singing to herself as she picked out one of her favorite dresses. It was blue and white plaid with a full skirt that made her feel special.

When they went out to the car, it was clear that the entire family also felt that this was a special occasion. They weren't "going to church" dressed up, but they were all wearing their good clothes. Josie complimented her parents. Josie's mother gave her a weak smile and adjusted her hat. Franklin, of course, demanded that he also be complimented.

Gramma shooed them on their way. Josie thought she saw a tear dribble down her Gramma's cheek, but decided she must have been wrong. Gramma waved and crossed her fingers behind her back as the family drove away.



Home-School Connection

Word Workout

WORDS TO KNOW

couple decency delivering injury
mournful shrieks sympathy

Story Time Let's take the words and write a story with them.

SPELLING WORDS

folks greed heap paste bride
aim greet coach plead tow
prey grind oak shave spice
yolk growth paid theme type

Speed Spell How many words can you spell correctly in one minute? I'll keep giving you words, and at the end of a minute we can count up the ones spelled correctly. Then we can go again and see if you can spell more words correctly in one minute.

Dear Family Member:

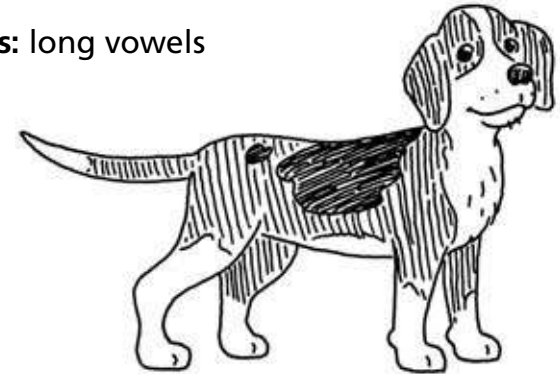
In *Shiloh*, Marty is taking care of a dog that has been abused. His father does not seem to care about the dog and insists Marty give Shiloh back to his owner. Then one night, when his father does not see him, Marty watches his dad scratching Shiloh's back. I can see that the father loves Shiloh. Making assumptions based on an author's clues is making inferences.

This Week's Skills

Comprehension: make inferences

Vocabulary: idioms and adages

Spelling/Phonics: long vowels



Name _____

(fold here)
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Someone to Write About

We can play a game of inferences. Here's how.

Directions

- Toss a coin and see which picture it lands on.
- Talk about the picture.
- Use the sentences and the picture to answer the question.
- Talk about why you answered the question the way you did.
- Keep tossing until all the pictures have been discussed.

When Doreen comes home from school, her cat, Lindy, runs out the door. Doreen searches for Lindy, but can't find her.

What is Doreen feeling?



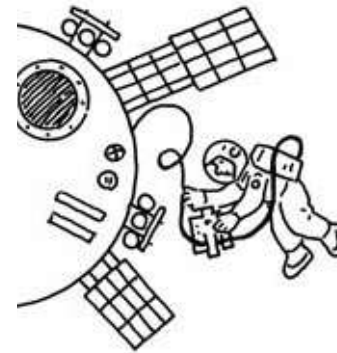
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Kevin spends several days studying for a math test. When the teacher hands out the test, Kevin smiles.

How does Kevin do on the test?

While canoeing on a river, Cary loses the paddle. She is a determined person. What happens next?



Ron is fixing a part outside the ship when his lifeline becomes tangled.

What is Ron feeling?

On her first day at school, Judy is introduced to the students in her class. Several of them smile. Will Judy make friends?





Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

couple decency delivering injury
 mournful shrieks sympathy

Tiempo de cuentos Tomemos estas palabras y escribamos un cuento con ellas.

PALABRAS DE ORTOGRAFÍA

folks greed heap paste bride
 aim greet coach plead tow
 prey grind oak shave spice
 yolk growth paid theme type

Ortografía veloz ¿Cuántas palabras puedes escribir correctamente en un minuto? Te diré palabras y al final de un minuto contaremos cuántas escribiste correctamente. Luego, haremos el ejercicio de nuevo, a ver si escribes más palabras correctamente en un minuto.

Queridos familiares:

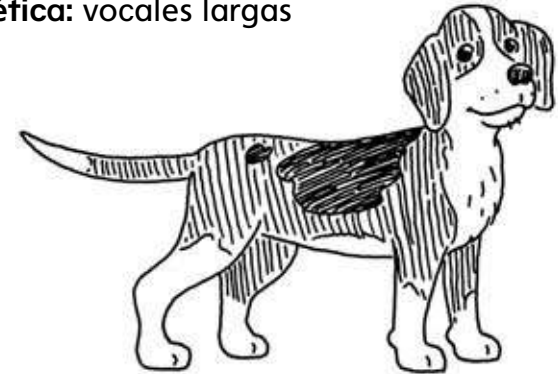
En *Shiloh*, Marty está cuidando a un perro que fue maltratado, pero a su padre parece que no le importa el perro y le insiste a Marty en que devuelva a Shiloh a su dueño. Pero una noche, cuando su padre no lo ve, Marty observa que su padre le acaricia el lomo a Shiloh. Yo supongo que el padre sí quiere a Shiloh. Hacer suposiciones basándose en las pistas que nos da un autor es hacer inferencias.

Destrezas de la semana

Comprensión: hacer inferencias

Vocabulario: expresiones idiomáticas y proverbios

Ortografía/Fonética: vocales largas



Nombre _____

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Alguien de quien escribir

Vamos a jugar un juego de inferencias. Lee a continuación cómo jugar.

Instrucciones

- Tira una moneda y fíjate sobre qué dibujo cae.
- Habla acerca del dibujo.
- Usa las oraciones y el dibujo para responder a la pregunta.
- Explica por qué respondiste de la manera en que lo hiciste.
- Sigue tirando la moneda hasta que se haya hablado acerca de todas las personas.

When Doreen comes home from school, her cat, Lindy, runs out the door. Doreen searches for Lindy, but can't find her.

What is Doreen feeling?



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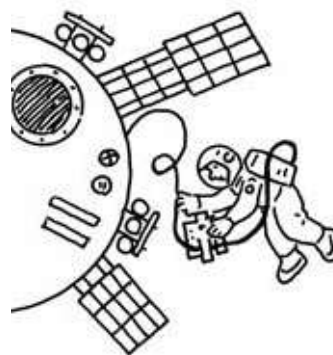


Kevin spends several days studying for a math test. When the teacher hands out the test, Kevin smiles.

How does Kevin do on the test?

While canoeing on a river with rapids, Cary loses the paddle. She is a determined person.

What happens next?



Ron is fixing a part outside the ship when his lifeline becomes tangled.

What is Ron feeling?

On her first day at school, Judy is introduced to the students in her class. Several of them smile.

Will Judy make friends?



Comprehension Check

Summarize

How does Alice manage to remain connected to Africa? Use the Inference Chart to help you retell *The Elephant in the Room*.

Text Clues	What You Know	Inferences

Think and Compare

1. Alice and her partners have high hopes for their project. Why is the project so important to them? How do the partners know that their last idea is a good one? Support your answer with examples from the story. **(Make Inferences)**
2. Think of a time when you felt strongly about something. How did you convince other people to care? **(Apply)**
3. How do you think the world would be different if we felt connected to things happening far away? What are three problems happening far away that you would like more people to feel sympathy for? **(Evaluate/Analyze)**

THE ELEPHANT IN THE ROOM

by Julia Schaffer

illustrated by Sandy Rabinowitz



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CHAPTER ONE

CAN'T GET COMFORTABLE

Alice curled up on her side. Something didn't feel right. She rolled over and pressed her face into the pillow. Then she couldn't breathe. She flipped onto her back and stared at the ceiling. She just couldn't get comfortable. Not in her bed, not in her apartment or her school, not anywhere in this whole country.

A horn honked, and she heard the shrieks of a car braking. An alarm went off and then another. They sounded louder than chickens in a coop. And it was the middle of the night!

In Kenya, the place Alice still thought of as home, it would be morning. Right now her cousins would be finishing breakfast. They'd be racing out of the kitchen to jump rope out behind the farmhouse. She could almost hear the rope thump against the grass, and she wished she was there with them right now.

Her mom said she had to get her head out of Africa and start accepting that she had a new home.

"What is all this?" someone asked.

Alice introduced the elephants by name. She explained that everything they were seeing was happening at that very moment.

"That's Kenya, where I used to live," she said. She looked at Wendy and Arnold standing side-by-side, grinning at her. She added, "That used to be my home."



The cafeteria was decked out for the fundraiser. There were purple streamers, red balloons, and baked goods as far as the eye could see. Just as Arnold had predicted, there were cupcakes for every cause: peace, rhinos, wetlands.

Alice, Wendy, and Arnold stood beside a large shape covered in a black cloth. Arnold was jumping up and down to calm himself. Wendy was pacing and mumbling under her breath. Alice smiled. She patted her pocket. In it, for luck, she had the newest email from her uncle.

Alice was nervous and worried that maybe no one would care. Maybe no one would want to learn about elephants. "It's time," she said to Wendy. "I can't wait any longer."

Wendy nodded and stepped in front of the cloth. With a wink to Alice and Arnold, a deep breath, and delivering clearly, she cried, "Ladies and gentlemen, introducing . . . the African elephant." Then she swept away the cloth, revealing a giant screen.

On the screen were trees, tall grasses, and a brown pond. Beside the pond stood an elephant and her calf. Students and parents drifted over to take a look. They saw the mother approach the pond and dip her trunk into the water. Then she lifted it up and sprayed water onto the calf to bathe him.

Alice tried to do that. She really did. But every time she imagined doing something fun, she pictured her cousins there with her. Tomorrow her science class was taking a trip to the zoo. Mrs. Battaglia said they were going to see animals they might never have seen before.

If her cousins were there, it would be fun. Instead she'd be walking alone through a dark room, staring at bats. Or some weird combination of a bat and a possum. Or what about a cross between a polar bear, a cow, and a duck?

An hour after getting into bed, Alice fell asleep picturing a giant mammal with the head of a polar bear, the body of a cow, and the webbed feet of a duck. She sleepily wondered if the creature would take to water or snow.



"Cuthbert, Gomez, Williams, Schwartz . . ."
Clipboard in hand, Mrs. Battaglia checked off her students' names as they stepped onto the bus. She seemed especially out of sorts today. Alice figured the teacher didn't like taking trips.

"McDonald, Blank, Kamao . . ."

She nodded at Alice as she said her name. Alice smiled back. She was thinking, "Please don't make us pick partners. I won't ever stare at your double chin again if you'll just spare me the embarrassment."

"Wasserman, Roberts, Yang . . ."

Alice got lucky. Just as she sat down, Wendy Yang slid into the seat beside her. Wendy was talkative and friendly. Alice knew Wendy wanted to be an actress because she said so to anyone who would listen. "Do you know the macarena?" Wendy asked.

"The what?"

"It's a dance. You don't know it?" And she jumped right into teaching Alice the hand motions. "Tap. Clap. Over/under. Wave. Tap. Clap. Over/under. Wave. Good! Again!" By the time they reached the zoo, Alice had it down. Wendy was thrilled.

Just past the admissions window, not far from a display of llamas, Mrs. Battaglia assembled her students. She blew her nose, cleared her throat, and said, "There are ten endangered animals here at the zoo. *Achoo!*"

"Bless you," someone muttered.

CHAPTER FOUR

THE ICING ON THE CUPCAKE

For the third time in three days, Alice, Wendy, and Arnold huddled around the library computer, checking for a reply. There was an email! In a short note, the scientist wrote, "I would be glad to share live footage of the Mount Kenya elephants on the condition that the money you raise goes to the park's elephant protection fund. This fund seeks to limit elephant death and injury. If this is agreeable to you, please contact me again to arrange further details." Agreeable? It was fantastic! It was ideal.

Wendy whipped out her notebook and started making a list. They had seven days and 700 things to do. Alice would get details on the elephants. Arnold would gather all the equipment they needed. Wendy would create a theatrical booth, not to mention pick out something fabulous to wear. Wendy's voice got louder until she caught the librarian's glaring eye. She giggled, "Come on, team, let's get out of here."



That night when Alice heard Arnold's voice on the line, she simply asked, "Any news?"

"Bad news," he said. They'd received a reply from the warden and not a very friendly one. He said he couldn't help them because he didn't have video cameras. He gave them the email address for an elephant researcher, but he said that this man was probably too busy to help. "Still," Arnold said, "I just wrote to him. Oh, and your uncle wrote back. I'll print it out for you. Maybe the researcher will reply."

Alice called Wendy with the news. "Well," Wendy sighed into the phone, "we tried."

When Alice pointed out that they might still get help from the researcher, Wendy just said, "I'm going to find my mother's cupcake recipe."

Alice hung up. She couldn't believe how disappointed she felt, especially considering that there was an email from her uncle.



"Thank you. In groups of three, you are to visit them and answer all of the questions on your worksheet."

Alice noticed that Mrs. Battaglia's eyes were red and tearing. She glanced at Wendy, who giggled. For all her talk about their fascinating blood cells, Mrs. Battaglia was clearly too allergic to go anywhere near actual animals.

"At the end of today, your group will choose one—*achoo!*—animal. It will be your assignment to find a way to raise money for that animal at the school fundraiser in two weeks."

Wendy grabbed Alice's hand. "Let's go together," she said. Lightning fast, everyone was finding partners. When the other kids cleared away, one person was standing alone.

"Oh, no," Wendy said a little too loudly. "It's Arnold Blank." He was now their partner.



CHAPTER TWO

SUBSONIC TONES

Alice sat on a bench with her partners. She watched Wendy slurp down a soda and then pull out a bag of graham crackers. Arnold Blank was studying a map of the zoo. He was a technology whiz. Whenever Mrs. Battaglia couldn't get a computer or a VCR to work, Arnold could.

Wendy sighed. "OK, so what's an example of an endangered animal?"

"Well," said Arnold, "As it says on the worksheet, the Siberian sturgeon—"

"Spare me the worksheet," said Wendy, as she tossed graham cracker crumbs to the pigeons. "What are you doing with that map, anyway?"

"Trying to find the quickest way to the animals," he said. "Let's go."

"Are pigeons endangered?" Alice wondered, scattering several as she stood.

"They probably need more help than some sturgeon," Wendy said.

"Why is that?" he asked.

"Well," replied Wendy, "the sturgeon lives in a nice big lake, but the pigeons have to deal with all our trash and pollution. We should have the decency to treat them better. Where are you taking us?"

Then she had an idea. She jumped out of bed. She could have run downstairs and set off three car alarms for joy. Instead she grabbed pencil and paper and wrote it all down to make sure she wouldn't forget.

The next day, it was a nightmare getting from one end of the hall to another. Kids were everywhere, bumping each other with overstuffed backpacks. Shouting over the noise as they fought their way toward the library, Alice told Arnold and Wendy her idea.

"Right on Mount Kenya there's a national park. The one I told you about. It's filled with elephants being observed and protected by the government. What if we get the park warden to send us an email telling us all about the elephants, their names, their ages, funny stories about them, and we read it out loud at the fundraiser?"

Arnold stopped in his tracks. "Do they have video cameras in the park?" Alice shrugged. "Because if they do, and if we get the right kind of equipment, we could use the computer to show actual elephants on Mount Kenya. Live."

"That's brilliant!" Alice screamed. Even Wendy smiled at the idea. Then, catching sight of the librarian, Alice whispered, "We have to email the warden right now."

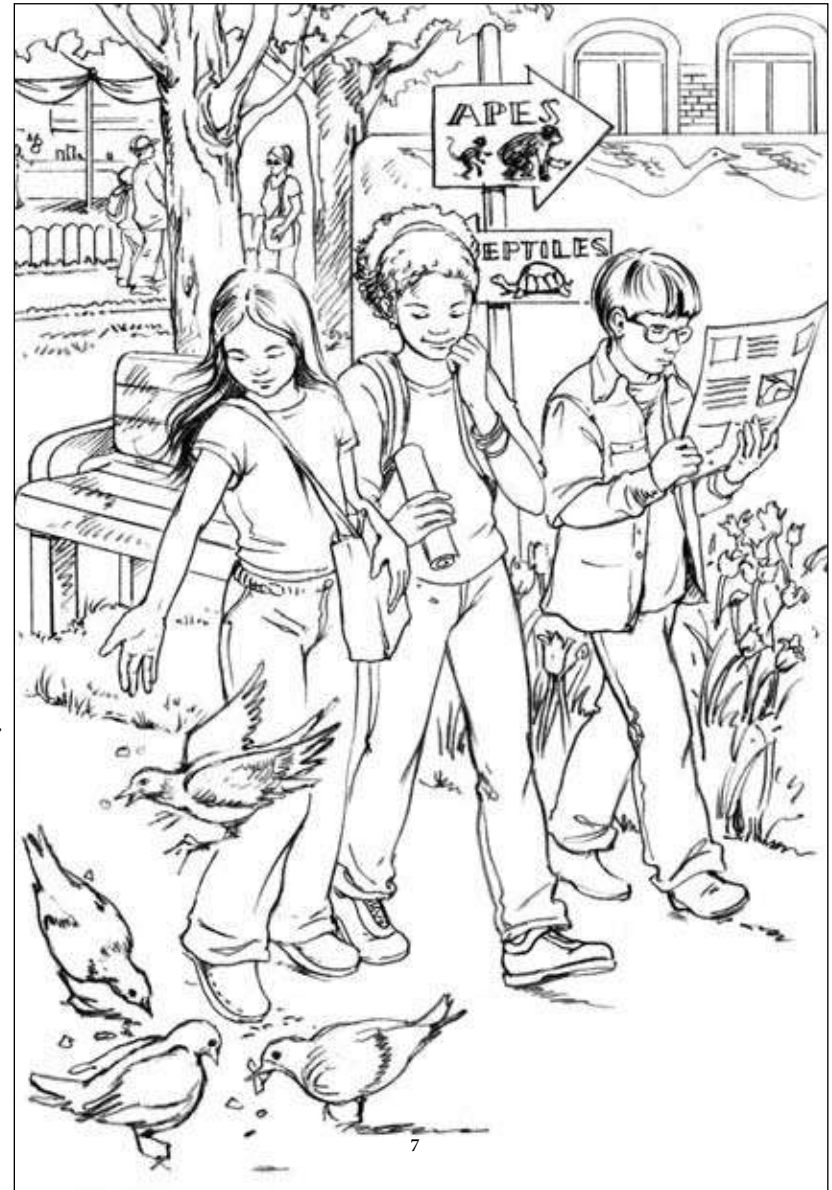
Alice was wide awake in bed. According to Arnold, any minute now her uncle would be reading her email. She smiled when she thought how Wendy and Arnold had had to drag her away from the computer when it was time to go. Then, on the whole walk home, Wendy had said nasty things about Arnold. It left a bad feeling in Alice. She wanted so much to have friends. She wanted all three of them to be friends.

But cupcakes? Alice also wanted to create a project that would affect people, something that would make them care about elephants and show that elephants and people were part of the same world. When she thought about the project, she felt like she had a job to do. . . . Alice wondered if her uncle was at his desk yet.



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The Elephant in the Room



“To the elephants!” cried Arnold.

They turned a corner, and Alice saw the elephants. Six of them. Her heart was pounding. The largest of the elephants, a female, was standing near a trench filled with running water. Alice hadn’t seen an elephant since leaving Kenya, and was shocked to see a family of them now. She felt a rush of sympathy, and in her head, she said, “I know where you come from. I know this isn’t your home.”

Alice remembered her uncle telling her that elephants could communicate with each other. She wondered if these elephants could make sounds that would reach their friends in Africa.



“You said he works for the government, right? I found out his email address and asked him to write to you. Go ahead and read it. He wrote you an email.”

Alice didn’t quite know what he was talking about. But then she started to read: “Dear Alice, We are counting the days until your next trip home.” She could hear her uncle’s voice clearly, as though he were speaking to her, telling her about her cousins and their school, and even about his work. He asked her to write him back.

“If you write back now, he’ll get your email when he gets to work in the morning,” said Arnold.

Alice smiled and sat down to write an email.



Alice thought they could draw the stages of an animal's life from birth to death, but Wendy said that would be boring. She also thought that a bulletin board covered with newspaper articles would be confusing, and no one would read it.

Then Wendy's eyes lit up. "I've got it," she announced. "We'll bake cupcakes with elephants drawn on top."

"Are you kidding?" Arnold demanded. "That is the most unoriginal idea I've ever heard. Everyone bakes cupcakes for these things."

"Not with elephants on them!" Wendy snapped.

"Please," Arnold answered. "If you care about the elephants, how can you suggest something so irrelevant?"

"If you care about them, why are you suggesting ideas that won't make money?" Wendy turned to Alice. "What do you think?" she asked.

Alice was caught off guard. She thought Wendy's idea had nothing to do with elephants. But she didn't want to hurt the feelings of her new friend. "I think we should sleep on it," she suggested.

While Wendy packed up her backpack, Arnold led Alice to his computer.

"Read this," he said and pointed to the computer screen.

Alice saw the name of Peter Kamao. That was her uncle's name! "What's my uncle doing on your computer?" she asked.

All of a sudden, Alice realized what her assignment really meant: to convince perfect strangers to care about animals that live in a place they've never seen. And she understood why it would be so hard. No one wanted to hear about problems in faraway places. Nobody could imagine them. Nobody felt touched by them. Alice wanted very much to make at least Arnold and Wendy care.

"You're so quiet, Alice," said Wendy.

"Anyone's quiet compared to you," Arnold retorted.

They all laughed. Alice noted that Wendy was a good sport.



"I'm just thinking about elephants," said Alice. "There are so many in Kenya. My uncle Peter works for the government. He lives right near a big national park. You can take a walk there and see lots of elephants. And they have so much more space than here. It's one of the only places that elephants can really be free. Everywhere else they're in danger of being killed for their tusks."

"Have you ever seen an elephant get shot?" asked Arnold.

"No. But people say that when an elephant is shot the other elephants in the herd will scream and some of them will cry real tears."

Wendy's eyes widened. "That's amazing. We have to do elephants for our project!"

"I totally agree," said Arnold.

"I haven't even told you the *really* amazing stuff," Alice laughed. "I've seen them when they find the bones of another elephant. They'll rub the bones with their trunks and turn them over and stare at them with these mournful eyes, almost like they know what they're looking at." Alice herself looked sad.

"OH NO!" Wendy's mouth was wide with horror. She pointed to her watch. It was a quarter past one. They had fifteen minutes to visit nine animals and get back to the bus. Wendy screamed, "Run!" and they took off, racing past rhinos, turtles, and polar bears, their heads full of elephants.

CHAPTER THREE

600,000 ELEPHANTS

By the time Alice and Wendy arrived at Arnold's apartment a couple of days later, he had pages of facts printed off the Internet. Reading through them was overwhelming. "Listen to this," said Alice. "Between 1979 and 1989, 70,000 African elephants were killed each year. Today there are just 600,000 left."

Baffled, Wendy looked from Alice to Arnold and back again. "I'm sorry," she said. "But that sounds like a lot of elephants. I thought you said they were endangered."

"They are, Wendy," said Arnold.

"Well, how are we going to make people care if there are 600,000 of them left? That's more than can fit in ten baseball stadiums."

"That's not the point!" Arnold almost shouted.

Alice cut in, "She has a good point. How are we going to make people care enough to donate money from their own pockets?"

Arnold suggested they chart the number of annual elephant deaths on a graph. Wendy quickly rejected the idea with a shake of her head.

Word Workout

WORDS TO KNOW

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exhibits site

Give me the details! Let's write a paragraph using one of the words above in the main sentence. Use the other words in detail sentences that support the main idea.

SPELLING WORDS

amuse bamboo soothe crooks tuna
doom few view hoof hooks
hue bruise booth lose handbook
prove mute plume union duty

Do I Hear a U? I'm going to write down your spelling words leaving out the vowels that spell different sounds of **u**. Look at my words and tell me what letters are missing.



Home-School Connection

Dear Family Member:

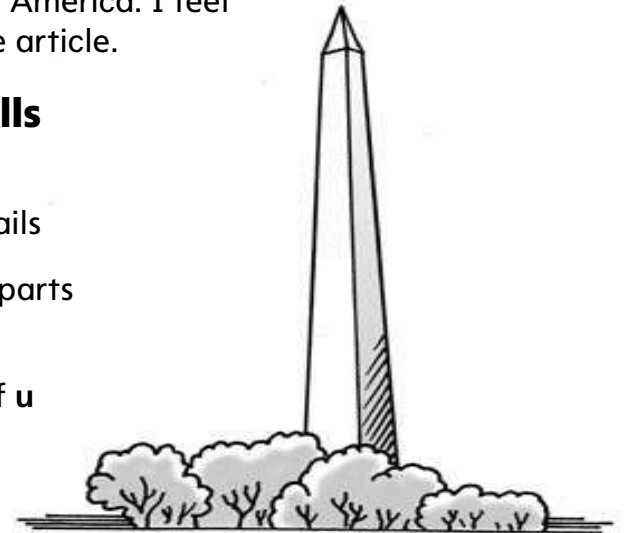
Our country has many monuments to honor and remember people who helped build and protect America. In Washington, D.C., there is a wall with all the names of soldiers who died in the Vietnam War. I know that people leave flowers under the names of loved ones and many people cry. "Maya Lin, Architect of Memory" reminds me of the courage and wisdom of those who lived before my time. This main idea is supported by all the details describing museums and monuments in America. I feel proud as I read the article.

This Week's Skills

Comprehension:
main idea and details

Vocabulary: word parts

Spelling/Phonics:
different sounds of **u**



Name _____

(fold here)
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Flip-Flopping Main Ideas

Here's how to play this game.

- Flip a coin.
- If the coin comes up "heads," use the picture to make up details about the Heads main idea.
- If the coin comes up "tails," use the picture to make up details about the Tails main idea.

Heads: We saw a movie about firefighters.

Tails: The firefighters raced to the apartment building.



Heads: Ana goes to clown school for two weeks each summer.

Tails: The clowns we saw at the circus were very silly.

Heads: Mike rescues hurt animals.

Tails: When our puppy started limping, we took her to the vet.



Ejercicio de palabras

PALABRAS DE VOCABULARIO

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exhibits site

¿Qué hay en una palabra? Voy a armar unas preguntas que incluyan las palabras de arriba. Usa lo que sabes acerca de las palabras para responder a las preguntas.

PALABRAS DE ORTOGRAFÍA

amuse bamboo soothe crooks tuna
doom few view hoof hooks
hue bruise booth lose handbook
prove mute plume union duty

¿Escucho una U? Voy a escribir tus palabras de ortografía sin las vocales que representan diferentes sonidos de la letra u. Mira mis palabras y dime qué letras faltan.



Conexión con el hogar

Queridos familiares:

Nuestro país tiene muchos monumentos para honrar y recordar a la gente que ayudó a construir y proteger a Estados Unidos. En Washington, D.C., hay un muro con todos los nombres de los soldados que murieron en la guerra de Vietnam. Sé que las personas dejan flores debajo de los nombres de las personas queridas y muchas personas lloran. *"Maya Lin, Architect of Memory"* me recuerda el coraje y la sabiduría de aquellos que vivieron en otras épocas. La idea está sustentada con todos los detalles que describen los museos y los monumentos de Estados Unidos. Me siento lleno de orgullo mientras leo el artículo.

Destrezas de la semana

Comprensión: idea principal y detalles

Vocabulario: partes de una palabra

Ortografía/Fonética: diferentes sonidos de la u



Nombre _____

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Tirar la moneda

Lee a continuación cómo jugar el juego.

- Tira una moneda.
- Si la moneda sale "heads," usa el dibujo para escribir detalles sobre la idea principal que dice "heads."
- Si la moneda sale "tails," usa el dibujo para escribir detalles sobre la idea principal que dice "tails."

Heads: We saw a movie about firefighters.

Tails: The firefighters raced to the apartment building.



Heads: Ana goes to clown school for two weeks each summer.

Tails: The clowns we saw at the circus were very silly.

Heads: Mike rescues hurt animals.

Tails: When our puppy started limping, we took her to the vet.



Comprehension Check

Summarize

Look back through the text. Why was Ellis Island restored after being closed for so long? Why is Ellis Island important to America's history? Look for details in the text that support your answers.

Think and Compare

1. Look back at page 18. Why is the American Immigrant Wall of Honor a tribute to the millions of immigrants who came to this country? Why is it important to create monuments of this sort?
(Main Idea and Details)
2. How would you feel if your parents told you they were sending you to a foreign country (a country where you didn't speak the language) and you needed to find a place to live, get a job, and send money home? What would you do in your new country? *(Apply/Synthesize)*
3. Ellis Island is part of the Statue of Liberty National Monument. Are there any other buildings or places that you think should be made into national monuments? Give reasons for your answer. *(Evaluate)*



Ellis Island

The Golden Doors

by Louise Orlando

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Introduction

Think about this: Between 1892 and 1954 over 12 million people entered the United States through Ellis Island. Today about 40 percent of the U.S. population are descended from that group. It's very likely that someone in your family or one of your classmates' families passed through Ellis Island on their way to a new life in a new world.

Ellis Island



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Glossary

ancestor (*AN-ses-tur*) someone whom you are descended from or related to (**page 18**)

artifact (*AHR-ti-fakt*) an old tool, weapon, or other thing made by people in the past (**page 10**)

deport (*di-PAWRT*) to make a person return to his or her own country (**page 12**)

detain (*di-TAYN*) to hold back (**page 13**)

emigrate (*EM-i-grayt*) to leave one's own place or country to live in another (**page 7**)

equality (*i-KWOL-i-tee*) the quality or condition of being equal, having the same rights and duties (**page 4**)

freedom (*FREE-duhm*) the right to do and say what you like (**page 8**)

immigrant (*IM-i-gruhnt*) someone who settles in a new country (**page 4**)

immigrate (*IM-uh-grayt*) to settle in a new country (**page 7**)

landmark (*LAND-mahrk*) an important building, structure, or place (**page 16**)

monument (*MON-yuh-muhnt*) a building, statue, or other object made to honor a person or event (**page 16**)

persecution (*pur-si-KYEW-shuhn*) making a group of people suffer cruel or unfair treatment (**page 3**)

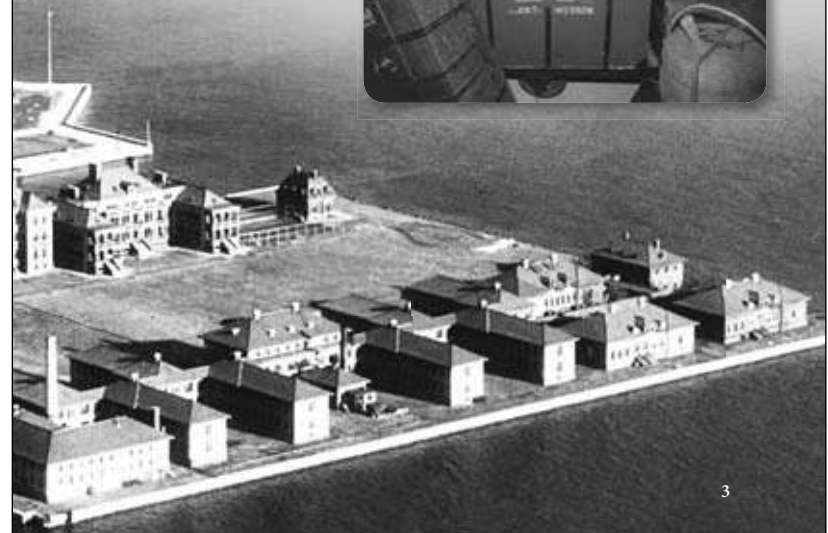
poverty (*POV-ur-tee*) the condition of being poor (**page 3**)

restoration (*re-stawr-AY-shun*) to bring a structure, such as a building, back to its original condition (**page 16**)

tribute (*TRIB-yewt*) something done or given to show thanks or respect (**page 18**)

Why did so many people leave their homes? Why did they leave behind everything they knew? Why did they risk their lives and their families' lives to come to the United States? Many were escaping hunger, **poverty**, or religious and political **persecution**. The United States was their land of hope. Many thought the streets were paved with gold. That's why Ellis Island is called the "Golden Doors." Today's Ellis Island is a museum honoring this important part of our history.

These are some of the belongings that immigrants took with them on their voyage to the United States.



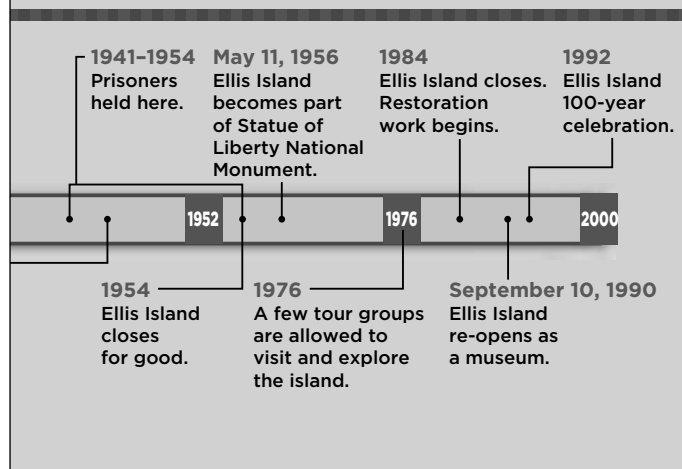
Island for Sale

To most **immigrants**, the United States was the land of opportunity. It was a place where **equality** for all was possible. To get there people saved everything they earned to buy a ticket on a ship. Some came alone and bid their families farewell forever. Others saved enough to bring their families. For most immigrants the preparation and the journey were not easy. But if it were not for these people (and the thousands who came before them and the thousands who came after), this country would not be what it is today.

🔊 For many years most immigrants entered the United States through New York Harbor.



🔊 Rows of faces create the stripes of an American flag at the Ellis Island Immigration Museum.



Conclusion

Over 100 million Americans can trace their ancestry in the United States to a man, woman, or child who passed from a steamship to a ferry to the inspection lines at Ellis Island.

History of Ellis Island

Ellis Island wasn't always the best place to be. But for most people, those golden doors swung open and welcomed them. Newcomers suddenly had a chance to succeed in ways they never thought possible. And their contributions made the United States into what it is today.

Ellis Island 1890-2000

April 11, 1890
Ellis Island is made into an immigration station.

1897
Fire destroys original pine buildings.

1917-1919
Some buildings used as hospital and offices for Navy.

January 1, 1892
Annie Moore, age 15, from Ireland, is the first immigrant to enter through Ellis Island.

1900
Ellis Island re-opens.

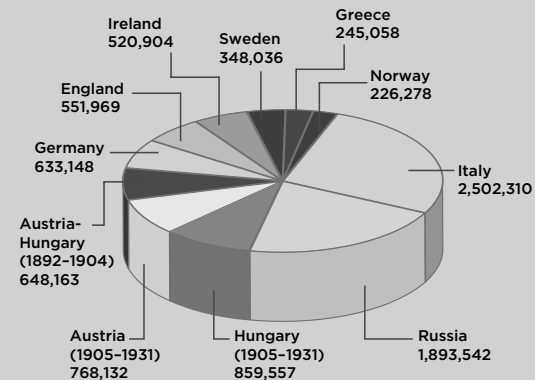
1909-1946
Some buildings are used as Coast Guard Station.

Where They Came From

(between 1892 and 1931 unless otherwise noted)

From 1892 to 1954, most immigrants who arrived at Ellis Island came from these countries.

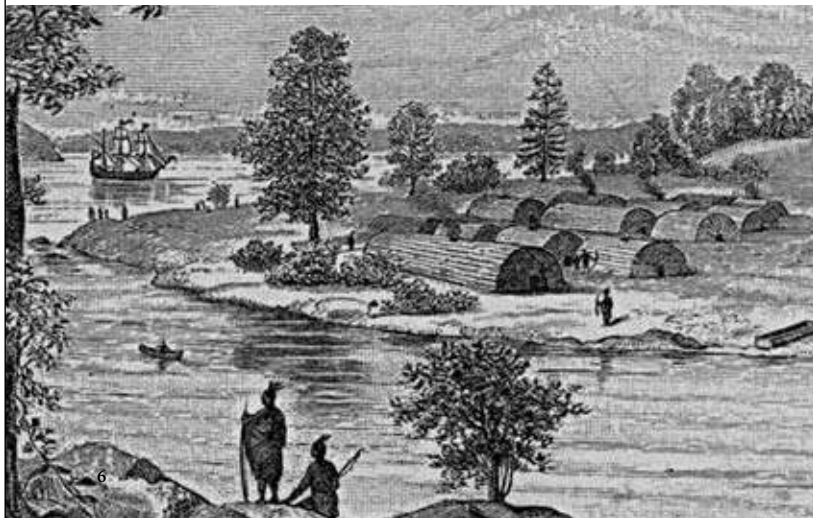
Austria	Greece	Scotland
Belgium	Hungary	Spain
Bulgaria	Ireland	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Norway	The Netherlands
England	Poland	The West Indies
Finland	Portugal	Wales
France	Romania	Yugoslavia
Germany	Russia	



Ellis Island wasn't always the entrance to the United States. The island was once called Gull Island. It is located in New York Harbor. Later, colonial settlers renamed it Oyster Island after they found tasty oysters there.

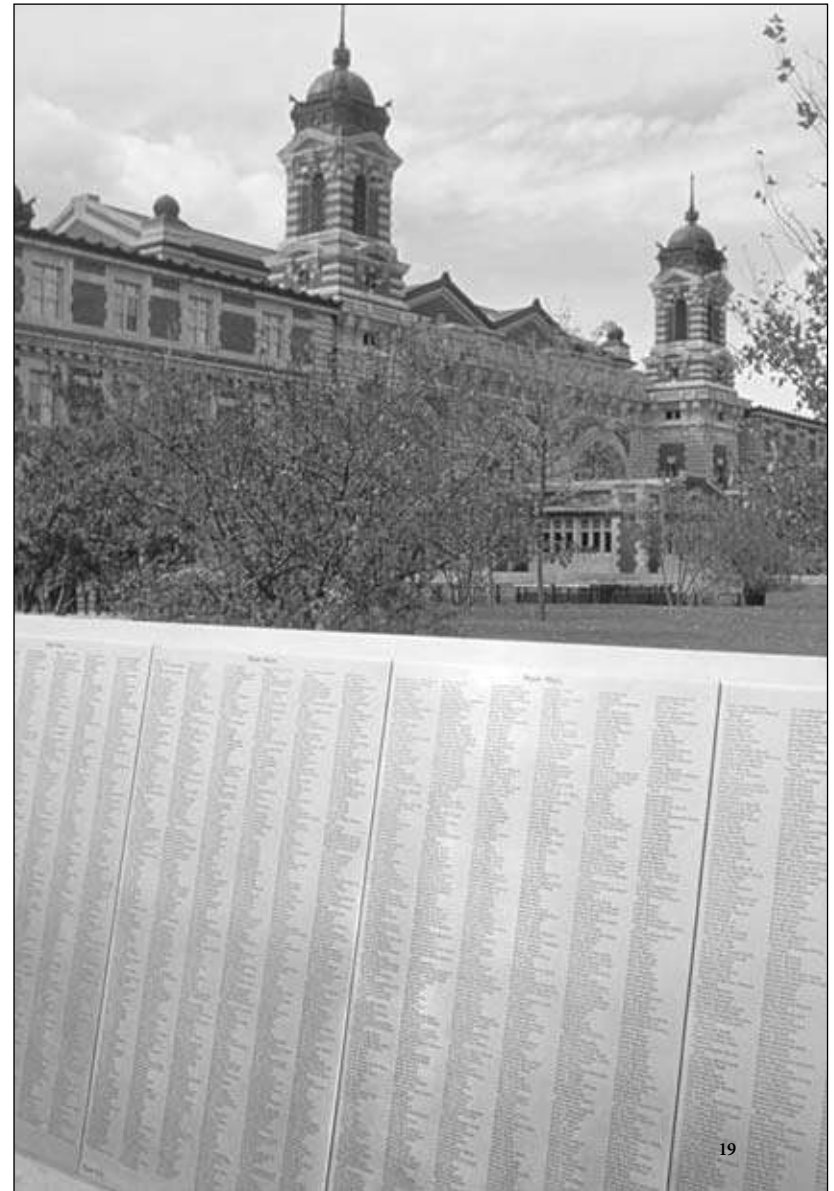
The island got its final name from Samuel Ellis. He owned the island in the late 1700s. He tried to sell it to New York, without success. New York purchased it only after he died. By 1808 the island was up for sale again. This time the buyer was the United States government. It paid New York \$10,000 for the site.

🕒 Long ago many Native Americans fished in the harbor.



© Macmillan/McGraw-Hill

Ellis Island: The Golden Doors



Not everything on Ellis Island is old. People wanted to find a special way to honor the important contributions our immigrant **ancestors** made to this country. So the American Immigrant Wall of Honor was built. It is one of the largest **tributes** to immigrants in the world. The wall has over 600,000 names on it. These are not just people who came through Ellis Island. Any immigrant can be listed on the wall. And the number of names on the wall continues to grow. That's because many living children and grandchildren of immigrants give gifts to add names.

The site for the wall was carefully chosen. It was built to face the Statue of Liberty and the New York skyline. The Statue of Liberty continues to stand for freedom and opportunity for immigrants. And the newcomers' first view of their new land was of the buildings and lights of New York City. This view gave thousands hope for a better life. Today people visit the wall to read the names of their relatives.

Ellis Island is also a place where people can research their family's history. It's even possible to do this kind of research online.

The American Immigrant Wall of Honor ➡
honors our immigrant ancestors.

Coming to the United States

To **immigrate** to the United States, you needed money. You had to pay for your passage by ship. And then you needed money to start life in a new country. Most families could only afford to send one family member. Some sent the head of the household. Others sent the eldest son or daughter. And some lucky families came all together. For most it was important to find a job quickly. Then money could be sent home so others could follow.

In 1890 Ellis Island became an official port of entry for people coming to this country. By the end of 1891, the main building had been completed. On January 1, 1892, Annie Moore, an Irish teenager, made history. She was the first immigrant to pass through Ellis Island.

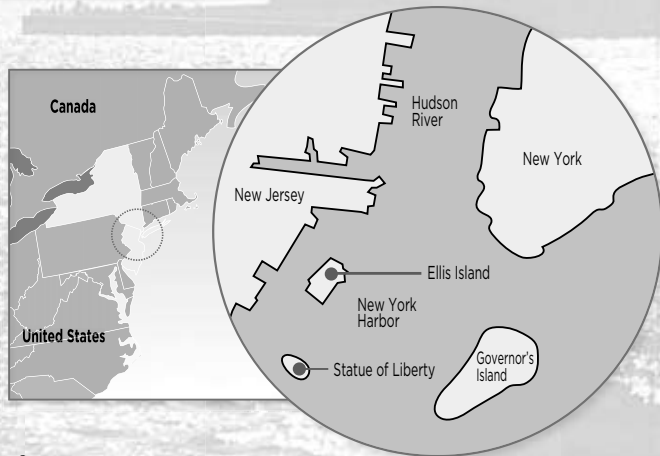


Passports like this ➡
one helped people
show where they
came from. Most
did not speak
English.

Sailing into New York Harbor

The first thing people saw as they sailed into New York Harbor was the Statue of Liberty. Many cried. For them the Statue stood for **freedom**.

But their journey was far from over. The immigrants had to get off the ship and be ferried to Ellis Island. As many as 20,000 people waited to board the ferry. Not all passengers had to wait. Cabin-class passengers were swept through immigration almost immediately.



➤ The restored Great Hall shines for tourists visiting Ellis Island.

Early Repairs

The ceiling in the Great Hall suffered severe damage in 1916. It was rebuilt in 1917 by Rafael Guastavino, Jr., a Spanish immigrant who arrived here in 1881 with his father. Guastavino used a special tiling technique to rebuild the ceiling. During the 1980s restoration, the ceiling was cleaned and inspected. Only 17 of the 28,832 tiles had to be replaced!

The Restoration

By 1924 the number of immigrants passing through Ellis Island started to drop. Nearly 20 years later, parts of Ellis Island were being used for other purposes. As an immigration port of entry, Ellis Island shut its doors in 1954.

Ellis Island was left to fall to pieces. Many of the nearly three dozen buildings on the island fell apart. Then people realized that Ellis Island was an important part of America's history. It should not be forgotten. In 1965 President Lyndon Johnson made Ellis Island part of the Statue of Liberty National **Monument**. But it wasn't until 1983, when enough funds were raised, that **restoration** of this historic **landmark** began.

The restoration cost nearly \$160 million. It took almost eight years to complete. The museum is now the fourth largest in New York City. It plays host to nearly two million visitors a year. That's twice the number of people that entered in 1907, a peak immigration year.

A Famous Immigrant

The Statue of Liberty was a gift from France to the United States. The statue was designed and built in France. Then it was taken apart, packed into 214 crates, and sent by ship to New York. After a month-long trip, the Statue reached New York. Then it was put back together. The statue was dedicated on October 28, 1886. Today Liberty still stands as a proud symbol of freedom.

These words are part of the poem, "The New Colossus" by Emma Lazarus, written in 1883. The entire poem is carved on the statue's base.

*"Give me your tired,
your poor,*

*Your huddled masses
yearning to breathe free,*

*The wretched refuse of your
teeming shore.*

*Send these, the homeless,
tempest-tost, to me,*

*I lift my lamp beside the
golden door!"*



When you finally reached Ellis Island, you saw the large Main Building. You stepped through its doors to enter the Baggage Room.

Imagine that you are one of the new arrivals. You've just been on a ship for a couple of weeks. You were most likely hungry and uncomfortable the entire trip. You just need to get through this huge building.

But then a man taps your arm. He talks to you in a strange language. There's a lot of pointing. He's telling you to leave all your belongings—everything you own—on the floor. And this is just the start of your trip through immigration. From here you must make your way up the many steps to the second-floor Registry Room.

The Registry Room is huge. Again, imagine stepping inside the Hall. You hear dozens of languages. Will you be allowed to stay?



📍 If you visit Ellis Island now, you can see many exhibits that contain actual **artifacts** of things brought to America and photographs of the time as well.

Angel Island

Not all immigrants came through Ellis Island. When new immigrants arrived in California, they stopped at Angel Island in San Francisco Harbor. About 300,000 new arrivals from Russia, Australia, China, Japan, and other countries went through the immigration station on Angel Island.

But Angel Island was different from Ellis Island. It was much more difficult for people to come into the United States through Angel Island.

This was especially true for people from China. In 1882 the United States passed a law that allowed only a small number of Chinese immigrants to enter the country each year.

At Angel Island, new arrivals from China were usually held for at least two weeks. Families were separated. Everyone lived in crowded dorm rooms. Before they were allowed to leave Angel Island, the new immigrants were questioned closely. Up to 30 percent of new arrivals were deported.

The Angel Island Immigration Station was closed in 1940. Three years later, the law restricting Chinese immigration was finally changed.

The long lines moved slowly through the Registry Room. The tests were not over. Next the newcomers had to answer a series of questions. *How old are you? Where are you from? What was your occupation? Where are you going?* Some of the questions were really tests. A newcomer was given a simple direction to read in his or her own language. The direction might be something like “Scratch your left ear.” If the person followed the direction, the inspector knew that the person could read. The questions were designed to weed out immigrants who might become a burden on society.

The lucky ones finally completed all their “tests” successfully. These happy people were taken through a door labeled *PUSH TO NEW YORK*. They were ready to begin a new life in the United States.



🕒 This family passed all the tests. Now they will settle in New York City.

What They Said

Sophia Kreitzberg, a Russian immigrant who arrived in 1908, recalled her time on the ship:

“The atmosphere was so thick and dense with smoke and bodily odors that your head itched, and when you went in to scratch your head. . . . you got lice in your hands.”

🕒 This is the Great Hall of Ellis Island. The Registry Room is on the second floor. There immigrants had to pass tests to stay in the United States.



The Golden Doors

It's astonishing to think that 12 million people stepped through the so-called "golden doors" of Ellis Island. About two percent were **deported**, or sent home. If inspectors thought that someone might become a burden on society, he or she was sent back home. Immigrants were also sent home for medical and political reasons.

🔊 People first had their eyes checked. Most immigrants passed the physicals. Only two out of every hundred were sent home.



What They Said

Anne Vida, a Hungarian immigrant in 1921, remembers how numbered tags were pinned to their clothes.

"We had all sorts of tags on us. . . . We must have looked like marked-down merchandise from the basement of a department store or something."

The immigrants had to pass through what was known as the "six-second exam." Inspectors watched as people came off the ferry, walked through the doors, and up the stairs. If a person coughed, scratched, or squinted, he or she might be marked with a large chalk letter. Head scratching might get you an "L" on your jacket for lice. Other letters included "H" for heart and "E" for eyes. But the most dreaded letter of all was "X." An "X" was written on you if an inspector felt you had a "feeble mind." Skin rashes, lice, or other curable diseases just meant you would be **detained**. That meant spending a few days or weeks in the Ellis Island infirmary. But an "X" usually meant immediate deportation.



🔊 Immigrants brought their own ways of doing things to the United States.



Home-School Connection

Word Workout

WORDS TO KNOW

purchased elegant forbidden gossiped
hesitation irresistible mischievous reluctant

One Word Story Let's choose one word on the list that we can use as the base for a story. Then we'll make up sentences with all the words to complete the story.

SPELLING WORDS

force	scorn	sword	swore	source
course	coarse	chart	barge	harsh
marsh	starch	heart	scarce	squares
swear	flare	aboard	fare	thorn

Spell Me a Sound I'm going to pronounce two spelling words, such as **flare** and **square**, that have the same vowel sound. Spell the two words on a piece of paper and tell me what letters stand for the vowel sound.

Dear Family Member:

Children do have sympathy for other children. José Manuel has to watch the other children play because his grandmother believes it is too dangerous on the street. Three sisters feel sorry and are determined to find a way to change the grandmother's mind. That is the problem, and now I want to know what steps they take to solve it. The author of *The Night of San Juan* makes readers feel for José and makes them hope the sisters are successful.

This Week's Skills

Comprehension: problem and solution

Vocabulary: suffixes

Spelling/Phonics: words with vowels plus r



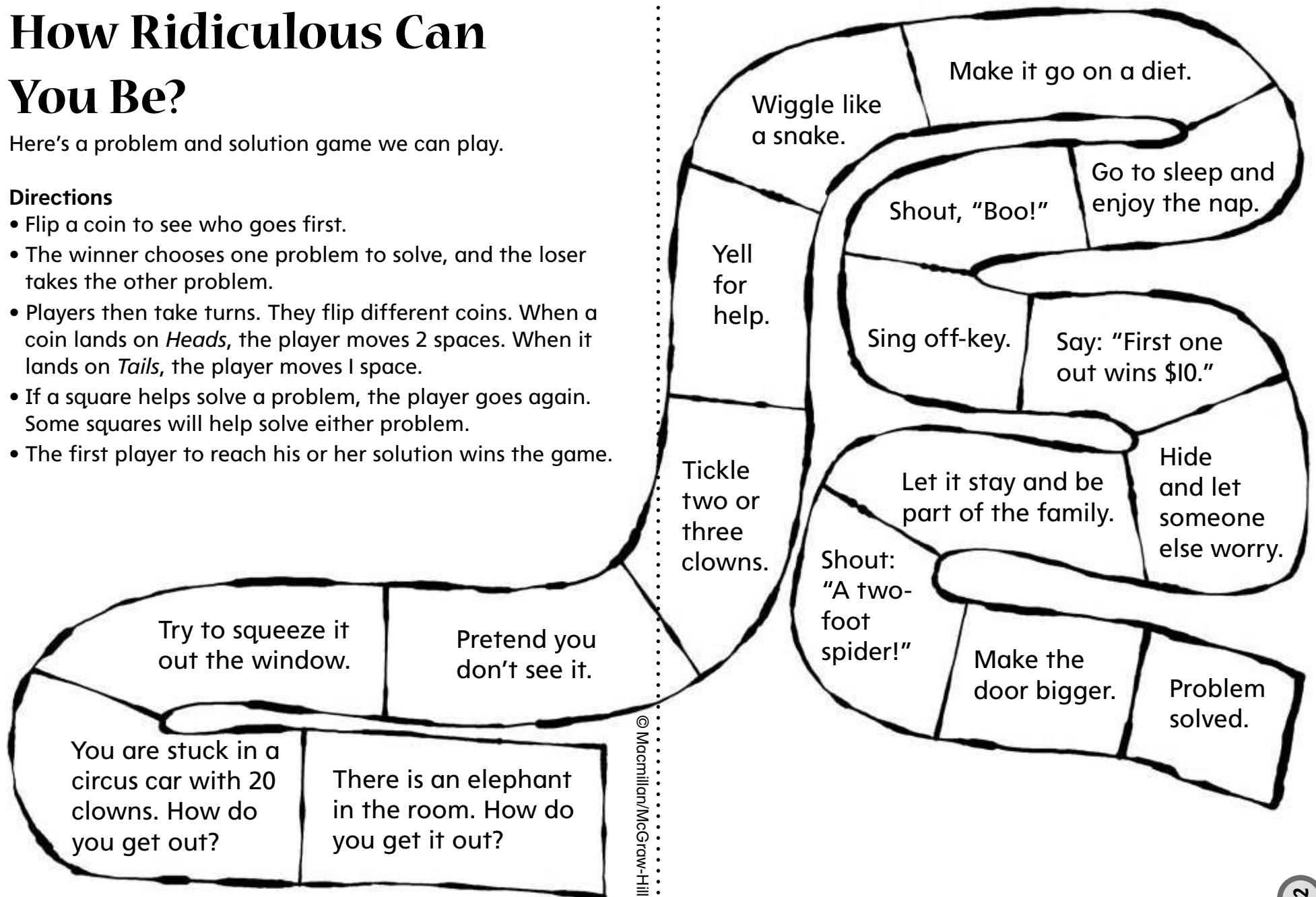
Name _____

How Ridiculous Can You Be?

Here's a problem and solution game we can play.

Directions

- Flip a coin to see who goes first.
- The winner chooses one problem to solve, and the loser takes the other problem.
- Players then take turns. They flip different coins. When a coin lands on *Heads*, the player moves 2 spaces. When it lands on *Tails*, the player moves 1 space.
- If a square helps solve a problem, the player goes again. Some squares will help solve either problem.
- The first player to reach his or her solution wins the game.



Ejercicio de palabras

PALABRAS DE VOCABULARIO

purchased elegant forbidden gossiped
hesitation irresistible mischievous reluctant

Un cuento de una sola palabra Vamos a escoger una palabra de la lista que podamos usar como la base del cuento. Luego, armaremos oraciones con todas las palabras para completar el cuento.

PALABRAS DE ORTOGRAFÍA

force	scorn	sword	swore	source
course	coarse	chart	barge	harsh
marsh	starch	heart	scarce	squares
swear	flare	aboard	fare	thorn

Deletrea un sonido Voy a pronunciar dos palabras de ortografía, como **flare** y **square**, que tienen el mismo sonido de vocal. Escribe las dos palabras en una hoja de papel y dime a qué letras corresponde el sonido de la vocal.



Conexión con el hogar

Queridos familiares:

Los niños sienten compasión por otros niños. José Manuel sólo puede ver cómo los otros niños juegan porque su abuela cree que es muy peligroso jugar en la calle. Hay tres hermanas que se sienten tristes por él y están decididas a encontrar una manera de cambiar la forma de pensar de su abuela. Éste es el problema y ahora quiero saber qué pasos van a seguir para resolverlo. El autor de *The Night of San Juan* hace que los lectores sientan compasión por lo que le pasa a José y que deseen que las hermanas logren lo que se proponen.

Destrezas de la semana

Comprensión: problema y solución

Vocabulario: sufijos

Ortografía/Fonética: palabras con el sonido de las vocales más r



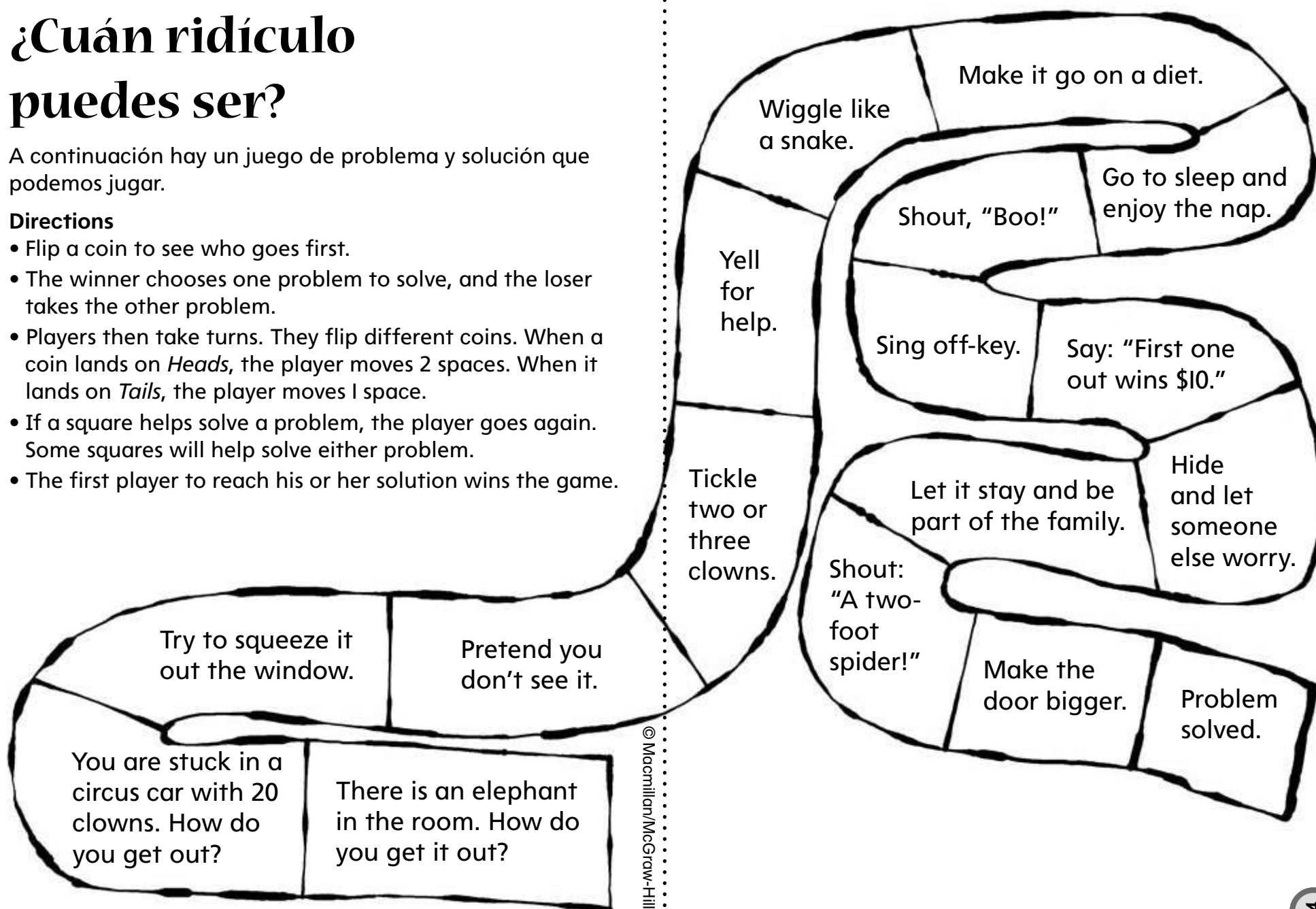
Nombre _____

¿Cuán ridículo puedes ser?

A continuación hay un juego de problema y solución que podemos jugar.

Directions

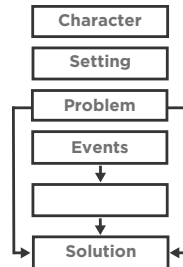
- Flip a coin to see who goes first.
- The winner chooses one problem to solve, and the loser takes the other problem.
- Players then take turns. They flip different coins. When a coin lands on *Heads*, the player moves 2 spaces. When it lands on *Tails*, the player moves 1 space.
- If a square helps solve a problem, the player goes again. Some squares will help solve either problem.
- The first player to reach his or her solution wins the game.



Comprehension Check

Summarize

What problem did Soledad face in this story? What did she do to solve the problem? Use the Story Map to summarize the story.



Think and Compare

1. Turn to pages 11 and 12. What did Antonio do to help Soledad? **(Problem and Solution)**
2. Would you like to live on a farm? Explain your answer. **(Apply)**
3. Why is it important for people to stand up for their beliefs? **(Synthesize)**

Where We Belong

by Yanitzia Canetti
illustrated by Nicole Wong

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Chapter 1

The Forgotten Land

Soledad would roll out of bed each and every morning, even before the rooster started crowing. She would grab her backpack. Then she'd give her grandfather Sebastián a goodbye kiss and set off on a one-hour march down a dusty road.

Soledad took the same road to school each day. She always found something new along the way. Sometimes it was the way the sun sparkled on some bright green leaves. Another time it might be a bird singing a song.

Some days the walk to school seemed to take forever. The hot sun would beat down on Soledad and the dusty road. So she would stop to rest under a *ceiba* (SAY-bah) tree. She loved observing everything around her. A short distance away, Soledad might spot a pair of mischievous lizards chasing each other in circles at the edge of the dirt road.

After a few more days of rest on the farm, *don* Sebastián got up early one morning. He and Soledad went out to saddle his favorite horse. He got up on the horse and helped Soledad climb on with him. They enjoyed the beautiful sunrise together as they rode out into the fields for a long day of work.

Don Sebastián saw men already working in his fields. He turned to Soledad and asked her what was going on. As they got closer, he recognized the faces of many old friends. Everyone stopped what they were doing to greet Soledad and her grandfather and welcome him home.

Soledad explained to her grandfather what had happened while he was away and that many friends came to help in their time of need. An old friend added that if Soledad had enough help, then *don* Ricacho could never carry out his plans.

Don Sebastián looked at his old friends and nodded his head in a gesture of thanks. He looked at Soledad and realized that she was the most precious gift anyone could have—more precious than all the land in the world.

Soledad and *tía* Lucrecia helped grandfather into the house. Later, as they were eating lunch, *tía* Lucrecia chatted with her father. She told him how they could be rich. They could have mountains of money. All they had to do was sell the little farm. *Tía* Lucrecia began to explain why they should sell. She talked to her father as if he were a child. Soledad wondered how her grandfather would react, for he loved his daughter very much.

Don Sebastián looked at his daughter with a smile on his face. He explained that there are some things that money can't buy. He had worked hard his entire life on his land so that it would produce good crops. He continued by saying that he would never sell his farm to *don* Ricacho or to anyone else. Soledad just stared at her grandfather without saying a word. She was proud that he stood up for what he believed. Soledad realized that there was no way that *tía* Lucrecia could sell the farm.

One hot day Soledad daydreamed while a pair of multicolored butterflies tried to land on her dark curly hair. Just then an old pickup truck packed full of workers rattled by as *bachata* (bah-CHA-tah) music blared from the windows.

The sudden racket shook Soledad from her trance. She knew that she had to hurry to get to school on time. She still had about a half-hour walk before arriving at class. And after class, her day was not over, for she had to walk home as fast as she could so that she could help her grandfather in the fields.

When Soledad returned home from school, she greeted her grandfather with a big hug and a kiss on the cheek. Her grandfather had just prepared a pitcher of fresh mango juice. He did this each afternoon. This way he and Soledad shared a cool drink before heading to the fields.

As Soledad was pouring a glass of juice for her grandfather, she turned to him and asked why he liked living so far from everything. Her grandfather took a sip from his glass and replied, "I'm not far from anything. I am close to the fields that I love to work in, the same fields that give us food. I love this land, Soledad; my whole life is rooted right here. I want to stay here forever."

Chapter 6

Welcome Home

A few more weeks went by, and *tía* Lucrecia finally got news from the hospital. Soledad's grandfather was well enough to come back to the farm. Soledad thought about how much she had missed her grandfather over the past few weeks.

The next day her grandfather came home. He looked a lot thinner than when he left, but Soledad noticed that he had a special glimmer in his eyes. He was happy to be home. Soledad was reluctant at first to approach her grandfather because she was afraid she would hurt him. Finally, she ran up to him and gave him a big hug. Soledad whispered to her grandfather how much she had missed him. "And I missed you too, dear," he replied. "It's good to be back where I belong."



The beautiful presents seemed irresistible. Soledad thought about how she had always wanted a new bike and a stereo.

“Do you like your gifts?” *don* Ricacho asked. “All of this could be yours. Just talk your *abuelo* into selling this land to me.”

Without hesitation Soledad refused the gifts. She had promised herself that she would help her grandfather first. Although the gifts were very tempting, Soledad realized that *don* Ricacho was just trying to bribe her. He left angrily. Soledad smiled as dust from the road covered his shiny new car.



Chapter 2

Something in the Sky

They finished their juice and headed to the fields. It was a hot day so the two worked slowly. Soledad and her grandfather weeded their tomato field. Then they picked the ripe tomatoes. Soledad loved the smell of the fresh tomatoes.

The two worked for hours. When Soledad looked up at the sky, she noticed that the sun had turned pale. The sky had become blotchy with clouds of various shades of red and violet. Soledad called to her grandfather and pointed to the sky.

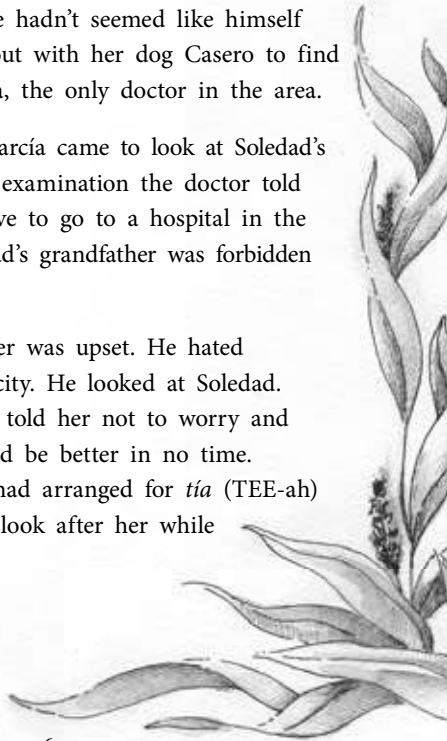


"Look, *abuelo* (ah-BWAY-loh), the sky looks troubled," Soledad said. But he didn't seem to hear her. Soledad noticed that her grandfather had a weak look in his eyes. He looked like he wasn't feeling well. So Soledad told him that he must go back to the house.

Soledad helped her grandfather down to the house. He rested in the living room. Soledad was worried about him. He hadn't seemed like himself lately, so Soledad set out with her dog Casero to find *señor* (sen-YOR) García, the only doctor in the area.

That evening Dr. García came to look at Soledad's grandfather. After the examination the doctor told him that he would have to go to a hospital in the capital. For now Soledad's grandfather was forbidden to work in the fields.

Soledad's grandfather was upset. He hated hospitals and the big city. He looked at Soledad. She looked scared. He told her not to worry and promised that he would be better in no time. Soledad's grandfather had arranged for *tía* (TEE-ah) Lucrecia to come and look after her while he was away.



The next day Soledad saw *don* Ricacho and two other men coming towards the house. They were driving a shiny new car. Soledad watched them get out of the car and walk to the house. *Don* Ricacho had an evil smile on his face, but Soledad knew that he could not trick her.

"*Buenos días* (BWE-nos DEE-ahs), Soledad," *don* Ricacho greeted her. Soledad nodded and opened the door for the three men. She offered them a glass of water. She would not share her mango juice with them. They said, "No, thank you." And then *don* Ricacho told Soledad to come and see what he had purchased for her. They all went back to the car, and he opened the trunk. She couldn't believe her eyes. There was a new bike and a new stereo in front of her, just waiting for a new owner.





Chapter 5

A True Gift

Soledad left the fields for a moment to go to the house to get a pitcher of mango juice for her friends. *Tía* Lucrecia peeked out from the kitchen window with a furious look on her face. "Do you think you can save the farm with all your little helpers?" she yelled. "You're wrong!" Then Soledad's aunt told her that she was going to sell the farm no matter what. She stomped her tiny foot. Then she said that she would use the money to open a beauty salon.

Soledad just smiled sweetly at her aunt. She told her *tía* Lucrecia, in a voice so soft that her aunt had to lean into her to hear, that her grandfather would never sell the farm. He loved the farm with all his heart. It would be waiting for him when he got out of the hospital. "You silly child, you can't stop me," cried her aunt. But Soledad just kept smiling. She walked back to her friends.

Soledad's *tía* Lucrecia arrived from the capital the next day. Soledad greeted her aunt with the usual hug. Soledad was glad that her aunt had come because she would be able to help her on the farm. Soledad had promised her grandfather that she would take care of things on the farm while he was in the hospital.

"I'm not going to help you do anything on this dirty farm. I'll break one of these," *tía* Lucrecia scowled and held up a hand with long, beautiful nails. Her nails were painted a deep red. The red was darker and deeper than the tomatoes in the fields. Soledad did not say anything. She helped *tía* Lucrecia with her bags.

Soledad worked in the fields after school every afternoon until well past nightfall. She soon realized that she had too much work to do. She would have to stay home from school to keep up with the chores. Besides, *tía* Lucrecia was no help at all. While Soledad worked, *tía* Lucrecia gossiped with her friends on the telephone. Sometimes Lucrecia would invite her friends to the house and chat with them over a cup of coffee.

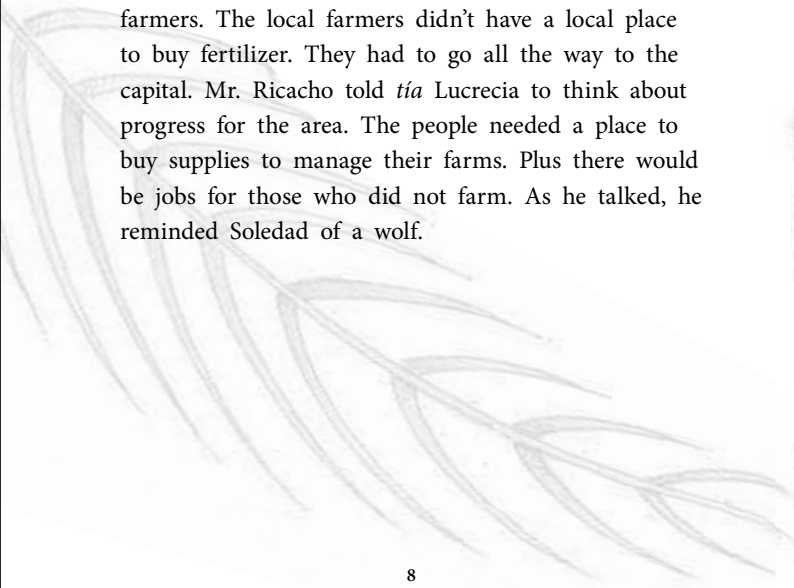


Chapter 3

It's Not for Sale!

One day a local rancher named Mr. Ricacho came to the farm. He wore an elegant suit. He liked people to know he was rich.

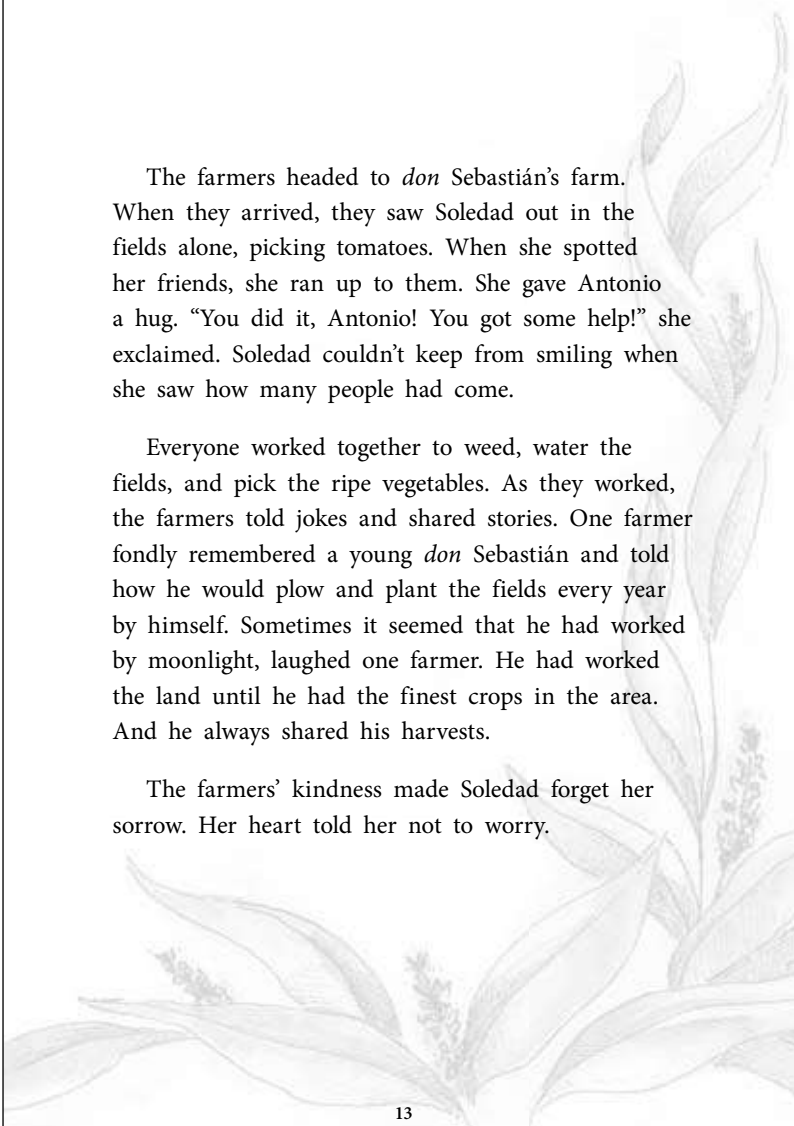
He walked up to the door, and *tía* Lucrecia invited him into the house. Once inside, he told *tía* Lucrecia that he wanted to make her an offer she couldn't refuse. He wanted to buy the farm. He planned to build a fertilizer plant where the farm was in order to sell his products to the local farmers. The local farmers didn't have a local place to buy fertilizer. They had to go all the way to the capital. Mr. Ricacho told *tía* Lucrecia to think about progress for the area. The people needed a place to buy supplies to manage their farms. Plus there would be jobs for those who did not farm. As he talked, he reminded Soledad of a wolf.

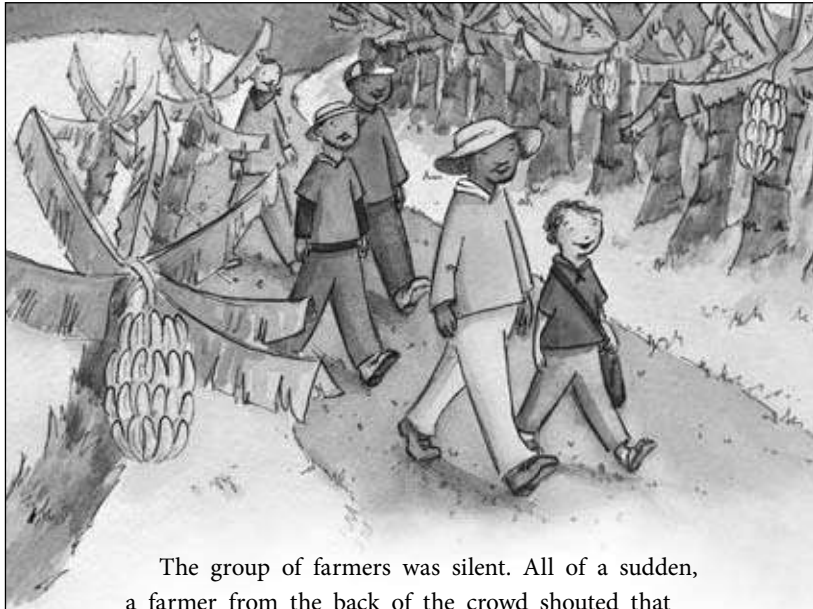


The farmers headed to *don* Sebastián's farm. When they arrived, they saw Soledad out in the fields alone, picking tomatoes. When she spotted her friends, she ran up to them. She gave Antonio a hug. "You did it, Antonio! You got some help!" she exclaimed. Soledad couldn't keep from smiling when she saw how many people had come.

Everyone worked together to weed, water the fields, and pick the ripe vegetables. As they worked, the farmers told jokes and shared stories. One farmer fondly remembered a young *don* Sebastián and told how he would plow and plant the fields every year by himself. Sometimes it seemed that he had worked by moonlight, laughed one farmer. He had worked the land until he had the finest crops in the area. And he always shared his harvests.

The farmers' kindness made Soledad forget her sorrow. Her heart told her not to worry.





The group of farmers was silent. All of a sudden, a farmer from the back of the crowd shouted that he would help *don* Sebastián. He added that *don* Sebastián was a good friend. He couldn't just stand by and watch *don* Ricacho buy that farm and turn it into a factory. The others agreed. They had to make a plan.

"We can form a team and work together to save his farm," Antonio said. First one farmer stood up and said that he would help. Then another stood up and then a third. Soon the whole village seemed ready to help. They would weed the fields. They would pick the vegetables. Antonio and his father led the way.

Tía Lucrecia looked *don* (DOHN) Ricacho in the eye with a greedy grin on her face. She fanned herself and smiled at him. She was sure that they would be able to come to an agreement.

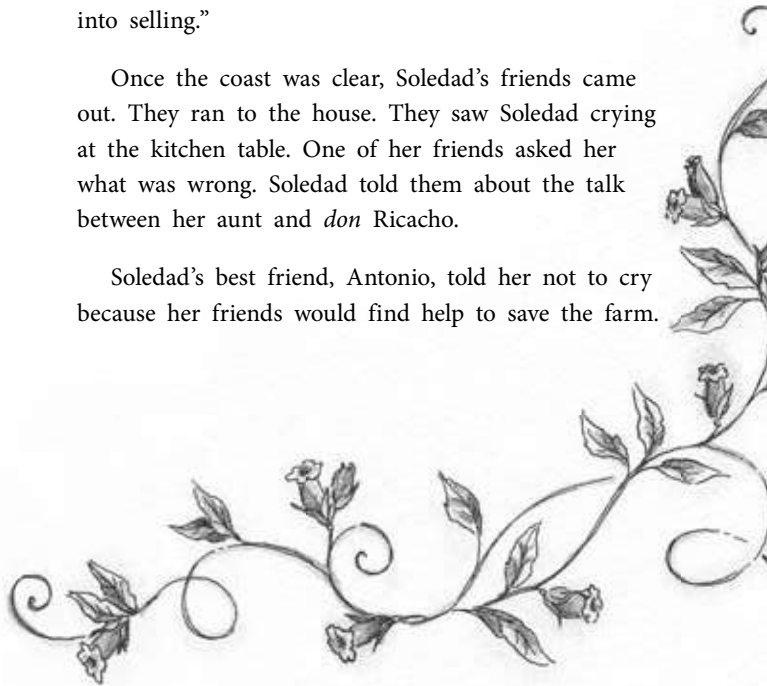
Soledad overheard the entire conversation between her aunt and *don* Ricacho. She knew that she could not let her aunt sell the farm. Suddenly, Soledad burst into the living room. "The farm's not for sale!" she shouted. She knew that her grandfather would never sell his beloved farm. She warned *don* Ricacho that if he didn't leave, then she would let her dog Casero go after him.



Some of Soledad's friends were on their way down the road to visit Soledad. They spotted *don* Ricacho and *tía* Lucrecia coming out of the house. The two were talking in low voices. Soledad's friends knew they were up to no good so they hid in some nearby bushes. They heard *tía* Lucrecia say: "Don't worry, *don* Ricacho, she's just a little girl. I'll talk my father into selling."

Once the coast was clear, Soledad's friends came out. They ran to the house. They saw Soledad crying at the kitchen table. One of her friends asked her what was wrong. Soledad told them about the talk between her aunt and *don* Ricacho.

Soledad's best friend, Antonio, told her not to cry because her friends would find help to save the farm.



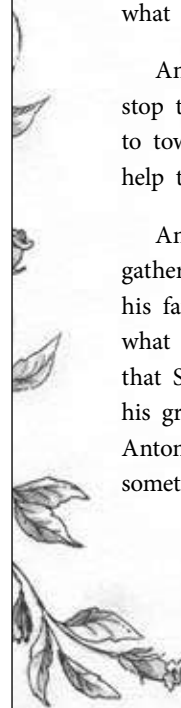
Chapter 4

Together Is Better

The next day Soledad's friends told their parents what they had heard. Antonio said that Soledad's aunt would sell the farm if they did not act. But what could they do?

Antonio and his father discussed how they could stop the factory from being built. They decided to go to town to seek help. Maybe the other farmers would help them.

Antonio and his father spotted a group of farmers gathered on the steps of the church. Antonio and his father walked up to them. They told the men what was happening. Antonio's father explained that Sebastián was in the hospital, and Soledad, his granddaughter, was working in the fields alone. Antonio told the farmers that if they didn't do something, Soledad's grandfather would lose the farm.





Home-School Connection

Word Workout

WORDS TO KNOW

governor instruct navigation patriots
inspect stark tyrant

You've Got Spunk Give me the meaning of each word. Afterward, we can make up a story about a politician living in the 1770s.

SPELLING WORDS

squirm dreary nerve squirt
verse surf lurk swerve
stern spurts lurch blurt
thirst spur year engineer
jeer sneer clear years

Mixed Up! I'll write down the letters of a spelling word, but they'll be out of order. See if you can unscramble the letters to spell one of your words.

Dear Family Member:

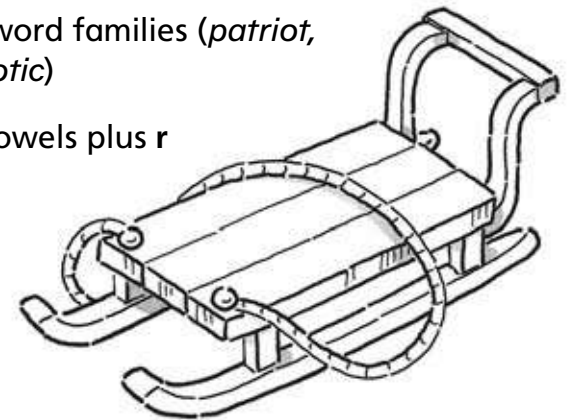
In *Sleds on Boston Common*, we are reading a story that takes place on December 22, 1774, in Boston. A young boy named Henry wants to try out his new sled on the steep hill of Boston Common. But British soldiers have pitched their tents on the slope. Henry dares to speak to the general about his problem. The general listens to Henry. I'm able to draw a conclusion at this point. I think the general might be a good person.

This Week's Skills

Comprehension: draw conclusions

Vocabulary: build word families (*patriot, patriotism, unpatriotic*)

Spelling/Phonics: vowels plus r



Name _____

(fold here)
© Macmillan/McGraw-Hill

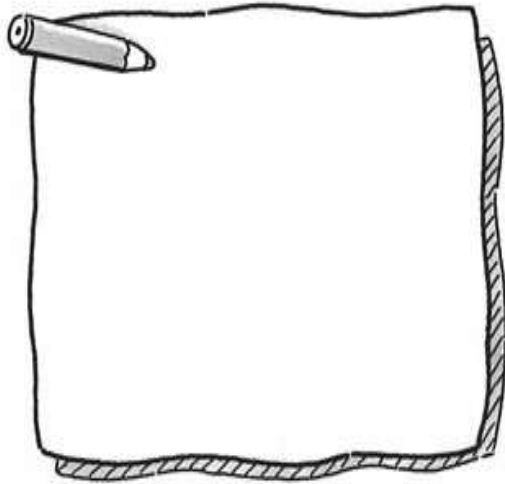
Clueless? Nope!

We can read each set of clues and see what conclusions we can draw from them. Let's write our conclusions in the boxes.

Clues

Everyone had an umbrella.

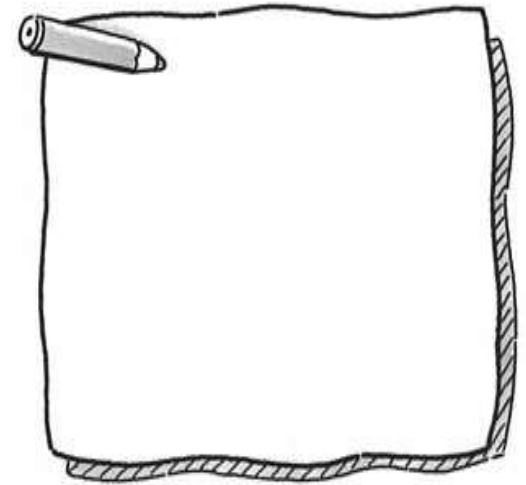
Ben ran to the bus so he wouldn't get too wet.



Clues

Jamal's family moved, and he hadn't made any friends.

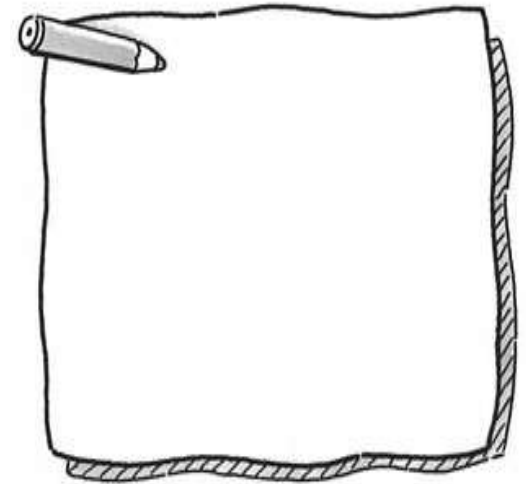
He stood in front of the pet store window.



Clues

The tires always needed air, and the bike chain was broken.

Ben wondered how much money he had.





Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

governor instruct navigation patriots
inspect stark tyrant

Tú tienes coraje Dime el significado de cada palabra. Después podemos escribir un relato acerca de un político que vive alrededor del año 1770.

PALABRAS DE ORTOGRAFÍA

squirm dreary nerve squirt
verse surf lurk swerve
stern spurts lurch blurt
thirst spur year engineer
jeer sneer clear years

¡A mezclar! Voy a escribir las letras de una palabra de ortografía, pero estarán en desorden. Veamos si puedes reordenar las letras para deletrear una de tus palabras.

(fold here)
© Macmillan/McGraw-Hill

Queridos familiares:

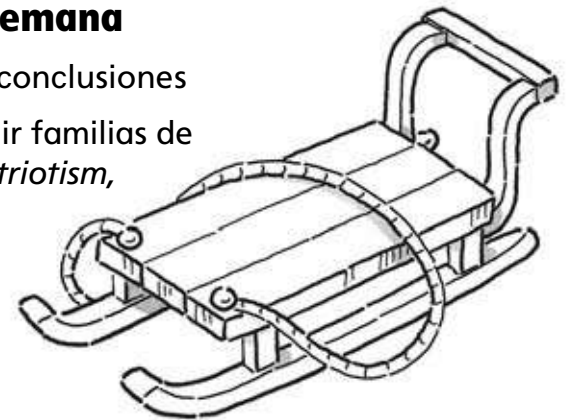
En *Sleds on Boston Common* estamos leyendo un relato que ocurre el 22 de diciembre de 1774, en Boston. Un niño que se llama Henry quiere probar su nuevo trineo en las empinadas colinas del parque Boston Common. Los soldados británicos han armado sus tiendas de campaña en la colina. Henry se atreve a hablar con el general acerca de su problema. El general lo escucha. Yo puedo sacar una conclusión en este momento. Pienso que el general debe ser una buena persona.

Destrezas de la semana

Comprensión: sacar conclusiones

Vocabulario: construir familias de palabras (*patriot, patriotism, unpatriotic*)

Ortografía/Fonética: vocales con r



Nombre _____

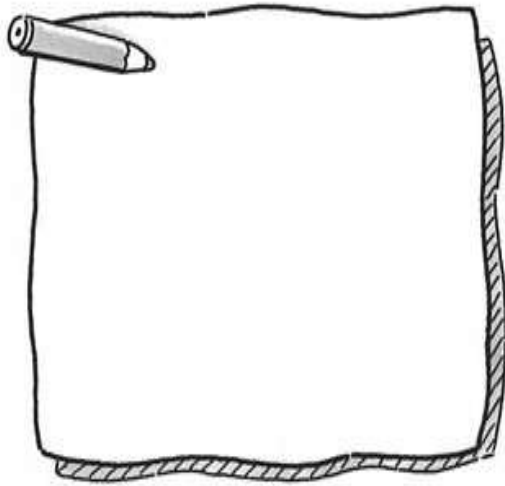
¿Sin pistas? ¡No!

Podemos leer cada grupo de pistas y ver qué conclusiones podemos sacar a partir de las mismas. Escribamos nuestras conclusiones en los recuadros.

Clues

Everyone had an umbrella.

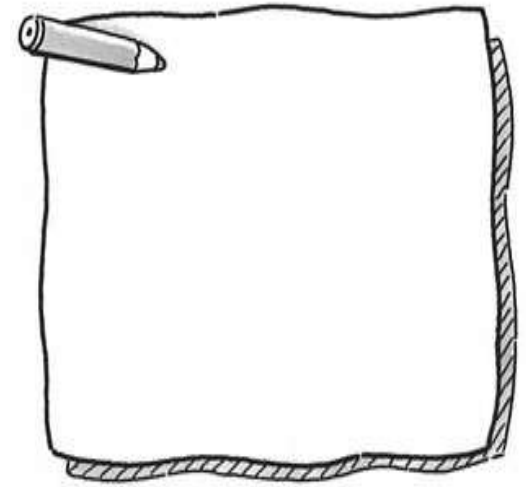
Ben ran to the bus so he wouldn't get too wet.



Clues

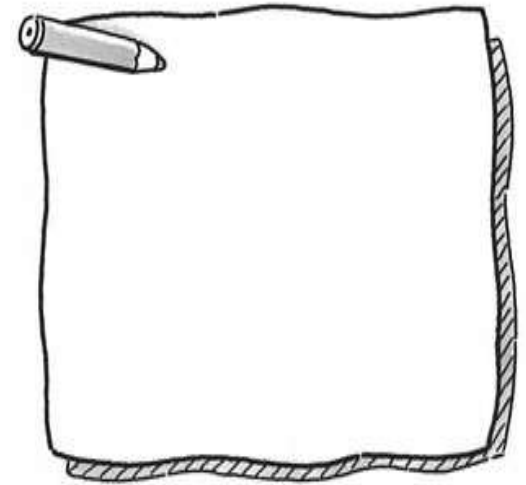
Jamal's family moved, and he hadn't made any friends.

He stood in front of the pet store window.



Clues

The tires always needed air, and the bike chain was broken. Ben wondered how much money he had.



Comprehension Check

Summarize

Use a Conclusion Chart to help you retell *The Shot Heard Around the World*. Tell what issues led the colonists to fight Great Britain.

Text Clues	Conclusion

Think and Compare

1. How did the British leave themselves open to danger on the return to Boston? **(Draw Conclusions)**
2. If you had been a Massachusetts farmer in 1775, do you think you would have joined the Minutemen? Why or why not? **(Evaluate)**
3. On page 20, Captain Levi Preston at age 91 instructs his interviewer on why he fought against the British on April 19, 1775. How are the ideals that Captain Preston and the other Patriots fought for still important today? **(Analyze)**



The Shot Heard Around the World

by Daniel Rosen

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Introduction

In 1765 British colonists had lived in the 13 **colonies** along the Atlantic coast of North America for more than 150 years. The colonies were territories controlled by Britain. Britain had just won an important war against France. With the help of the colonies, Britain had won control of more of North America.



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Glossary

arms (*ahrms*) weapons (**page 9**)

boycott (*BOI-kot*) an organized effort not to buy goods (**page 4**)

colony (*KOL-uh-nee*) territory controlled by another country (**page 2**)

delegate (*DEL-i-git*) representative (**page 9**)

demonstrate (*DEM-uhn-strayt*) to join together with other people to protest something (**page 4**)

equality (*i-KWOL-i-tee*) the same rights for everyone (**page 21**)

intolerable (*in-TOL-uh-ruh-buhl*) too hard to put up with, unbearable (**page 7**)

massacre (*MAS-uh-kur*) the brutal killing of a group of people (**page 5**)

Patriot (*PAY-tree-uht*) an American colonist who fought for independence from Britain (**page 8**)

rebel (*REB-uhl*) someone who fights against a government (**page 16**)

redcoat (*RED-koht*) a name for a British soldier, who wore a red coat as part of his uniform (**page 16**)

repeal (*ri-PEEL*) to do away with something officially (**page 4**)

representative (*REP-ri-ZEN-tuh-tiv*) someone who is chosen to speak or act for others (**page 3**)

treason (*TREE-zuhn*) the act of betraying one's country to an enemy (**page 9**)

tyrant (*TIGH-ruhnt*) someone who rules other people in a cruel or unjust way (**page 7**)

Life in the colonies was changing. Roads had been built connecting the cities. The colonies were trading with one another more. People and ideas were moving along with goods. These changes had made the ties among the colonists stronger. They were beginning to feel more American than British.



Colonists had to buy special stamps for newspapers, legal papers, and even playing cards.

Then, in 1765, the British passed the Stamp Act. It was one of the taxes that the British were using to help pay for their war with France.

The colonists were furious. It wasn't only the money, although times were hard. They were angry because they hadn't voted for this tax. The colonists believed that only **representatives** whom they chose could ask them to pay taxes. The colonists said there could be "no taxation without representation."

And so the first step toward the American Revolution began over a fight about taxes.

CHAPTER ONE

The Colonists Get Angry

Colonists refused to pay the stamp tax. Some people **boycotted**, or refused to buy, British goods or enter any store that carried British goods. Others **demonstrated** by marching through the streets.

Britain reacted in two ways to colonial protests. They **repealed**, or did away with, the stamp tax. But they also sent British troops to the colonies. King George III was angry. He wanted to let the colonists know that Great Britain was the boss.

Then in Boston in 1770, violence broke out. On March 5, a boy named Edward Garrick shouted at a British soldier, who knocked him to the ground. Garrick called for help, and a crowd of people quickly gathered. More soldiers came running.

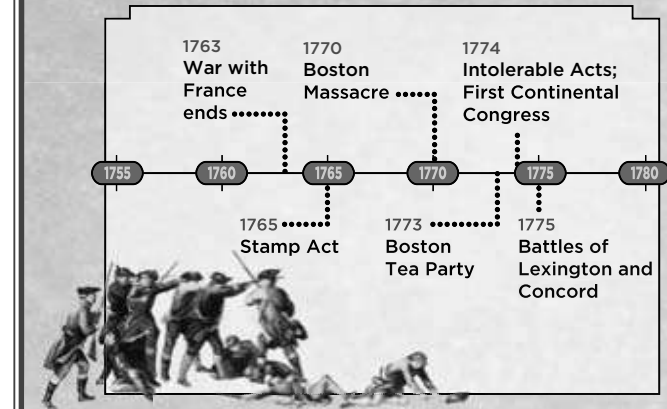


Some British tax collectors were tarred and feathered.

Conclusion

Two battles took place on April 19, 1775. They were not big battles. The two armies did not have thousands of soldiers. So why were the battles of Lexington and Concord so important? They were the beginning of the American Revolution. And the American Revolution has importance for more than just Americans. The American Revolution marked the first time in history that people rose up against a tyrant like King George to establish a country that promised freedom and **equality** to its people.

Time Line: Events Leading to the American Revolution



In Their Own Words

*"Here once the embattled farmers stood, And fired
the shot heard round the world."*

—Ralph Waldo Emerson,
great American writer and poet, 1837

Captain Preston Remembers

In 1842, a 91-year-old veteran of the battle of April 19, 1775, was interviewed about that historic day. The interviewer asked the man, Captain Levi Preston, why he had fought.

"Did you take up arms against intolerable oppressions?" the interviewer asked.

"No, I didn't feel oppressed."

"Were you not oppressed by the Stamp Act?"

"I never saw one of those stamps. I certainly never paid a penny for one of them," Preston replied.

"What about the tea tax?"

"I never drank a drop of the stuff."

"Well then, what was it? Why did you fight?"

"Young man, what we meant in going for those redcoats was this: We always had governed ourselves, and we always meant to. They didn't mean we should."



The Boston Massacre Trial

Who was at fault? The governor had the British soldiers arrested. Defending them was young John Adams. No one else would take the case. Known to be honest and fair, Adams argued that the soldiers had fired in self-defense. The jury found two of the soldiers guilty and cleared the others. For the moment, the angry people of Boston were satisfied.

Paul Revere created this illustration that shows the Boston Massacre.

One person in the crowd was a tall former slave named Crispus Attucks. Attucks had a big stick, which he waved at the soldiers. Others in the crowd threw snowballs and ice at the soldiers. The crowd yelled, "Come on, you rascals, fire if you dare." The soldiers got scared. They raised their rifles. The crowd moved closer. Then the soldiers opened fire. This terrible event was called the "Boston **Massacre**."



People in other colonies imitated the Boston Tea Party by destroying more British property.

A Soggy Tea Party

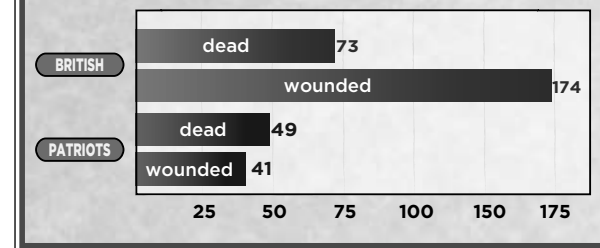
In 1773 trouble broke out again. This time it was about a tax on tea. Colonists drank tea the way people drink coffee today. The colonists were angry about the tax. In December 1773, three ships loaded with tea sailed into Boston Harbor. Boston politician Sam Adams was quick to act. He called a meeting and gave a speech against the tea tax.

On the night of December 16, about 50 men rowed out to the ships. Most were disguised as Mohawk Indians. They climbed aboard, opened all the crates of tea, and dumped the tea into the harbor. Watching from the shore, Boston's citizens cheered. They chanted, "Boston Harbor's a teapot tonight." The event came to be known as the Boston Tea Party.

Shots rang out, killing the marching British soldiers. Soon it seemed to the British that a Minuteman was hiding behind every tree and rock. The officers had a hard time keeping their men together. Many began running from an enemy they could not see. By the time the British reached Boston, almost 100 redcoats were dead. Many more were wounded.

This was the first day of what proved to be a long, six-year war. The British were learning a painful lesson. The Minutemen were not regular soldiers. They did not have fancy uniforms. They did not have the experience of fighting in big battles. What they had was plenty of spunk, and they all knew how to shoot. The Patriots had shown they were ready to fight for their freedom.

How many soldiers were killed or wounded in the Battles of Lexington and Concord?





➡ Minutemen shoot at the British soldiers from behind trees and rocks.

Easy Targets

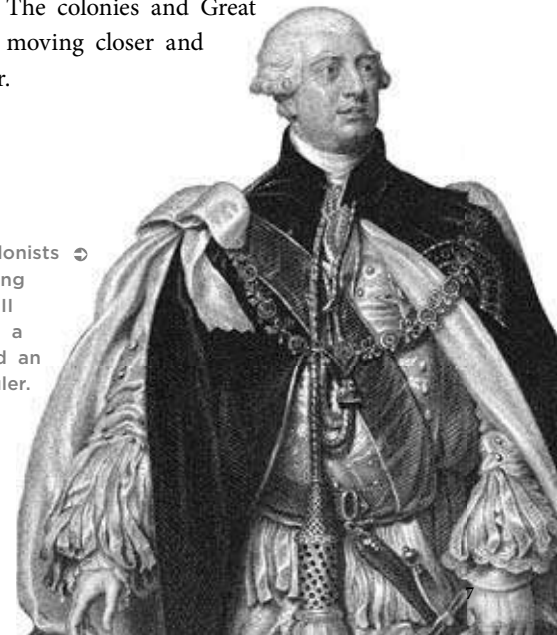
The British commanders decided to return to Boston. They had not found Adams and Hancock or the hidden supplies. They didn't know that the real danger of their mission was about to begin.

The road back to Boston was lined with trees. It was bordered by fences and stone walls. The British soldiers were tired. They still carried their heavy, 60-pound packs. In their bright red coats, they stood out against the green trees and bushes.

King George III Strikes Back

King George III was furious when he heard about the Boston Tea Party. British leaders passed laws to punish the colonists. Colonists called these laws the **Intolerable** Acts because they were so harsh. One law closed Boston Harbor until the tea was paid for. This law caused many people to lose their jobs. Another law gave the governor the right to take over colonists' homes to house British soldiers. A third law banned town meetings. Colonists reacted by calling a meeting called the Continental Congress. They wanted to talk about opposing these unfair British laws. The colonies and Great Britain were moving closer and closer to war.

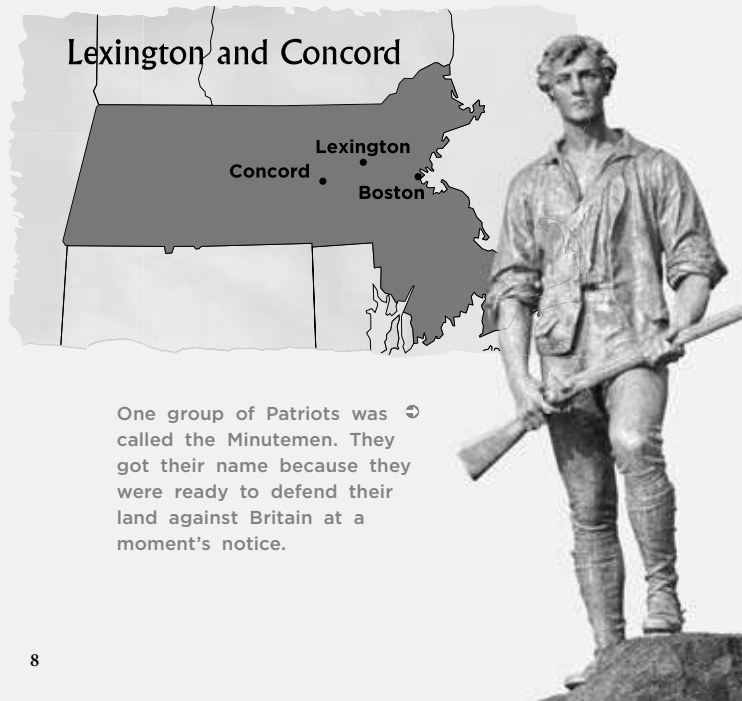
Many colonists ➡ called King George III a **tyrant**, a cruel and an unjust ruler.



CHAPTER TWO

Trouble in Boston

By the spring of 1775, things had gotten worse. Groups of colonists called **Patriots** wanted independence from England. They were getting ready to fight. They were not trained soldiers. They were just farmers and working men.



One group of Patriots was ↻ called the Minutemen. They got their name because they were ready to defend their land against Britain at a moment's notice.

In Their Own Words

"Just at this time, Captain Parker ordered every man to take care of himself. The company immediately dispersed (scattered); and while the company was dispersing and leaping over the wall, the second platoon of the British fired and killed some of our men."

—Sylvanus Wood,
a Minuteman at Lexington on April 19, 1775

The Mystery Shot

What happened next is a mystery. A shot rang out. No one knows who fired it. But after the first shot, the British opened fire, and the Minutemen shot back. When the smoke cleared, eight Minutemen were dead. Ten more lay wounded in the stark scene. Only one British soldier had been wounded. The Minutemen retreated. Major Pitcairn led his men toward Concord.

In Concord, Pitcairn found about 400 Minutemen waiting. The Patriots had moved most of their arms and supplies to new hiding places. The redcoats inspected the area looking for the supplies. They didn't find any. When the Minutemen approached, the British opened fire. The Minutemen returned fire and killed four redcoats.

Minutemen Stand Their Ground

The British reached Lexington around 5 A.M. As the first light appeared in the east, mist still clung to the ground. Lt. Colonel Smith was not surprised to find about 70 Minutemen waiting on Lexington green. Captain Parker is reported to have told the Minutemen, "Stand your ground! Don't fire unless fired upon, but if they mean to have a war, let it begin here!"

The first group of about 200 **redcoats** formed two long lines across the green. Major Pitcairn rode forward and raised his sword. Then he said, "Lay down your arms, you . . . **rebels**, and disperse!"

🔊 The Minutemen lost the Battle of Lexington.



First Continental Congress

In September 1774, representatives, or **delegates**, from 12 of the 13 colonies met in Philadelphia. This so-called Continental Congress said that colonists should have the same rights as Englishmen. The delegates also voted to cut off trade with Great Britain until the Intolerable Acts were repealed.

Some colonists had formed secret groups called the Sons of Liberty. Their goal was to oppose British taxes and other efforts to control the colonies unfairly. Chapters of the Sons of Liberty formed in each of the 13 colonies.

In April 1775, the British governor, Thomas Gage, decided it was time to act against the Patriots. British military leaders found out that the Minutemen were storing **arms**, or guns, in the village of Concord near Boston. They decided to surprise the Patriots and capture the arms. Governor Gage was told by British leaders to arrest two Patriot leaders, Sam Adams and John Hancock. Both men were wanted for **treason**, or betraying their country. General Gage knew Hancock and Adams were hiding in Lexington, which was near Concord.



➡ Paul Revere made bowls and other items out of silver. He liked to instruct young helpers in his craft.

The British Are Coming

The Patriots learned of Gage's plan. They came up with a plan of their own. They knew the British had two ways to travel to Lexington, either by land or by sea. The Patriots decided to use the tallest building in Boston, the North Church tower, to signal the British plan. They would hang one lantern if the British were coming by land, and two lanterns if by sea.

Lt. Colonel Francis Smith and Major John Pitcairn led the British. As they set off for Concord, the two could see lights in houses they passed. They knew that word had gotten out about their coming. They were not going to surprise the Minutemen.

Captain John Parker led the Minutemen. The Minutemen were not regular soldiers. The British knew this. They thought that the Patriots would not stand and fight against the British army.

Strengths and Weaknesses of Great Britain and America

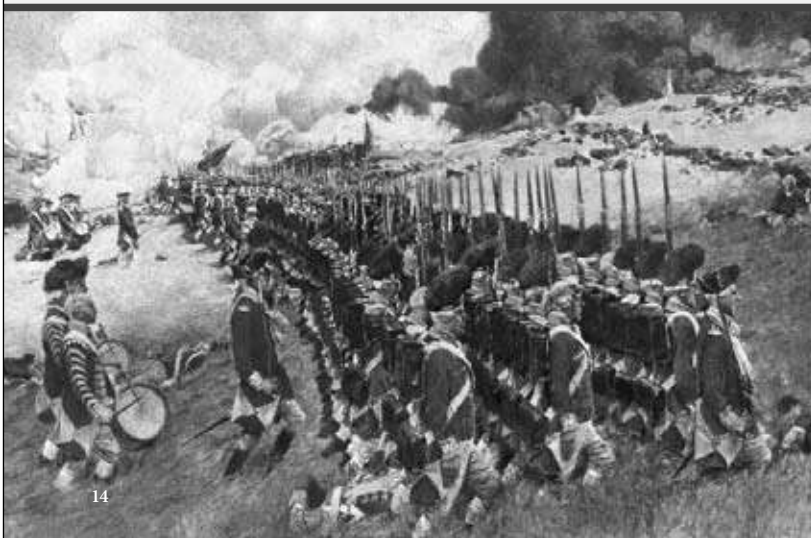
Great Britain	America
Strengths <ul style="list-style-type: none"> • More soldiers • Strongest army in the world • Experienced officers • Plenty of supplies 	Strengths <ul style="list-style-type: none"> • Fighting at home • Fighting for a cause • Fine marksmanship
Weaknesses <ul style="list-style-type: none"> • Fighting far from home • Soldiers less committed to cause 	Weaknesses <ul style="list-style-type: none"> • Unprofessional, poorly trained army • Lack of supplies

CHAPTER THREE

Lexington and Concord

As Paul Revere left Charlestown at a gallop, about 600 swaggering British troops got off their ship. Their leaders had navigated the river successfully. The men waded onto the muddy banks of the Charles River. Mud covered their white pants and polished leather boots. Each soldier was carrying a pack that weighed about 60 pounds.

🕒 The muddy, tired British soldiers marched 14 miles in the dark to meet the Patriots in Concord.



14

The person who would be carrying the news to the waiting Patriots was Paul Revere. Revere was a well-known craftsman in Boston. But he had a secret life. He was a Patriot who was a member of the Sons of Liberty.

On April 18, 1775, Revere was told to be ready to ride to Lexington and Concord. At ten o'clock that night, a friend rowed Paul Revere across the river to Charlestown. A fast horse was waiting. From Charlestown, Revere had a good view of the North Church tower. Two lanterns appeared there. Revere jumped on his horse and rode off into history.

🕒 Paul Revere warns colonists that the British are coming.



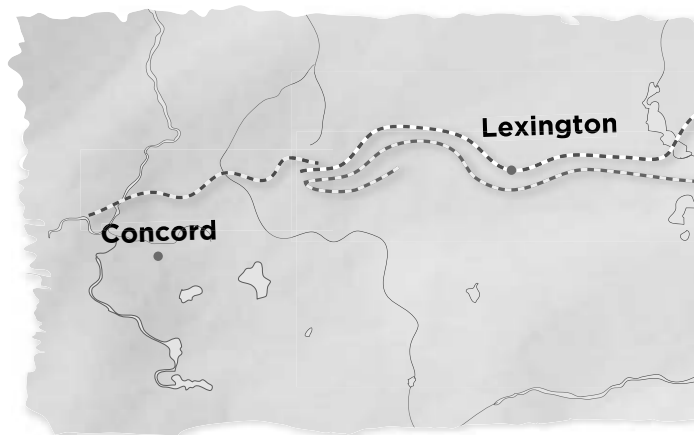
11

Paul Revere's Ride

Paul Revere left Charlestown at 11:00 P.M. He traveled to the west. But almost immediately, he was seen by two British soldiers. In Revere's words:

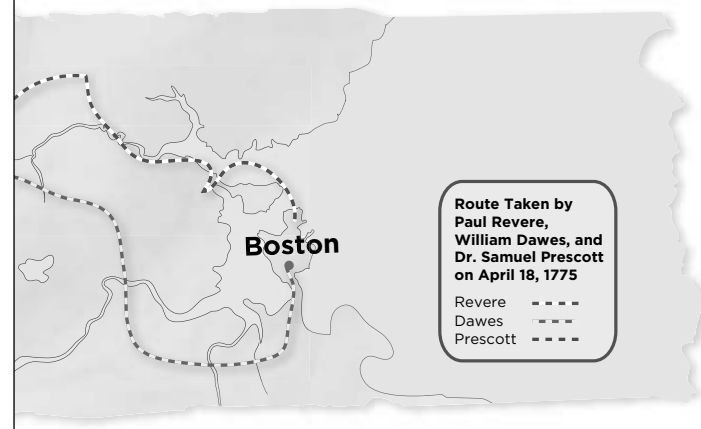
One of them started his horse towards me, the other up the road, as I supposed, to head me, should I escape the first. I turned my horse short about, and rode upon a full gallop for Mystic Road. He followed me about 300 yards, and finding he could not catch me, returned.

Revere got to Medford, where he woke up the captain of the Minutemen. Then Revere rode on to Lexington.



In Lexington, Revere woke up Samuel Adams and John Hancock. He told them that the British were on their way. Revere also met another Sons of Liberty rider named William Dawes. The two men rode on to Concord. They came upon a third rider, Dr. Samuel Prescott, who joined them. Near Concord, the three men were stopped by a British patrol. A British officer drew his pistol. He said, "Stop or I'll blow your brains out!" Paul Revere distracted the British, allowing Dawes and Prescott to escape. They rode on to Concord to warn the Minutemen.

The British took Paul Revere back to Lexington and let him go. By this time, it was nearly 5:00 A.M. As he rode away from Lexington, Revere heard gunfire coming from Lexington green, a public grassy area in the center of town.





Home-School Connection

Dear Family Member:

This week we're reading a nonfiction story called, *Hidden Worlds*. It's about Dennis Kunkel. When he was ten years old, he got a microscope for Christmas. He was fascinated with all the things he could put under a microscope and study. I like the way the author tells us about Kunkel. He tells it in order, from when he got his first microscope to his studies in high school, and then college. It's helpful to know the order in which things happen in reading about a person. It would be confusing to jump around.



This Week's Skills

Comprehension: sequence

Vocabulary: Greek and Latin roots

Spelling/Phonics: various sounds of u

Name _____

Word Workout

WORDS TO KNOW

biology dormant transferred murky
observer research scoured specimens

Wild Science Use the words to write about a science fair.

SPELLING WORDS

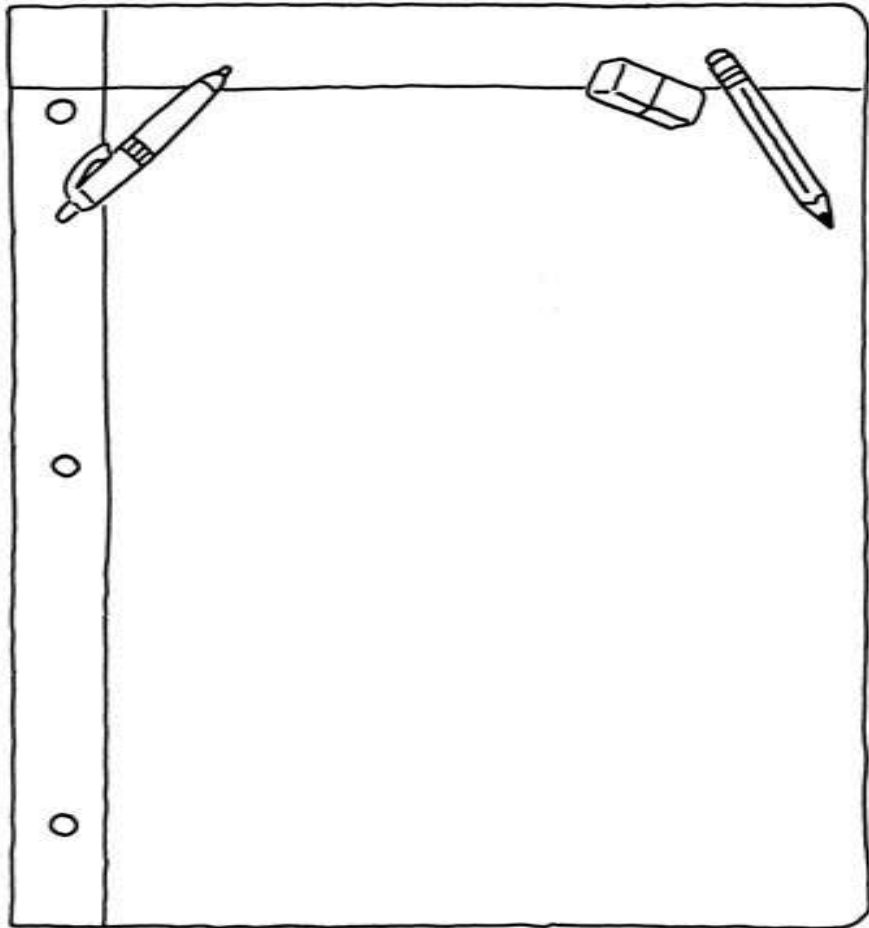
bawl foul dawdle hoist
brought foundation sprawls clause
cautious fountain sprouts turquoise
counter joint turmoil douse
coil mouthful stout scrawny

Sort Them Out Let's fold a sheet of paper to create four columns. We will write one of the sounds (**aw**, **ou**, **au**, **oi**) on the top of a column. Then we will pronounce each spelling word and sort it into the correct column.

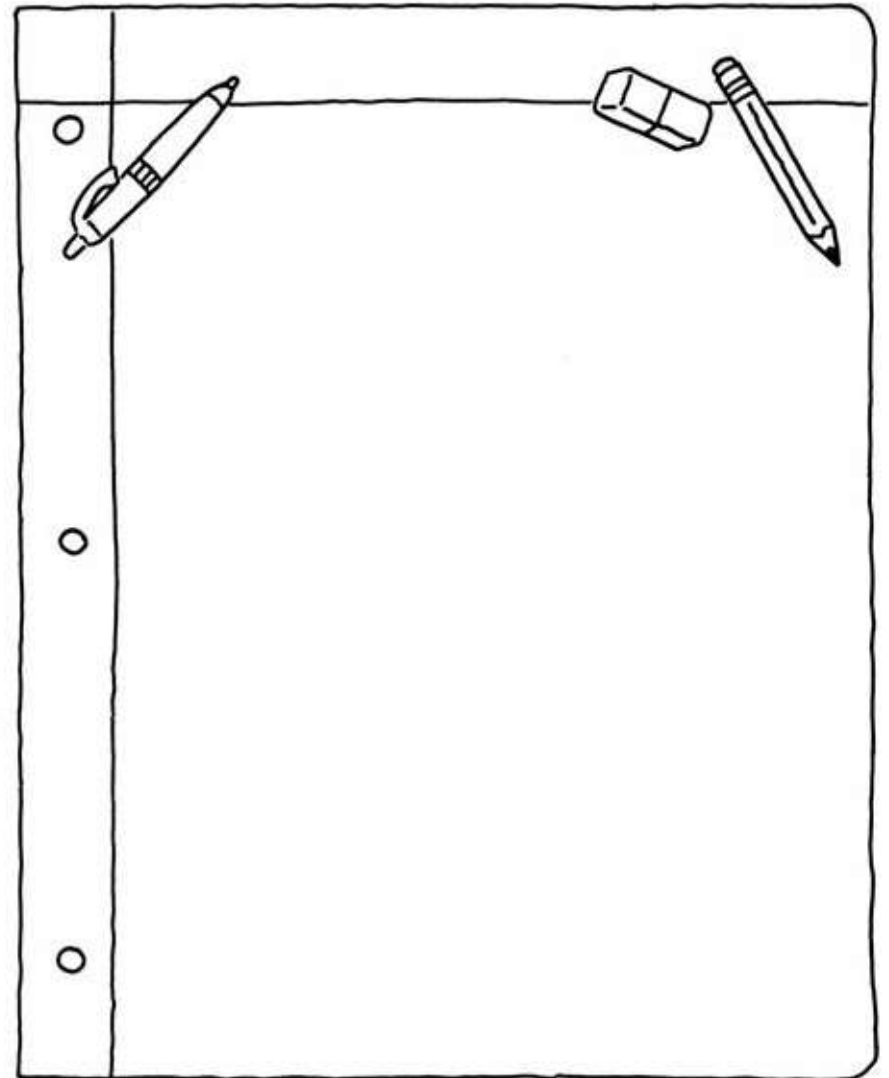
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Looking at Grandpa

Let's choose someone we know well and write about his or her life. The person could be a grandparent, a sister or brother, a good friend—anyone whose life we know well. Below we can write down events we know of in the person's life, as well as how the person changed over time.



Now we can put the events from the opposite page in order by writing a short biography. We can show our work to other family members and friends.





Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

biology dormant transferred murky
observer research scoured specimens

Ciencia salvaje Usa las palabras para escribir sobre una feria de la ciencia.

PALABRAS DE ORTOGRAFÍA

bawl foul dawdle hoist
brought foundation sprawls clause
cautious fountain sprouts turquoise
counter joint turmoil douse
coil mouthful stout scrawny

Tres no es multitud Doblemos una hoja de papel en cuatro partes y escribamos cada sonido (**aw**, **ou**, **au**, **oi**) a la cabeza de las columnas. Luego pronunciaremos las palabras y las organizaremos en las columnas que les corresponden.

Queridos familiares:

Esta semana estamos leyendo un relato de no-ficción que se llama *Hidden Worlds*. El relato es acerca de Dennis Kunkel. Cuando tenía diez años de edad, le regalaron un microscopio para Navidad. Estaba fascinado con todas las cosas que podía colocar en el microscopio para estudiarlas.

Me gusta la manera que el autor nos cuenta acerca de Kunkel. Narra el relato en orden, desde que tuvo su primer microscopio para sus estudios en la escuela secundaria y luego en la universidad. Conocer el orden en que ocurren las cosas ayuda a leer. Sería confuso saltar de un lugar a otro.



Destrezas de la semana

Compresión: orden de los sucesos

Vocabulario: partes de una palabras—raíces griegas y latinas

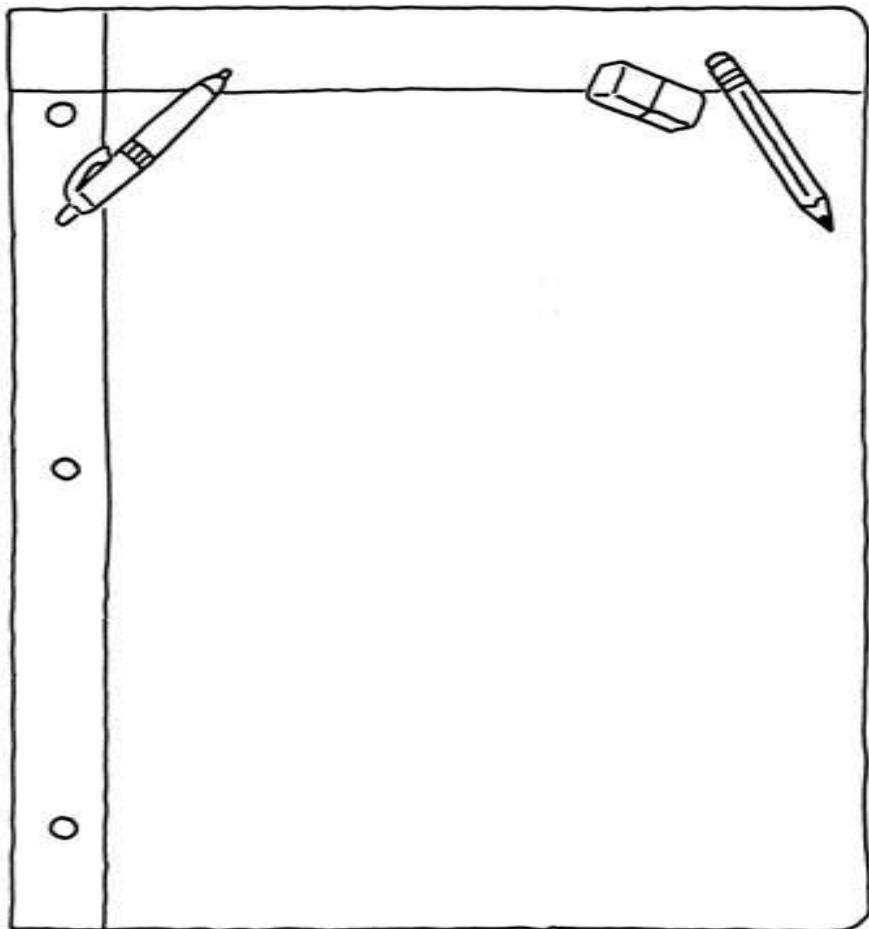
Ortografía/Fonética: diferentes sonidos de la u

Nombre _____

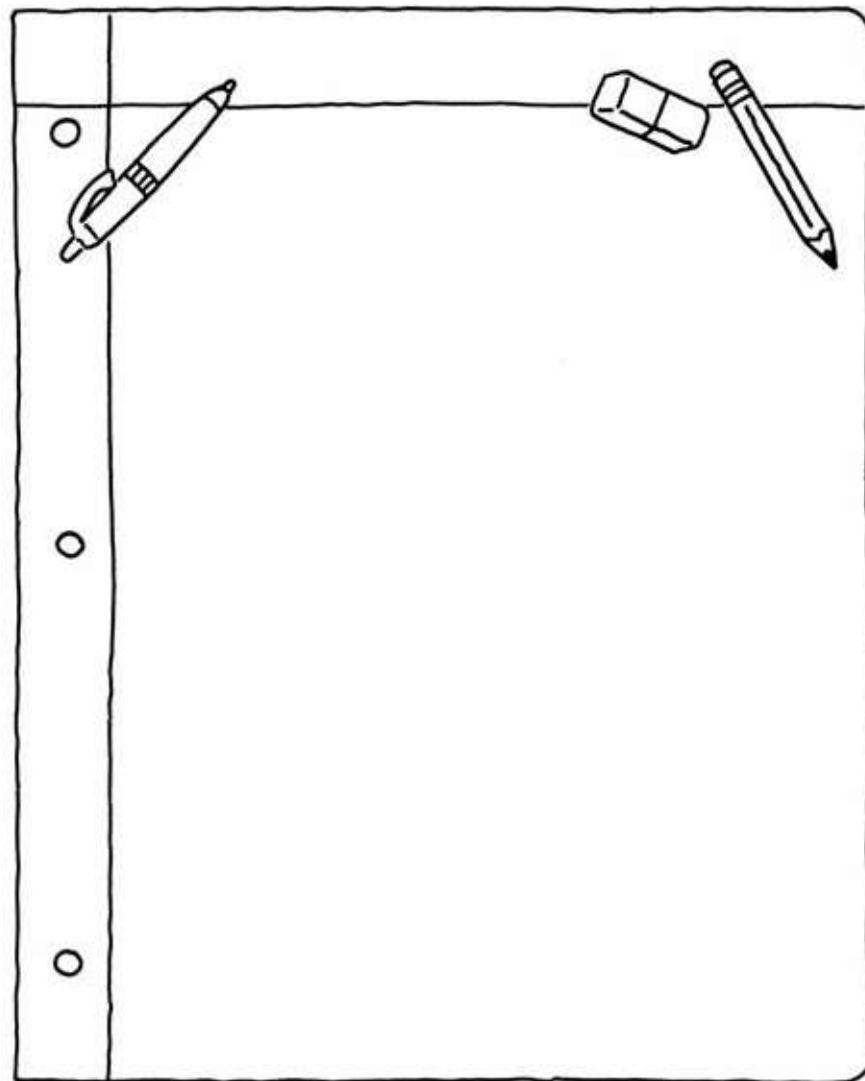
© Macmillan/McGraw-Hill (fold here)

Mirando al abuelo

Vamos a escribir acerca de una persona. Puede ser un abuelo o una abuela, una hermana o un hermano, un buen amigo, o alguien que conozcamos bien y sepamos sobre su vida. Abajo podemos escribir lo que sabemos de la vida de esa persona, y cómo ha cambiado con el paso del tiempo.



Ahora vamos a escribir aquí los sucesos de la página anterior en orden para escribir una breve autobiografía. Podemos mostrarle nuestra biografía a otros familiares y amigos.



Comprehension Check

Summarize

Use the Sequence Chart to summarize some of the big discoveries and events in medicine discussed in this book.

Event
↓
↓
↓

Think and Compare

1. Turn to page 5. What year were microbes discovered? What discoveries came afterward? **(Sequence)**
2. Did reading this book make you more concerned about diseases? Why? **(Evaluate)**
3. The law requires people who work in restaurants to wash their hands. This helps keep them from spreading germs to customers. Name some other ways that diseases are spread. What is done to prevent them from spreading? **(Analyze/Apply)**

Searching for Cures

by Melissa McDaniel



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Introduction

Why do people get sick? What causes disease? For most of history, no one could answer these questions. People once believed that evil spirits or angry gods caused sickness.

Ancient peoples had murky ideas about disease. They tried to cure illnesses with magic and religion. Some cultures used plants to heal the sick. But even when herbs helped, no one understood why. The cause of the disease was a mystery.

Over time people began studying disease. Science helped solve the mystery. They looked through microscopes and saw the tiny organisms that cause sickness. They figured out how diseases spread. This opened the door to finding cures.

Medical research has come a long way. We've learned a lot about diseases and their cures. Modern medicine has saved millions of lives. But researchers continue to battle new diseases that erupt all over the world.



Draining a patient's blood was once thought to be a cure for many diseases.

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Glossary

antibiotic (*an-tee-bigh-OT-ik*) a drug that kills bacteria (**page 10**)

bacteria (*bak-TEER-ee-uh*) single-celled microorganisms, some of which cause disease (**page 6**)

biology (*bigh-OL-uh-jee*) the study of living things (**page 4**)

cell (*SEL*) the smallest working unit within an organism (**page 11**)

germ (*JURM*) a tiny particle that can cause disease; viruses and bacteria are germs and are so small that they can be seen only through a microscope (**page 7**)

immune system (*i-MYEWN SIS-tum*) the body's way of fighting disease (**page 11**)

lens (*LENZ*) a piece of curved glass that focuses light to make things look larger or more clear (**page 5**)

microbe (*MIGH-kroh-b*) a microscopic living organism or particle (**page 5**)

mold (*MOHLD*) fungus that grows on food and damp surfaces (**page 9**)

penicillin (*pen-uh-SIL-uhn*) a drug that kills some kinds of bacteria (**page 9**)

vaccine (*vak-SEEN*) a medicine that prevents a person from getting a certain disease (**page 11**)

virus (*VIGH-ruhs*) a very tiny and simple microbe that can cause disease; polio, measles, and the common cold are caused by viruses (**page 7**)



Medical researchers are always looking for new and better cures.

CHAPTER ONE

Discovering Microbes

The heart pumps blood, and muscles move bones. But the facts of human **biology** were unknown for most of history. Centuries ago there were laws against cutting open bodies. Few knew what was inside a human body, much less how it worked.

This began to change in the 1300s. Great thinkers in Europe became interested in science. Laws against cutting open bodies to study them were relaxed. Scientists could finally see the body in detail. These early scientists learned how we're put together.

The artist and scientist Leonardo da Vinci lived in the 1400s. He was a careful observer who studied the human body to learn how it worked.



Wormwood

The Chinese have been treating malaria with wormwood for more than a thousand years. When scientists studied wormwood, they found a substance in the herb's leaves that kills malaria parasites. They are now using it in drugs to cure malaria.

Researchers have scoured the globe in search of new cures. They do research on rainforest plants and sea creatures to see if they can be made into useful drugs.

Scientists also use powerful tools to study microbes up close. They even study the genes of bacteria and viruses. What they learn may someday help save millions of lives. One of those lives might even be yours.

Researchers collect plants in the rain forest to see if they can be made into new drugs.



Conclusion

Scientists continue to work toward finding cures for many diseases. Some of the most difficult are the most common.

Have you had the flu? It's easy to catch. The flu spreads through the air when someone coughs or sneezes. Many people prevent the flu with a vaccine. But the flu is caused by an ever-changing virus. New strains of the flu show up all the time. This means that researchers must constantly collect new flu samples to make updated vaccines. It's an ongoing battle.

Deadly Flu

Some strains of the flu are extra deadly. In 1918-1919, a deadly strain of flu swept around the world. The Spanish flu killed 20 million people.

Scientists grow flu vaccine in chicken eggs.

People have been using microscopes to look at microbes for more than 400 years. This microscope is from the 1600s.



A Closer Look

Early scientists studied more than the body. They also investigated disease. An invention built around 1600 became their most important tool. It was the microscope.

Early microscopes worked much as microscopes do today. First a specimen is put on a piece of glass. Then a person looks down through a tube. Fitted inside the tube are glass **lenses**. The lenses magnify the specimen.

Microscopes helped scientists discover what causes disease. In 1674 a Dutch scientist put a drop of water under a microscope. His name was Antoni van Leeuwenhoek (AHN-tohnee vahn LAY-vun-HOOK). He observed many "little animals" in the water. These kinds of tiny organisms are called **microbes**.

Leeuwenhoek was the first person to see microbes. But he didn't understand that some microbes cause disease. It took another 200 years before someone figured that out.

In 1864 Louis Pasteur was studying why wine turns sour. The French chemist had an idea. He believed that **bacteria** spoiled the wine. Bacteria are microbes. Pasteur's research led him to believe that bacteria also cause diseases.

Pasteurization

Louis Pasteur thought that bacteria caused milk, like wine, to sour. He decided to prove it. He heated the milk to a high temperature to kill the bacteria. This made the milk safe and helped keep it from spoiling. This heating process is called pasteurization, after its inventor. Today nearly all packaged milk in the world is pasteurized.

Louis Pasteur was the first person to link microbes with disease.



Opening more medical clinics can improve health care. This clinic is in Iraq.

Simple Cures

Developing drugs and vaccines takes time and money. But some illnesses are cured with simple, inexpensive treatments.

Unclean drinking water is a problem in many parts of the world. When children drink dirty water, they often get severe diarrhea. This can dangerously dehydrate an infant or small child very quickly.

Researchers came up with a simple treatment. Children drink packets of water mixed with salts. The salts help the body hold in water. This prevents dehydration. This simple treatment prevents a million deaths a year.

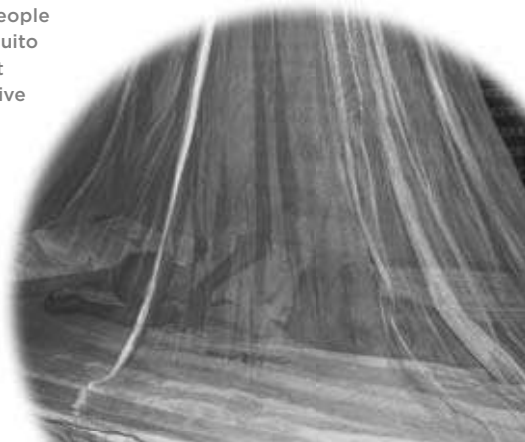
Fighting Malaria

Some of the older diseases are the toughest to cure. Malaria has been around for centuries. It's caused by a parasite spread by mosquitoes. Malaria kills about two million people a year.

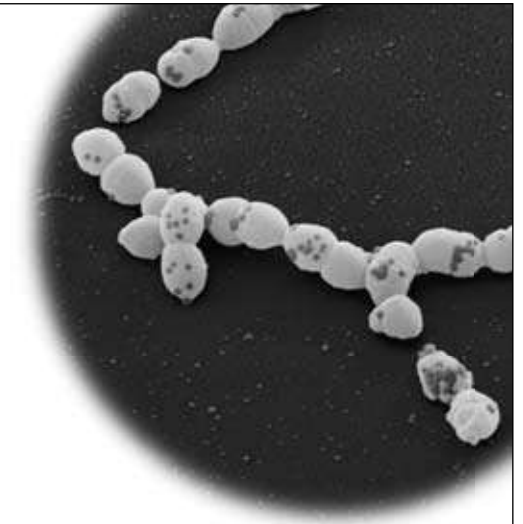
People get malaria when an infected mosquito bites them. The disease may stay dormant for months before the person gets sick.

There are drugs to treat Malaria. But the parasites often adapt to the drugs over time. So researchers must constantly look for new drugs.

In some places, people sleep under mosquito netting to prevent bites that could give them malaria.



This is pneumonia bacteria magnified thousands of times. Pneumonia is an infection of the lungs.



Germ Theory

Pasteur's idea is called the **germ** theory of disease. Harmful microbes, or germs, get into your body. Then the germs multiply. Next thing you know, you're sick.

Robert Koch studied a disease called anthrax a few years later. He found out that it comes from rod-shaped bacteria. Then Koch found bacteria that cause other diseases, too. Not all bacteria are the same. In fact, different bacteria cause different diseases. This was an important discovery.

Something else happened about the same time. Other scientists discovered another kind of microbe. It also causes disease. It is called a **virus**. Many diseases are caused by viruses. AIDS, chickenpox, and measles all come from viruses.

CHAPTER TWO

Fighting Disease

Microbes, like bacteria and viruses, are everywhere. Many are harmless. Those that cause disease are called germs. Some germs thrive in water. Unclean water sickens many people. Germs in food, like salmonella bacteria, are why it's important to cook eggs and meat well.

Others germs travel through the air, like the flu and cold viruses. You can breathe them in. Or you can pick them up on hand railings.

Insects are another way germs are spread. Lyme disease is passed through tick bites. Mosquitoes can carry malaria, yellow fever, and West Nile virus.

Typhoid Mary

A person infected with germs but not sick is called a carrier. The most famous example was a woman who lived in New York in the early 1900s. She was a cook named Mary Mallon. Mallon carried the germs for typhoid fever. She spread the disease to more than 50 people without being sick herself. She became known as Typhoid Mary.

The AIDS Crisis

Other new diseases have spread quickly. Doctors first noticed AIDS in the early 1980s. It has already killed 25 million people. More than 38 million people around the world carry HIV. HIV is the virus that causes AIDS.

Researchers are working on a vaccine for HIV. But they haven't succeeded yet. AIDS was once fatal. However, today HIV-infected people can control the disease with drugs. These drugs can allow people to live fairly normal lives. Unfortunately the drugs are expensive. Many people who live in poor countries can't get the medicines.

Researchers still hope to find a cure for AIDS.



New Tools

Scientists constantly search for new and better tools to use in the fight against disease. One important invention was the electron microscope. These microscopes were first made in the 1940s and are far more powerful than regular microscopes. Electron microscopes can magnify things, like the red blood cells shown here, more than a million times. Getting a look inside germs can help scientists figure out better ways to fight them.



An Ebola outbreak is a call to action. First researchers try to stop the disease from spreading. Patients are kept apart from others. And medical workers wear protective clothing. Then researchers try to learn what they can. They keep track of how well any treatments work.

These studies help treat future patients. They could even lead to a cure someday. But so far, scientists have no drugs or vaccines against Ebola. Fortunately all Ebola outbreaks have been small. The disease was discovered in 1976. Since then about 1,300 people have died from it.

Alexander Fleming was awarded the Nobel Prize in medicine in 1945 for the discovery of penicillin.



Killing Bacteria

By 1900 scientists knew that bacteria cause diseases. Now they had to find a way to kill bacteria. This would cure those diseases.

A Scottish scientist worked on this challenge. His name was Alexander Fleming. One day in 1928 he saw something odd. It was in one of the dishes where he grew bacteria. There was **mold** growing in it. But Fleming didn't throw it out. Instead he noticed that the bacteria around the mold were dead. Fleming had discovered a mold that kills bacteria! **Penicillin** mold was later made into a powerful medicine.

Fleming discovered penicillin by accident. What a lucky find! Penicillin became a drug that kills bacteria. It was the first **antibiotic**. Antibiotics cure many diseases. But bacteria change. They can become stronger. Scientists are always working to find new antibiotics.

Antibiotics can't cure everything. Antibiotics don't cure the common cold. Viruses cause colds and the flu. Finding drugs to kill viruses is a newer science. Most virus drugs don't cure the disease. They just make it less serious. Scientists are learning more about viruses. They're working on future drugs to fight viruses.

During World War II (1939–1945), penicillin saved many wounded soldiers by curing infected wounds.



CHAPTER FOUR

Outbreak

Vaccines and drugs now control many diseases. But new diseases keep appearing. One of the worst is Ebola. This deadly virus causes bleeding inside the body. Most people who get Ebola die from it. It is 80 to 90 percent fatal.

The Ebola virus is easily transferred from one person to another. Touching blood or other body fluids from an infected person is all it takes.



Medical workers need to wear special protective clothing when treating Ebola patients.

Finding Vaccines

As scientists learned more about diseases, they started to develop other vaccines. In 1885 Louis Pasteur made a vaccine for rabies. Rabies is a horrible disease. It destroys brain cells. It's usually spread through dog or wild animal bites.

Polio was one of the most feared diseases of the 1900s. The virus weakens muscles. Polio left millions of children unable to walk. During outbreaks parents kept their children at home. They believed that the disease was spread in crowded places.

Few people get polio today. Why? Researcher Jonas Salk made a vaccine for polio in 1954. Vaccines now protect people around the world. They save lives from measles, yellow fever, and other diseases.

During the 1950s, more than 20,000 people came down with polio in the United States each year.

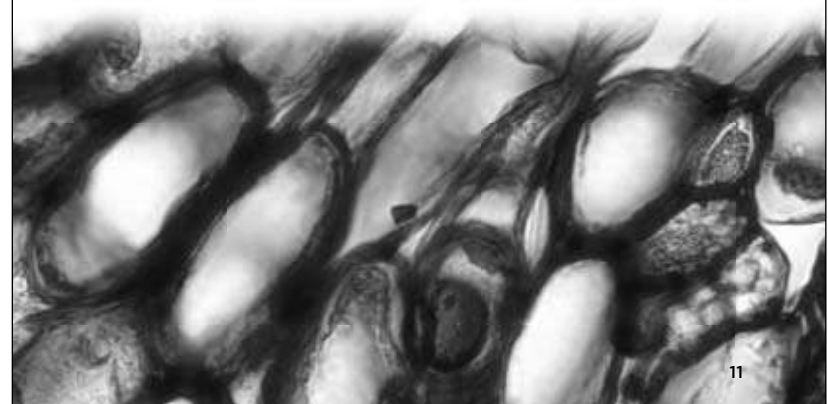


The Immune System

There are other ways to fight germs besides drugs. The body itself does a lot of the work. Its **immune system** is built to fight disease. Special blood **cells** attack germs.

The immune system defends itself best with familiar germs. Attacking cells work better and faster on germs they've come across before. **Vaccines** put this fact to work. Vaccines prevent a person from getting a certain disease. A vaccine puts a weakened form of the disease into your body. This teaches your immune system about it. Then the body is ready to fight off the disease if it's ever exposed to it.

These cells have been dyed pink to make them easier to see under a microscope.



CHAPTER THREE

Stopping Disease Before It Starts

The best way not to get a disease is to stop the disease from occurring. Scientists work on vaccines to prevent diseases.

People used vaccines long before they understood the immune system. Smallpox was a feared disease. It left people covered in sores and scars. In ancient China some people were given small amounts of smallpox germs on purpose. This early vaccine kept some from getting smallpox. But some died.

Each year, more than 100 million children are vaccinated.



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Searching for Cures

Spreading Diseases

European settlers to the Americas brought many diseases that Native Americans had never been exposed to before. Diseases such as smallpox and measles killed millions of Native Americans, many more than died in wars with the Europeans.

Stopping Smallpox

Edward Jenner was an English doctor. He noticed that people who got a mild disease called cowpox never got smallpox. In 1796, Jenner took some cowpox liquid and put it in the arm skin of a boy. The boy never got smallpox. Jenner's vaccine worked.

Soon the smallpox vaccine was given around the world. Today the virus only remains in labs. It's the only disease that has been entirely wiped out.



Edward Jenner tested his smallpox vaccine for the first time on an eight-year-old boy.

13



Home-School Connection

Dear Family Member:

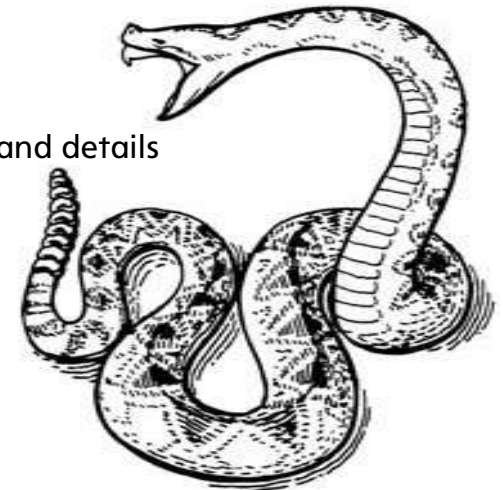
Rattlesnakes are actually not as spooky as some people make them out to be. In *Rattlers!* the main idea is probably the one stated at the very beginning of the article: "Rattlesnakes are misunderstood because people do not know that much about them." The fascinating details of the story tell where they live, how they hunt, what they eat, and whether they are endangered.

This Week's Skills

Comprehension: main idea and details

Vocabulary: context clues

Spelling/Phonics: plurals



Name _____

Word Workout

WORDS TO KNOW

alert predators prey species
surroundings survive vibrates lunging

Naming Names I'll make up questions that include each word. Try to answer them. If you're not sure of an answer, we can talk about the questions together.

SPELLING WORDS

abilities countries batches eddies
fangs identities lashes liberties
possibilities rattlers reptiles surroundings
taxes losses potatoes zeroes
beliefs difficulties notches rodeos

More Than One I'll read the singular form of each spelling word. Then you can spell the plural form. For example, the singular form for *identities* is *identity*. If you make a mistake I'll tell you and you can try again.

(fold here)
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Slithery Snakes

Let's read about snakes. Then we can complete each sentence to solve the puzzle.

Snakes are reptiles. They have long bodies and no legs. On land they move by sliding along on their bellies. Some snakes kill their prey with poison. Constrictors squeeze their prey to death. Snakes can't chew their prey.

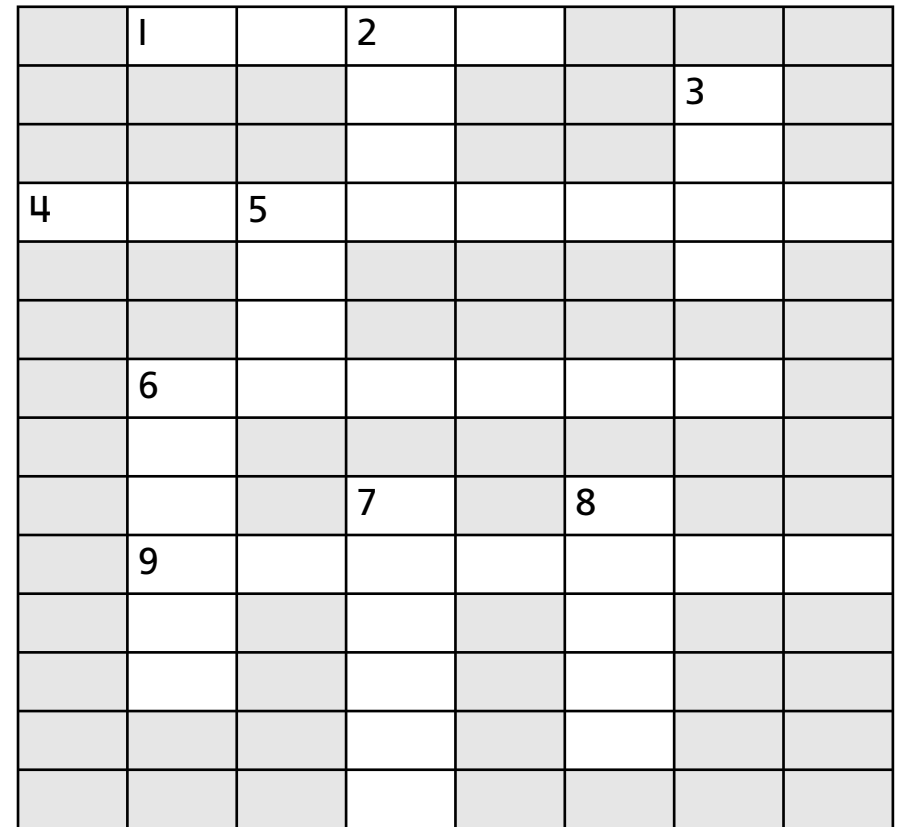
Biggest, longest, and strongest are words used to describe pythons. This snake can swallow a small deer or goat. The longest python found was 33 feet long. It was discovered in a jungle in Thailand.

Across

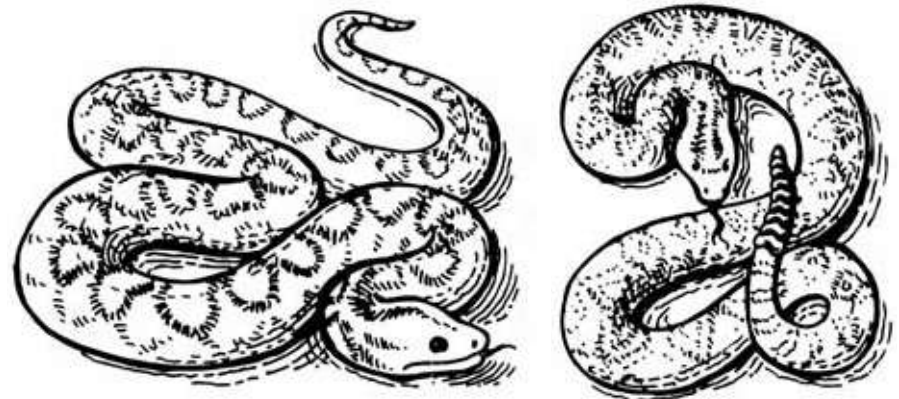
1. Snakes do not have _____.
4. Snakes are called _____.
6. *Biggest* is a word that describes a _____.
9. Constrictors _____ their prey to death.

Down

2. A python can swallow a whole _____.
3. Snakes cannot _____.
5. Snakes must swallow their _____.
6. Some snakes kill their prey with _____.
7. The longest snake was found in a _____.
8. A snake moves along on its _____.



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Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

alert predators prey species
surroundings survive vibrates lunging

Nombrando nombres Voy a armar preguntas con cada palabra. Trata de responderlas. Si no estás seguro de alguna respuesta, podemos hablar sobre las preguntas.

PALABRAS DE ORTOGRAFÍA

abilities countries batches eddies
fangs identities lashes liberties
possibilities rattlers reptiles surroundings
taxes losses potatoes zeroes
beliefs difficulties notches rodeos

Más de uno Voy a leer cada palabra de ortografía en singular. Luego, tú vas deletrearla en plural. Por ejemplo, la forma singular de *identities* es *identity*. Si te equivocas, yo te lo diré y podrás intentarlo de nuevo.

Queridos familiares:

Las serpientes de cascabel en realidad no son tan espantosas como algunas personas las describen. La idea principal en *Rattlers!* es probablemente la idea que se expone al comienzo del artículo: "Las serpientes de cascabel no son comprendidas porque la gente no sabe lo suficiente acerca de ellas." Los detalles fascinantes en el cuento nos cuentan dónde viven, cómo cazan, qué comen y si se encuentran en peligro de extinción.

Destrezas de la semana

Comprensión: idea principal y detalles

Vocabulario: claves de contexto

Ortografía/Fonética: plurales



Nombre _____

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Serpientes resbaladizas

Vamos a leer acerca de las serpientes. Luego, vamos a completar cada oración para resolver el crucigrama.

Snakes are reptiles. They have long bodies and no legs. On land they move by sliding along on their bellies. Some snakes kill their prey with poison. Constrictors squeeze their prey to death. Snakes can't chew their prey.

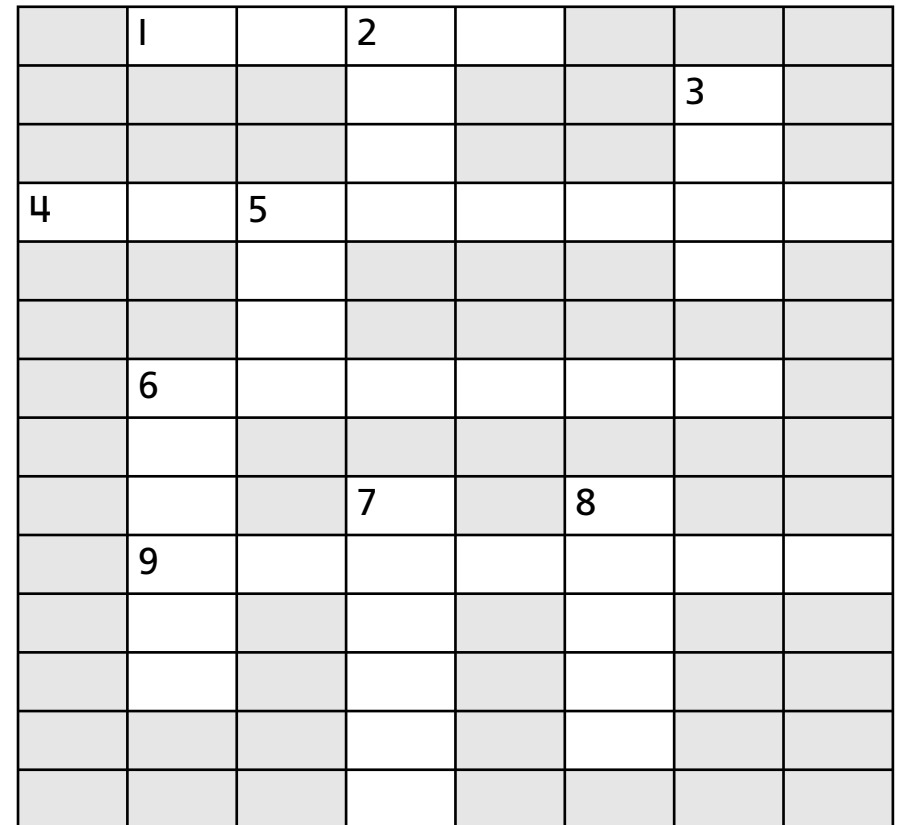
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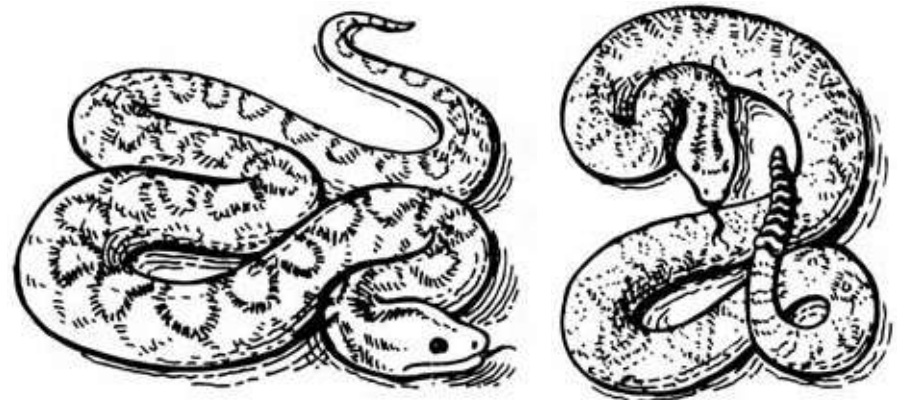
1. Snakes do not have _____.
4. Snakes are called _____.
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Down

2. A python can swallow a whole _____.
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5. Snakes must swallow their _____.
6. Some snakes kill their prey with _____.
7. The longest snake was found in a _____.
8. A snake moves along on its _____.



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Comprehension Check

Summarize

Use your Main Idea Chart to help you summarize *Tracing the Food Web*.

Detail
Detail
Detail
Main Idea

Think and Compare

1. Look back at page 25. What kind of producers live in the desert? How do they survive there?
(Main Idea and Details)
2. Think about the plants and animals that live in your neighborhood. What producers and consumers can you name? **(Apply)**
3. How is the future of Earth's ecosystems in people's hands? **(Evaluate)**

Tracing the Food Web

by Nathan Asher Katzin



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Introduction

Everybody Needs Food

The Miller family is waiting for their food. This is their favorite restaurant. It is never crowded. The food is fairly priced. Best of all, the menu has something everyone likes.

Mr. Miller likes meat and potatoes. Mrs. Miller usually orders a salad. Rebecca likes meat, chicken, or seafood. When he is hungry, Paul will eat anything!

The Millers are one link in the food chain.



2

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Tracing the Food Web

Glossary

carnivore (*KAHR-nuh-vawr*)
an animal that eats other animals (**page 10**)

consumer (*kuhn-SEW-muhr*)
any animal that eats plants or eats other plant-eating animals (**page 9**)

decomposer (*dee-kuhm-POH-zuhr*) any organism that breaks down dead plants or animals into useful materials that enrich soil (**page 12**)

ecosystem (*EK-oh-sis-tuhm*) all the living and nonliving things in an environment, including their interactions with one another (**page 16**)

food chain (*FEWD CHAYN*)
a model of how the energy in food is passed from one organism to another in an ecosystem (**page 3**)

food web (*FEWD WEB*)
the overlapping food chains in an ecosystem (**page 21**)

herbivore (*HUR-buh-vawr*)
an animal that eats only plants (**page 9**)

omnivore (*OM-nuh-vawr*) an animal that eats plants and animals (**page 10**)

photosynthesis (*foh-tuh-SIN-thuh-sis*) process by which green plants trap light energy to change carbon dioxide and water into carbohydrates (**page 7**)

producer (*pruh-DEW-suhr*) any of the plants and algae that produce oxygen and food that animals need (**page 5**)

31

Conclusion

It's Up to Us

Earth has many different ecosystems. Yet the plants and animals in each ecosystem have similar roles in the food web. Redwood trees, cactus plants, and phytoplankton are all producers. Without them, the food web would disappear. The hawk, the fox, and the shark are all predators in their ecosystems. Without them, herbivores would increase until there were no longer enough plants to eat.

People are the top predators. We have the most control over the world's ecosystems. Human activity even affects ecosystems where few people live. The future of Earth's ecosystems is up to us. It's in our hands.



Food links all living things. Plants depend on the sun, rain, and soil. Some animals eat only plants. Other animals eat other animals. Some animals eat both plants and animals. The Millers are part of a chain of living things. They are one link in the **food chain**.

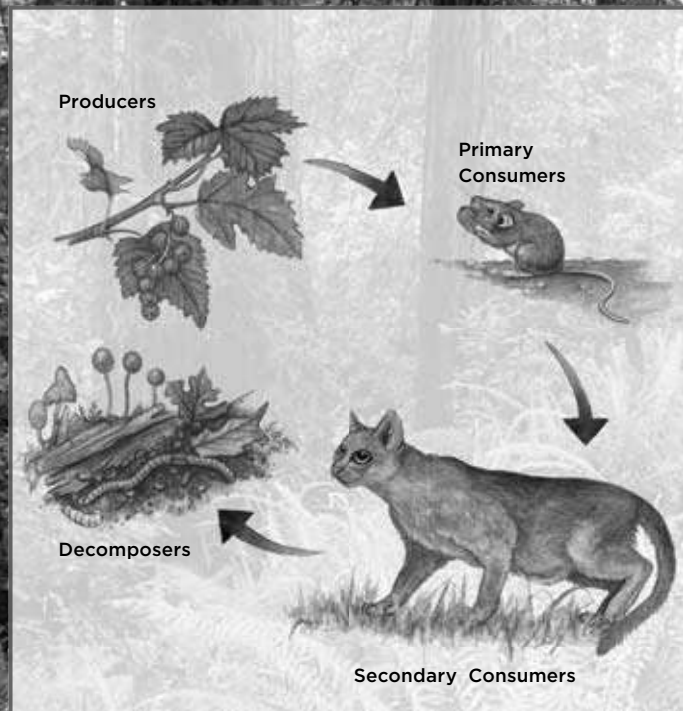
Scientists use food chains to keep track of who eats what. At dinner, the Millers are part of a process. This process involves many different plants and animals.



Steak, potatoes, string beans, salad, and cheesecake are some of the foods people eat.

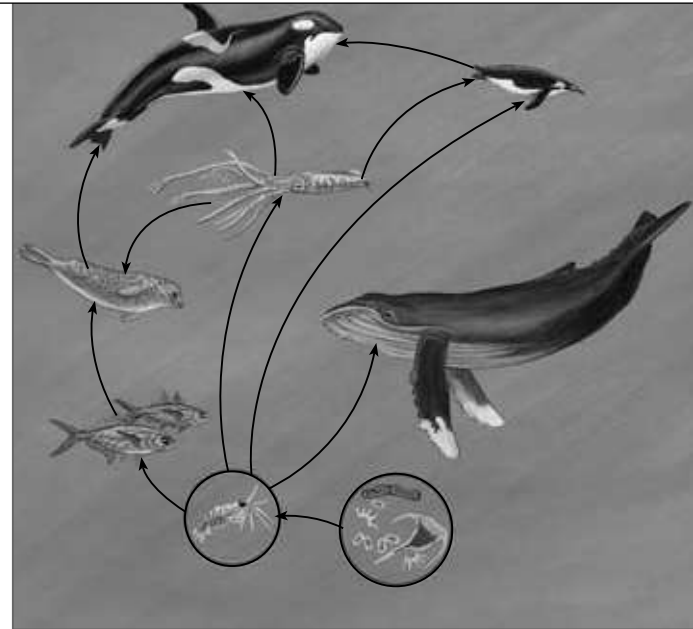
CHAPTER 1

Producers and Consumers



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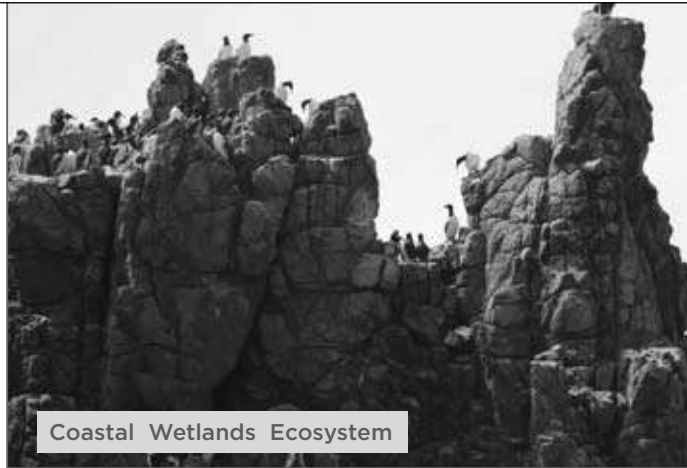
Tracing the Food Web



This illustration shows an ocean food web. Different predators and prey feed off each other in this ecosystem.

Other small animals in the food chain—shrimp, crabs, and small fish—live in the Gulf of the Farallones too. They are also part of the food chain. Salmon and other large fish eat these smaller fish. Seabirds also dive into the water to get the fish.

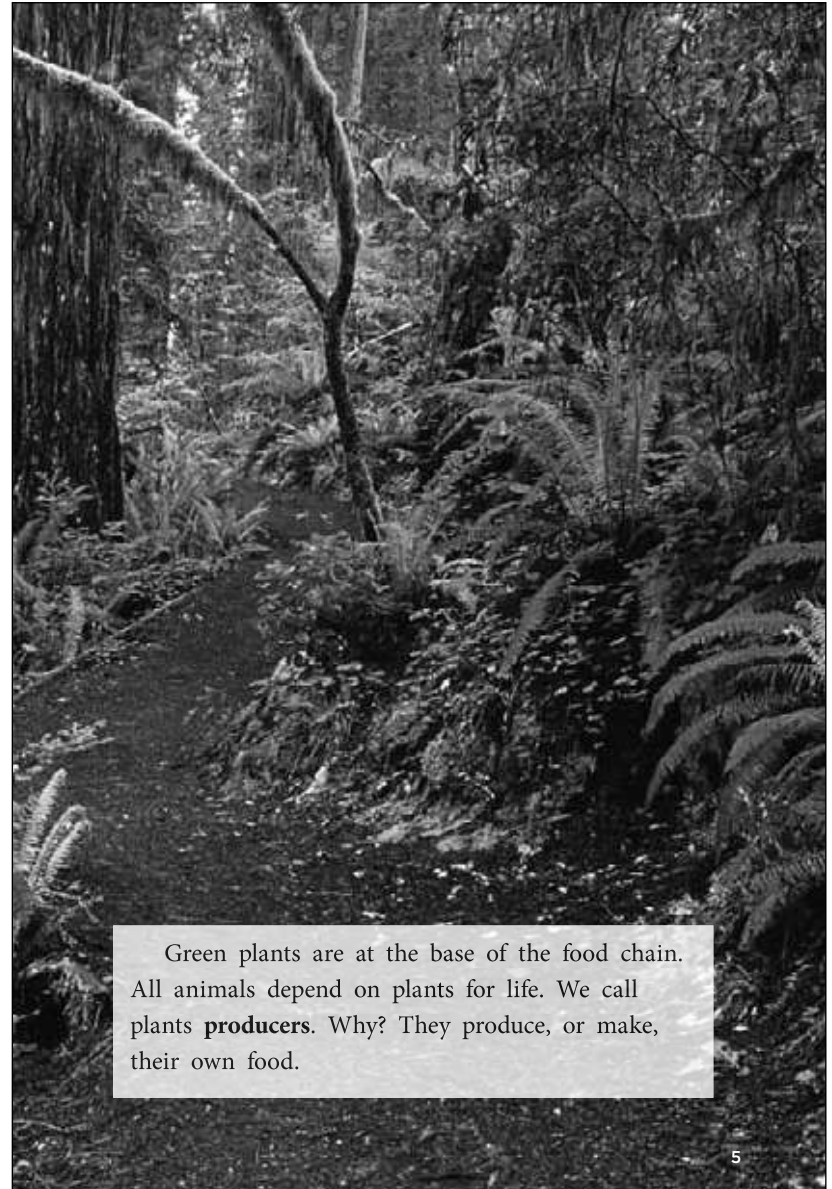
At the Farallones Marine Sanctuary, scientists study the amount of krill in the water. They study other conditions in the water too. Any change can affect the balance of this ecosystem.



Coastal Wetlands Ecosystem

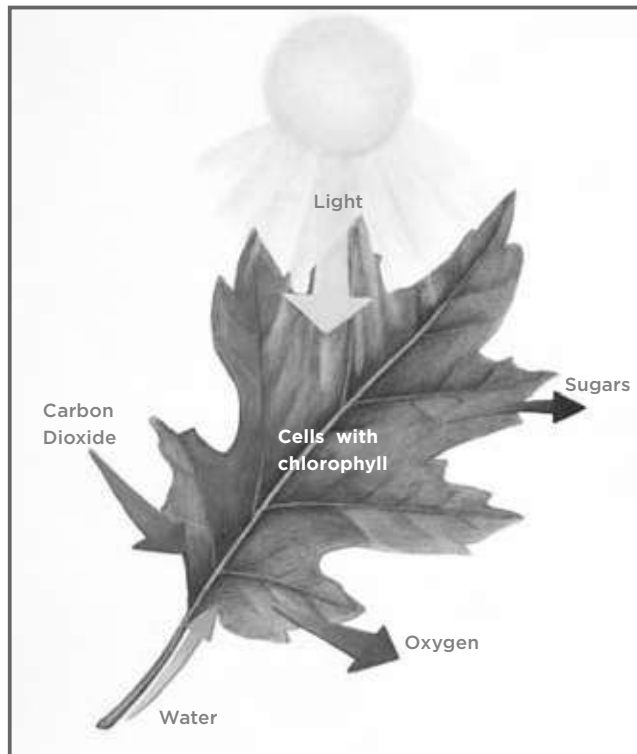
A unique coastal ecosystem lies off the coast of California. It is the Gulf of the Farallones National Marine Sanctuary.

Phytoplankton are the most important producers here. They are tiny plantlike organisms that float in the sea. The smallest herbivores, zooplankton, feed on these tiny plants. Krill look like tiny shrimp. They are the primary consumers in the Gulf of the Farrallones food chain. Larger fish eat the krill. Many kinds of birds, fish, and whales do, too.



Green plants are at the base of the food chain. All animals depend on plants for life. We call plants **producers**. Why? They produce, or make, their own food.

Photosynthesis		
Carbon dioxide	Light	Sugar
+	→	+
Water	Chlorophyll	Oxygen



During photosynthesis, plants make their own food and produce oxygen.



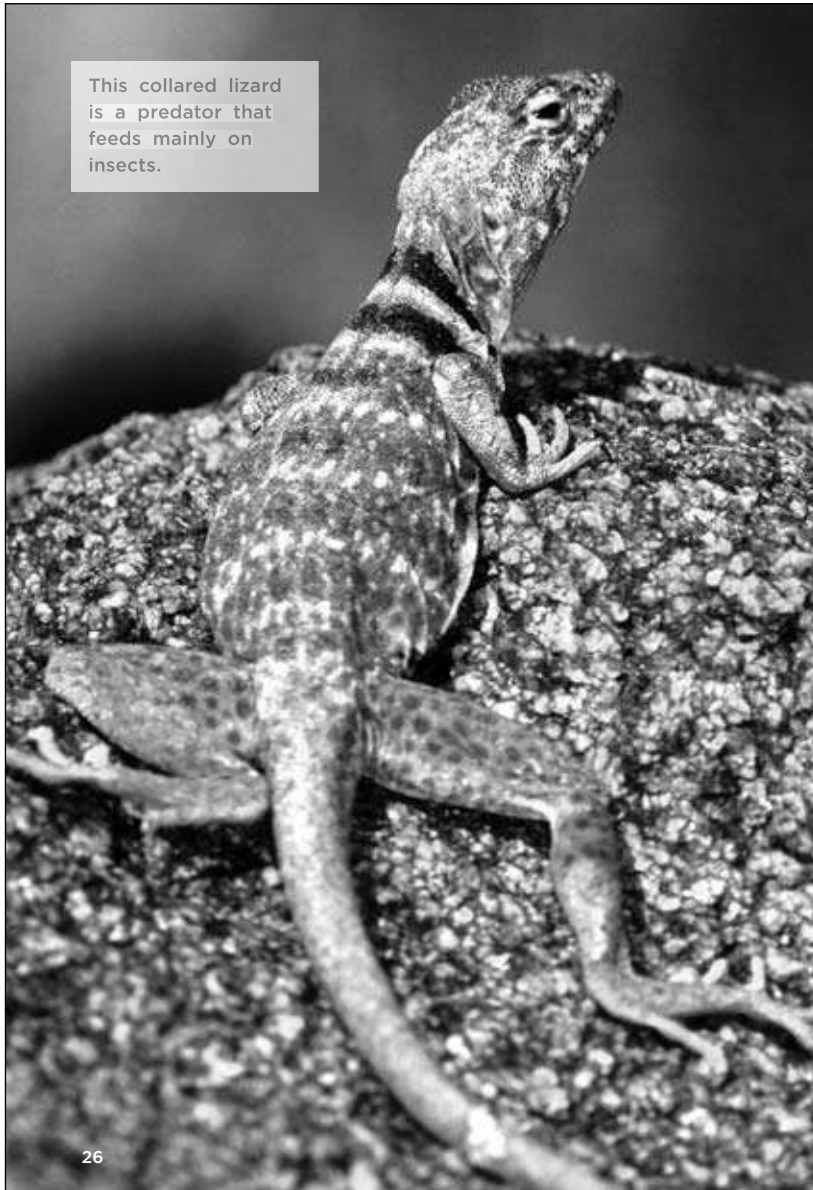
This kit fox eats smaller predators.

How do desert animals adapt to the high daytime temperatures? Many are active only at night. Desert geckos, night lizards, and snakes wait until the evening to hunt. That's when the temperatures drop.

The rattlesnake is a predator. It uses the desert environment to help it catch its prey. The snake's color and skin pattern help it blend in with the desert floor. Often, its prey does not see it. The rattlesnake has rattles that vibrate. This noise scares off predators.

In a desert, small insects, lizards, and rodents are primary consumers. Larger lizards and snakes feed on them. At the top of the food web are larger predators. These animals include the kit fox and the golden eagle. Most desert birds feed on insects or are scavengers.

This collared lizard is a predator that feeds mainly on insects.



Plants make their own food through a process called **photosynthesis**. Green plants get their color from a chemical called chlorophyll. During photosynthesis, chlorophyll in a plant absorbs sunlight. Sunlight, water, air, and nutrients from the soil give plants what they need to make food. As part of photosynthesis, plants give off oxygen. People and animals need this oxygen.



Fruits and vegetables are plants. They grow as a result of photosynthesis.



Squid eat fish that eat phytoplankton.

Plants make food for all animals. A squid, for example, is an ocean animal. It cannot live, however, without the help of green plants. Let's follow the food chain to see how a plant and a squid are connected.

Phytoplankton are tiny green living things. They float in the sea. Like plants on land, phytoplankton use sunlight to make food. Small fish eat phytoplankton. Squid catch and eat these small fish to live.



This is phytoplankton seen through a microscope.

The prickly pear cactus can store water for a long time.



The Chihuahaun Desert's most common producers are plants that need little water. These plants include creosote and cacti. Some plants, like the prickly pear cactus, store water for a long time. Their stems have a waxy covering that keeps water from escaping. Their sharp spines protect the plant from becoming food for desert animals. Many desert wildflowers only grow when it rains. The rest of the time they are dormant, or inactive.



A roadrunner (predator) catches a frog (its prey).

The Chihuahuan Desert covers parts of Mexico, Texas, and New Mexico. Very little rain falls in the desert.

People often think that few plants and animals live in deserts. Yet deserts can be full of living things. Cacti and small bushes grow in the desert. There are small mammals, reptiles, and birds, as well. Many of these plants and animals have features that help them survive in this particular ecosystem. These features are different from those of plants and animals in colder or rainier climates.

Animals do not produce their own food. Animals are **consumers**. They consume, or eat, other living things. There are different kinds of consumers.

Let's look at **herbivores** first. Herbivores are animals that eat only plants. Rabbits, cows, and giraffes are herbivores. Herbivores are called primary consumers. Why? They are the first level of consumers in a food chain. Herbivores have to eat a lot of plants to get enough energy to live. Herbivores, such as cows, spend most of their time eating.

Giraffes are herbivores. Their long necks let them eat leaves from tall trees.



CHAPTER 2

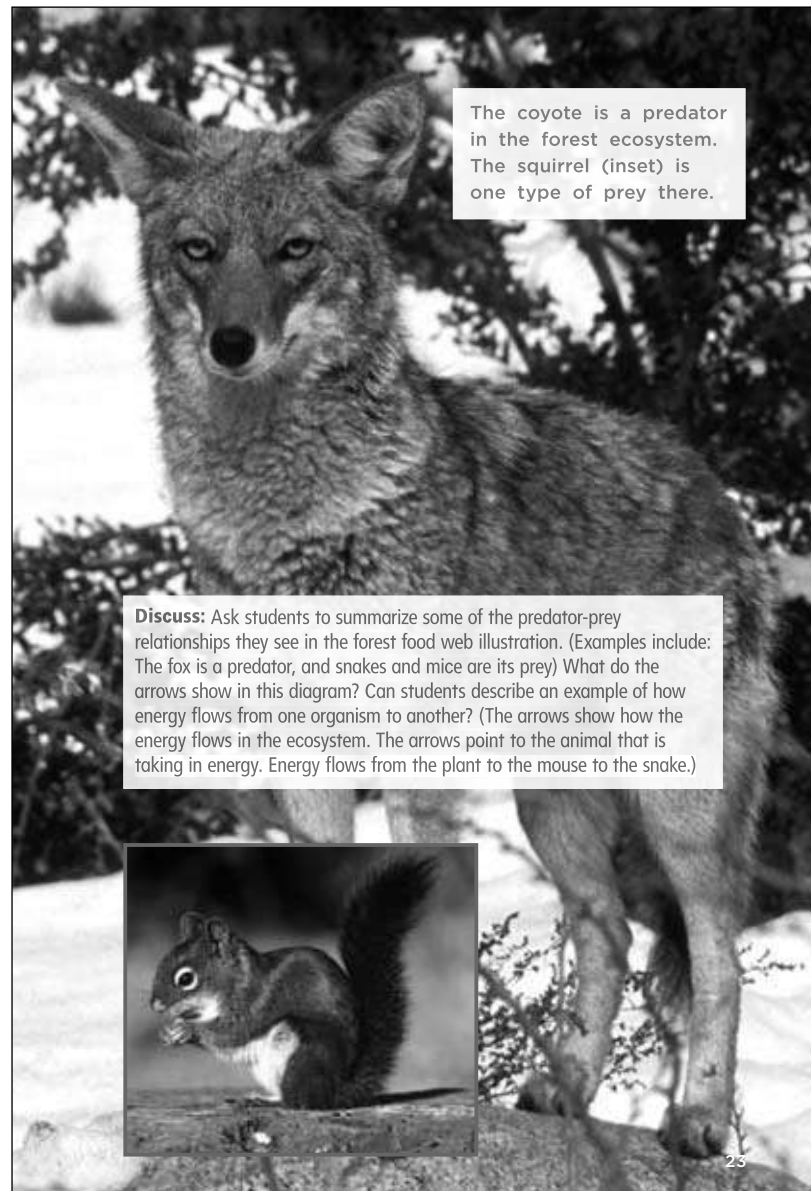
Building Up and Tearing Down



These raccoons are omnivores. They eat almost anything.

Carnivores are consumers that eat other animals. They are called secondary consumers. Sharks and wolves, for example, are carnivores. Most carnivores eat herbivores, such as squirrels and rabbits. Some carnivores, such as mountain lions, also eat other carnivores.

Omnivores eat both plants and animals. Bears, pigs, and raccoons are omnivores. Most people are too.



The coyote is a predator in the forest ecosystem. The squirrel (inset) is one type of prey there.

Discuss: Ask students to summarize some of the predator-prey relationships they see in the forest food web illustration. (Examples include: The fox is a predator, and snakes and mice are its prey) What do the arrows show in this diagram? Can students describe an example of how energy flows from one organism to another? (The arrows show how the energy flows in the ecosystem. The arrows point to the animal that is taking in energy. Energy flows from the plant to the mouse to the snake.)

The forest has large predators, too. Coyotes hunt many animals, lunging at mice, squirrels, and reptiles. Black bears eat rodents, deer, and fish. Bobcats are also predators in the forest.

Mold, fungi, and slugs help recycle. They bring nutrients back to the soil. As you can see, the food web in a forest is very complex.



Look at this picture of a forest food web. It shows some predators and prey in a forest ecosystem.

Most omnivores eat whatever they can find. Raccoons eat insects, worms, vegetables, and mice. Most omnivores eat different foods at different times of the year. They eat the foods that are available in their surroundings. A bird might eat seeds in the winter. In summer, it might eat insects.

The bobolink is an omnivore. It eats seeds, grains, and insects.





Vultures are scavengers. They are always on the alert for their next meal.

Two types of animals play a special role in the food chain. They are scavengers and **decomposers**. Without them, Earth might look like a garbage heap!

Scavengers feed on dead animals. Vultures and wild dogs, or hyenas, are scavengers. They often wait for a carnivore to finish its meal. Then they go in for the leftovers. Scavengers also eat animals that have died from sickness or old age.



The producers and consumers in an ecosystem affect each other in many ways. Scientists use a **food web** to show this. A food web shows how plants and animals relate to each other in an ecosystem.

Redwood forests are found along the coast of California and Oregon. A redwood forest has a large food web.

Many different types of plants live in a redwood forest. Giant redwood trees stretch more than 200 feet into the sky. Redwood trees are some of the oldest living things on earth. Ferns, wildflowers and other small plants grow on the forest floor. Smaller trees also grow in the forest.

Mammals, birds and insects live in the forest, too. The plants and animals in this forest depend on each other to survive. Squirrels live off the nuts, seeds, and fruit of trees. Hawks eat the squirrels. Insects, such as crickets and caterpillars, also live off plants in the forest. Birds eat these insects.

The plants and animals in this redwood forest depend on each other to live.



Worms, slugs, bacteria, and fungi are decomposers. They are nature's recyclers. When animals and plants die, decomposers take over. Bacteria are tiny organisms in the soil. They break down everything, from logs to dead animals. Decomposers return nutrients to the soil. Earthworms eat dead plants. They clear waste from the ground and make space for healthy plants. A fungus, such as a mushroom, is also a decomposer.

Mushrooms (right) and mold (below) are fungi. All fungi are decomposers.

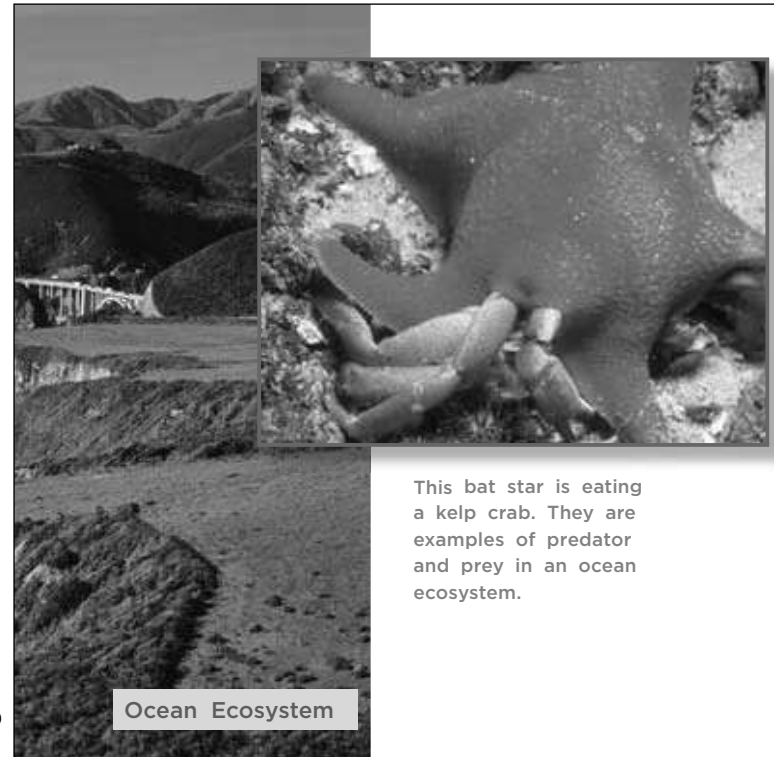


CHAPTER 3

Food for Energy

This black bear is a species at the top of the energy pyramid.

Scientists use a diagram called an energy pyramid. It shows how energy passes from organism to organism. Plants at the base of the pyramid take in energy from the sun, water, and soil. When a herbivore eats a plant, the plant passes on only 10 percent of its energy. When a carnivore eats a herbivore, the herbivore passes on only 10 percent of its energy.



This bat star is eating a kelp crab. They are examples of predator and prey in an ocean ecosystem.

Ocean Ecosystem

Some prey have special defenses against predators. For example, the clam has a rock-hard shell. But some predators can break through these defenses. A sea star, for example, can force open a clam's shell.

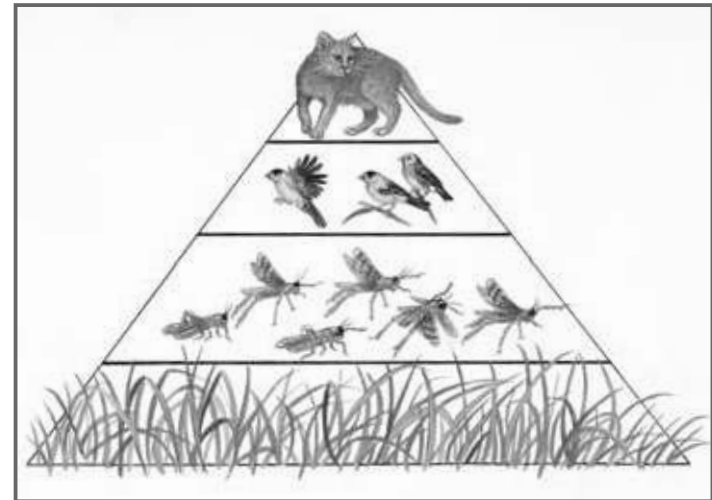
There are many different ecosystems in the ocean.



In a healthy ecosystem, plants, animals, and the environment are in balance. There is enough food and space to support many species.

Predators and prey help to keep an ecosystem in balance. A predator is an animal that eats other animals for food. Prey are living things that animals eat. For example, a hawk is a predator. Its prey may be a squirrel.

The energy pyramid moves from plants to herbivores to carnivores. It becomes narrower as it moves upward. At the bottom, sunlight provides enough energy for many plants. Energy is lost as it passes up to herbivores, so fewer herbivores can survive. Even less energy is available to the carnivores at the top. There are many fewer organisms at the top of the energy pyramid than at the bottom.



Look at this energy pyramid. It shows that less food and energy are available as you move up the pyramid.

CHAPTER 4

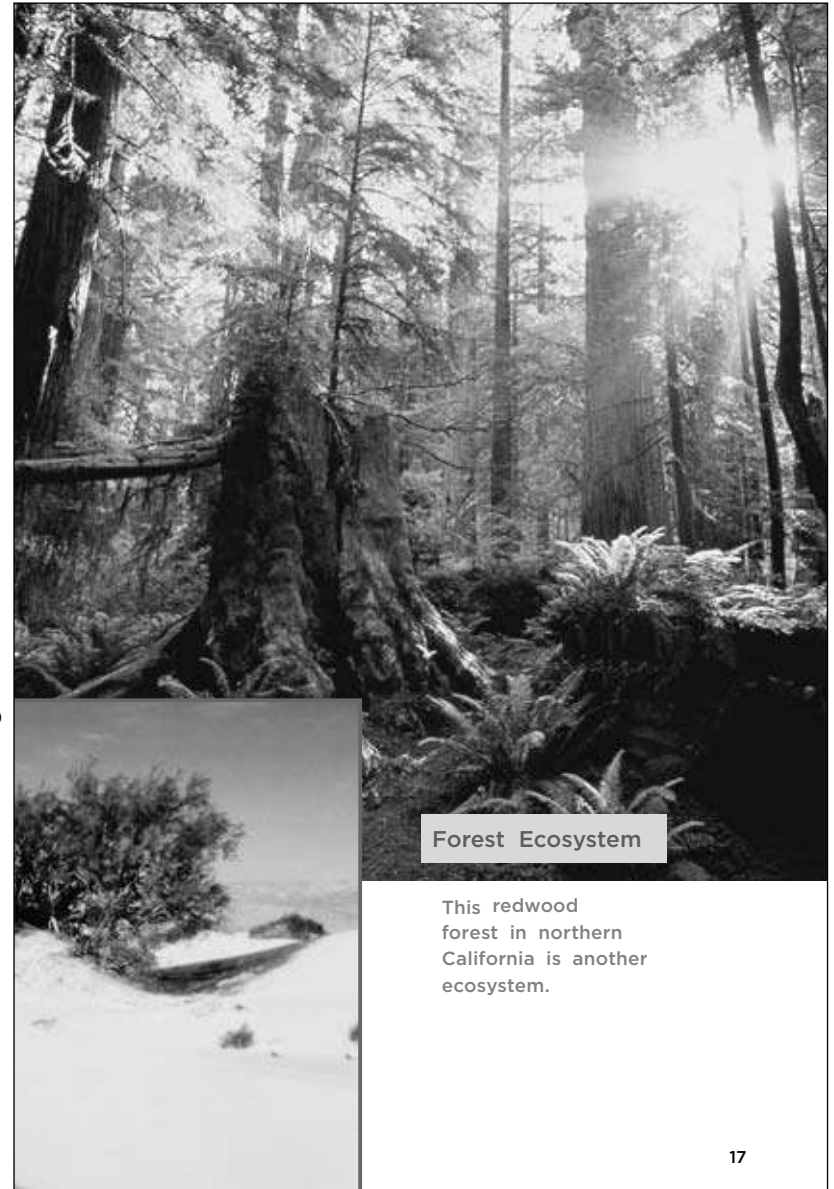
Exploring Ecosystems

All plants and animals are part of an **ecosystem**. Many different ecosystems exist. Climate, soil, and other things affect life in an ecosystem. Forests, deserts, and coastal wetlands are all examples of ecosystems.

Each ecosystem has producers and consumers. An ecosystem depends upon the interaction between them. Any change that causes one part of the ecosystem to be out of balance affects the entire ecosystem.

Many plants and animals live in this desert ecosystem.

Desert Ecosystem



Forest Ecosystem

This redwood forest in northern California is another ecosystem.



Home-School Connection

Word Workout

WORDS TO KNOW

investigating observed inhibit
conquer insight

Robots Rule! Let's talk about building a robot that helps rescuers find people who are in need of help.

SPELLING WORDS

amusing applied complicated deserved
dripping easing envied fascinated
forbidding gnarled injured jogging
qualified accepted regretted relied
renewing skimmed threatening referred

Just One I'll give you each word to spell. Tell me the base word before the ending was attached. For example, **amuse** is the base word of **amusing**.

Dear Family Member:

I'm reading *These Robots Are Wild!*, an article about building the next generation of robots. I'm learning facts about the robots and how they are modeled after cockroaches, scorpions, and lobsters. I'll use these facts to help me understand why the author wrote about robots and what the purpose is for this article.

This Week's Skills

Comprehension: author's purpose

Vocabulary: Greek and Latin roots

Spelling/Phonics: the endings -ed and -ing



Name _____

(fold here)
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On Purpose

Authors can use different forms of writing to get their points across. Choose from the forms listed below or think of other forms a writer might use to create writing pieces about Mexico.

Writing Forms

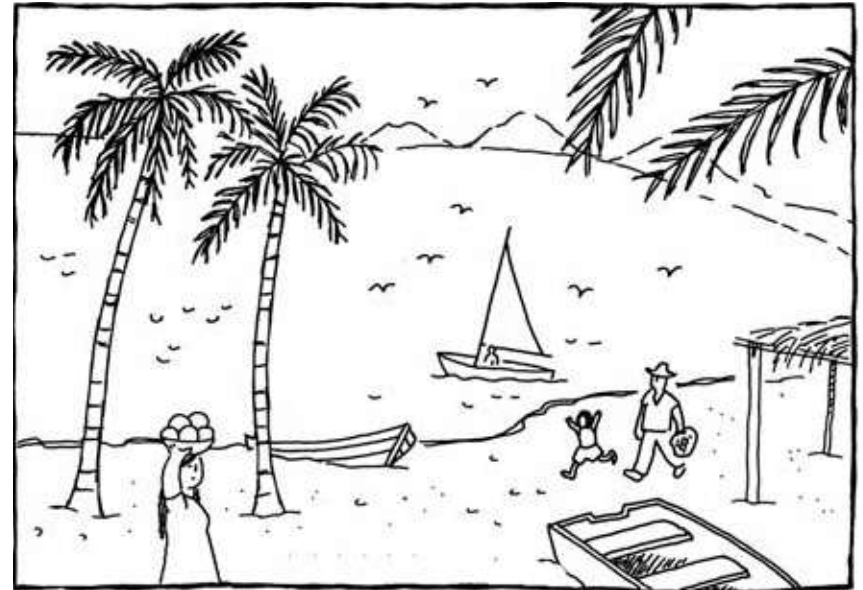
Article	Poem
Essay	Story
Letter	Biography
Editorial	Autobiography

- I want to persuade people to visit Mexico. It's an interesting and beautiful place to visit.
- Grandmother told me wonderful stories when I was growing up in Mexico. I want to share these exciting tales.
- There are differences between living in Mexico and living in the United States. I want to help people in both countries understand each other better.

- I have so many strong memories about the people I met and places I visited in Mexico. I would like to pay tribute to these memories.

An example

An author who wants to persuade people to visit Mexico might write an illustrated article for a travel magazine. The captions, text, and photos would all work together to show why readers should vacation there.



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Ejercicio de palabras

PALABRAS DE VOCABULARIO

investigating observed inhibit
conquer insight

¡Los robots mandan! Vamos hablar sobre la construcción de un robot que ayude a los rescatistas a encontrar gente que necesita ayuda.

PALABRAS DE ORTOGRAFÍA

amusing applied complicated deserved
dripping easing envied fascinated
forbidding gnarled injured jogging
qualified accepted regretted relied
renewing skimmed threatening referred

Sólo una Te voy a dar cada palabra para escribir. Dime la palabra base antes de agregar la terminación de la palabra. Por ejemplo, la palabra **amuse** es la palabra base de **amusing**.



Conexión con el hogar

Queridos familiares:

Estoy leyendo *These Robots Are Wild!*, un artículo sobre la próxima generación de robots. Estoy aprendiendo datos sobre los robots y cómo son diseñados a partir de cucarachas, escorpiones y langostas. Voy a usar estos datos para entender el propósito del artículo y por qué el autor escribió sobre los robots.

Destrezas de la semana

Comprensión: propósito del autor

Vocabulario: partes de la palabra—raíces griegas y latinas

Ortografía/Fonética:
las terminaciones
-ed e -ing



Nombre _____

(fold here)
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A propósito

Los autores pueden usar diferentes formas de escribir para lograr su propósito. Elige una de las formas que se presentan abajo o piensa en otras formas que un escritor podría usar para crear obras escritas sobre México.

Writing Forms

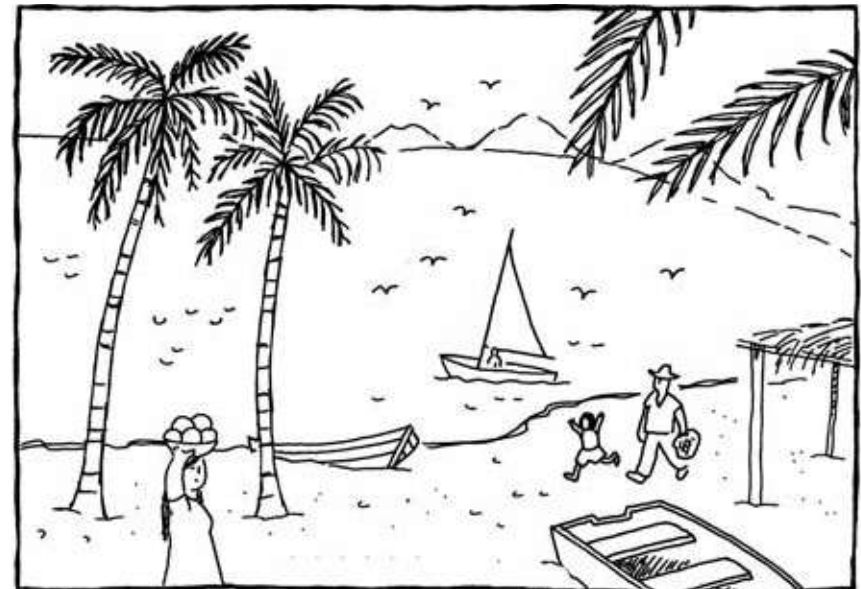
Article	Poem
Essay	Story
Letter	Biography
Editorial	Autobiography

- I want to persuade people to visit Mexico. It's an interesting and beautiful place to visit.
- Grandmother told me wonderful stories when I was growing up in Mexico. I want to share these exciting tales.

- There are differences between living in Mexico and living in the United States. I want to help people in both countries understand each other better.
- I have so many strong memories about the people and places I remember in Mexico. I would like to pay tribute to these memories.

An example

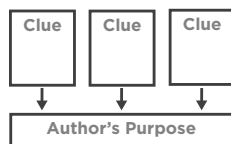
The author who wants to persuade people to visit Mexico might write an illustrated article for a travel magazine. The captions, text, and photos would all work together to show why readers should vacation there.



Comprehension Check

Summarize

What do you think the author's purpose was in writing *Discovering the Elements*? Use the Author's Purpose chart to help you organize your thinking.



Think and Compare

1. Look back at pages 2–4. Why do you think the author included information about the way people used to think about matter? (**Author's Purpose**)
2. Which discovery do you think was most important—aluminum, helium, or iodine? Explain your answer. (**Evaluate**)
3. Why is it important to understand the properties of different materials? How is understanding the properties of materials useful for people who are not scientists? (**Analyze**)

Discovering the Elements

by Meish Goldish

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What Is an Element?

Take a look around you. Maybe you see metal chairs, a wooden table, or a glass window. Are there bottles or cups of water nearby? Outdoors you may see trees, grass, and the sun. Perhaps there are people and cars in the street.

How are all of these things alike? They are made of **matter**. Matter is anything that has weight and takes up space. Metal, wood, glass, and water are matter. The sun is matter. Even air, which you cannot see, is matter.



Everything you see here is made of matter.

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Glossary

atom (AT-uhm) the smallest unit of an element that keeps the properties of that element (page 19)

atomic weight (uh-TOM-ik WAYT) the weight of one atom of an element (page 19)

compound (KOM-pownd) any substance that is formed by the chemical combination of two or more elements held together by chemical bonds that cannot be separated by physical means; a compound has properties unlike those of the elements that make up the compound (page 6)

crystal (KRIS-tuhl) the geometric shape a mineral forms when its atoms and molecules get into fixed patterns (page 11)

element (EL-uh-muhnt) a pure substance that cannot be broken down into any simpler substances (page 4)

matter (MAT-uh) a solid, liquid, or gas; anything that has mass or volume (page 2)

periodic table (peer-ee-OD-ik TAY-buhl) a chart that arranges all the chemical elements (page 5)

property (PROP-uh-tee) a characteristic of matter that can be observed, such as mass, volume, weight, or density (page 8)

starch (STAHRCH) a white food substance made and stored in most plants; it has no taste or smell; potatoes, wheat, corn, and rice have starch (page 13)

People have studied matter since ancient times. They tried to answer questions about it. What was wind? Why could you feel it but not see it? What was water? Why did it turn to ice? To find the answers, people had to learn what matter itself was made of.

In ancient Greece, people thought that all matter was made up of four ingredients. These were earth, water, fire, and air. Objects were different because of the amounts of each ingredient they contained. A tree, for example, might have more or less fire than rock.



Water was one of the ancient Greeks' four ingredients. Ice is water in solid form.



In ancient Greece people thought fire was found in many things.

Today, scientists have a much better understanding of matter. They classify all matter as a solid, a liquid, or a gas. They also know what matter is really made of—ingredients called **elements**. Each element is pure. This means that it cannot be broken down into simpler parts.

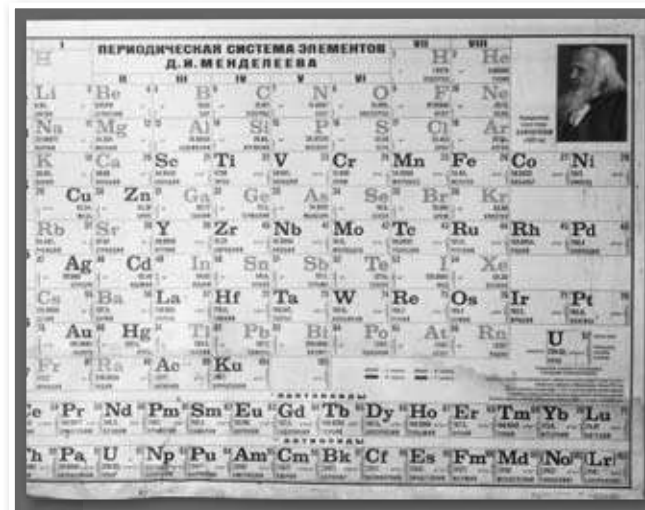
Scientists now know of more than 100 different elements that exist. Some, such as iron and gold, were known thousands of years ago. Yet most elements were discovered only during the past 200 years.

Solid



Mendeleyev's card order was called the periodic table. But he saw that some columns had places where elements didn't seem to fit. He left the spaces blank. He guessed that they would be filled when a new element was found. And that is exactly what happened!

Today's periodic table looks a bit different from the original. But it is still based on Mendeleyev's work. What brilliant work it was!



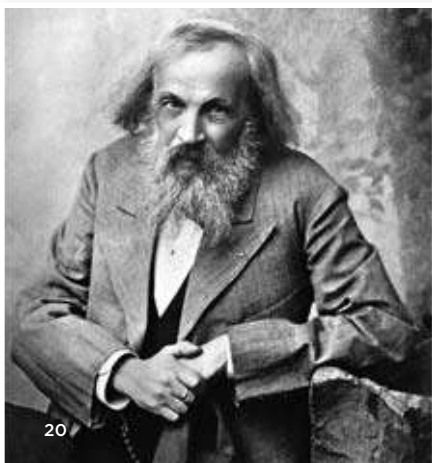
The periodic table groups the elements.

Mendeleyev laid out his 63 cards in a long row. He looked for patterns. Soon he found one. Every seventh card had something in common.

His second card was lithium, a light metal. His ninth card was sodium, also a light metal. His sixteenth card was potassium. This was a light metal, too. The cards in between were not light metals.

Mendeleyev laid out the cards again. This time he didn't use one long row. He put them down in rows of seven. Then he read the columns from top to bottom. In each column the elements had similar qualities!

Mendeleyev grew very excited by his insight. The elements had an order to them!



20

Mendeleyev was the first to organize elements.

Discovering the Elements

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In this book, you will read about some of the elements and the scientists who discovered them. You will learn what their discoveries taught people about matter. You will also learn how their discoveries help us today.

In addition, you will learn about Dmitri Mendeleev (1834-1907), the man who organized all the elements into a chart called the **periodic table**. His chart, which scientists still use today, shows how elements have similarities and an order to them.

Liquid



Gas



5

Aluminum

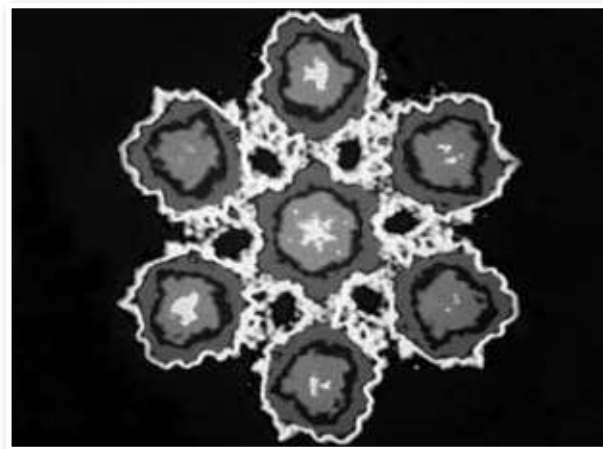
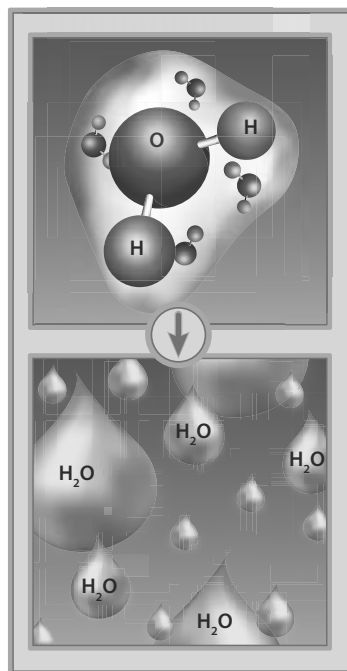
One element is aluminum. It's the most common metal on Earth. Surprisingly, it wasn't easy to discover. Scientists didn't find it until 1825. Why did it take so long?

Aluminum is never found alone. It is always mixed with other elements. Together these elements form a **compound**.

A compound is a combination of elements. It is different than the original elements that made it.

Water, for example, is a compound. It is made from two elements, hydrogen and oxygen. Hydrogen and oxygen are gases.

Water is made from oxygen and hydrogen. So water is a compound of two different gases.



Tiny uranium atoms seen through a microscope.

He included details about **atoms**. An atom is the smallest part of an element. Atoms have different weights. The atoms in aluminum, for example, weigh more than the atoms in helium. The weight of an atom in an element is called the **atomic weight**.

On each card, Mendeleyev included the atomic weight. Then, he arranged the cards from lightest to heaviest.



Copper

Sulfur

Cobalt

Mercury

The Periodic Table

By 1869, 63 elements had been found. Some were solids. Others were liquids. Still more were gases.

The qualities of the elements were different, as well. They had different colors. They reacted differently to heat and cold. They behaved in different ways when mixed with other elements.

Scientists at the time wondered about the elements. What were the connections between the 63 elements? Could they be grouped in some way? Was there a way to list how they were alike and how they were different?

A Russian scientist, Dmitri Mendeleyev, found the answer. He began by taking 63 index cards. On each card, he wrote the name of a different element. He wrote down details about each element.



Bromine



Carbon



Zinc

In the 1700s, scientists knew of a compound called alumina. They thought it was made from two elements, oxygen and something else.

To find the other element, they had to break apart the compound. They didn't know how to do it.

Finally, in 1825, a Danish chemist named Hans Oersted (1777-1851) conquered the problem. First, he made a new compound. He mixed alumina with chlorine. Then he heated it up with other elements. The process created a small amount of pure aluminum.

The work was hard, but Oersted had discovered an element. Later, scientists found easier ways. They learned to create large amounts of pure aluminum.



Hans Oersted used potassium and mercury in his mixture, which formed pure aluminum.



Aluminum is rolled into sheets.

Aluminum has many **properties** that make it useful. The pure metal is soft. It can be folded or rolled. That's why aluminum foil makes a great wrap for food.

Aluminum can also be made to be very strong. To do this, it is mixed with other metals. A mixture of metals is called an alloy. Aluminum alloys make strong building materials.

Aluminum does not rust. It can stand up to rainy weather. As a result, aluminum is used to make window frames and siding for houses.

Aluminum is also very light. For many products, that makes it a better choice than heavier metals. It is used to make speedy bicycles and parts for many cars. Lighter cars use less gas. Many products are shipped in aluminum containers. The lighter weight means lower shipping costs.

Aluminum heats up quickly. That's why it is used for making pots and pans. It cools quickly, too, so it is perfect for soda cans. Also, aluminum can be recycled. Used soda cans don't end up in the trash.



Like iodine, helium also has medical uses. It helps people with asthma. They breathe in a mixture of helium and oxygen. It helps them to breathe. The mixture travels through their lungs more easily than air. That is because helium is lighter than air.

Deep-sea divers also use helium. While diving, they breathe helium mixed with oxygen. If they breathed normal air, they would feel great pain. The helium mix helps prevent this problem.



Inhalers open airways and relax muscles in the lungs.

Helium helps divers stay underwater.



Soon, scientists learned how special helium is. It is a gas that weighs very little. In fact, it is the second lightest of all elements.

Helium is so light that gravity does not pull it down. The gas travels upward toward space. That is why it is used inside blimps and birthday balloons. Helium lifts those items up in the air.

Helium is lighter than air. It is used to keep blimps flying. More than 5,000 children across the country helped paint this blimp.



Aluminum is used in all kinds of products.

Iodine

Other elements were discovered by chance. That was the case with iodine.

Iodine was found in 1811. The French scientist Bernard Courtois (1777-1838) was investigating seaweed. During one experiment, he tried burning it. Then he added sulfuric acid to the seaweed's ashes. By accident, he poured on too much. A dark-purple cloud of gas formed. It settled on metal objects in the lab.

Seaweed



Helium was discovered during an eclipse of the sun.

Helium

One day in 1868, a French astronomer was watching an eclipse of the sun. The astronomer, Pierre Janssen, observed something new. The sun was giving off a light wave. The wave had a color he had never seen before.

Janssen knew that the sun is made of different elements. Each element, when heated, gives off its own special color. The colors can be used to identify the element.

Janssen looked at the strange new color. It must come from an element on the sun, he thought. This element had not yet been discovered.

Sir Norman Lockyer, an English scientist, agreed. Lockyer named the new element helium. He took the name from the Greek word *helios*, which means "sun." At the time, most scientists agreed that helium was on the sun. They didn't think the element would be found on Earth. They were wrong. In 1895, Sir William Ramsay of Scotland discovered helium. He found it in a metal called uranium.

Uranium is taken from uranium mines.



When the gas cooled, Courtois noticed how its form had changed. It was no longer a gas. Now it was a solid. It had turned into shiny, dark **crystals**.

By chance, Courtois had discovered a new element. He called it iodine. He named it after the Greek word *iodes*. *Iodes* means "violet-colored."

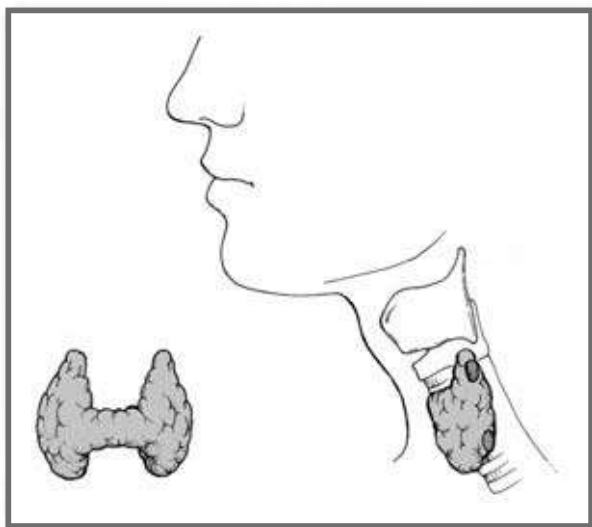
Today, scientists can make iodine in several ways. One of the ways is burning seaweed like Courtois did.

Dark iodine crystals



The discovery of iodine was important to medicine. The human body needs iodine. It makes the thyroid gland work properly. The thyroid allows the body to grow at a steady rate. A lack of iodine inhibits growth.

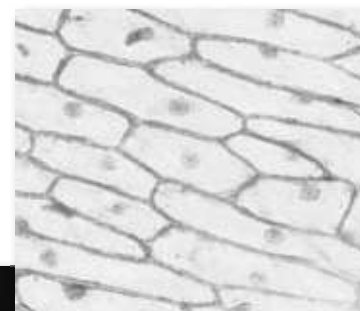
When people have thyroid problems, doctors may give them iodine. They also use iodine to treat diseases such as thyroid cancer.



The thyroid gland is found in the neck. Your body gets iodine from different sources such as salt, milk, eggs, and seafood.

Iodine has other uses, too. The element kills bacteria. People can use it to make dirty water safe to drink. Doctors mix it with alcohol and spread it on cuts. This mix keeps cuts from getting infected.

Iodine is also used to make and test products. The element is mixed with silver to make camera film. Chemists use iodine to test food for **starch**. How does it work? A drop of iodine is put on a food. If the food has lots of starch, it turns dark blue!



An iodine stain helps make cells visible under a microscope.



An iodine mix prevents infections.



Home-School Connection

Word Workout

WORDS TO KNOW

anchored companion dense hydrogen
inflate launched particles scientific

"Meanalikes" Choose one of the words and give me one or two other words that "sort of" mean the same.

SPELLING WORDS

you've	there's	we're	shouldn't
she'd	you're	couldn't	wouldn't
that's	wasn't	I've	he'd
what's	we'll	didn't	don't
doesn't	we've	they're	isn't

Contraction Action I'll give you a sentence using two words that can be combined into one contraction that's on the list. You'll say the contraction and then write it. Then we'll look over your list to see how many words you spelled correctly.

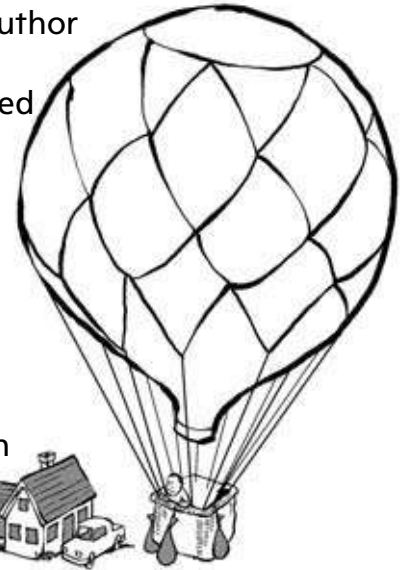
Dear Family Member:

When I think of balloons I think of birthday parties or celebrations. I don't think about going up in a balloon, but people do actually travel in them.

This week we're reading *Up in the Air:*

The Story of Balloon Flight. The author includes both facts and opinions about the inventors who continued to make balloon flights possible.

I will continue reading and thinking about how the author uses facts and opinions to make her story more interesting.



This Week's Skills

Comprehension: fact and opinion

Vocabulary: word parts—
Greek roots

Spelling/Phonics: contractions

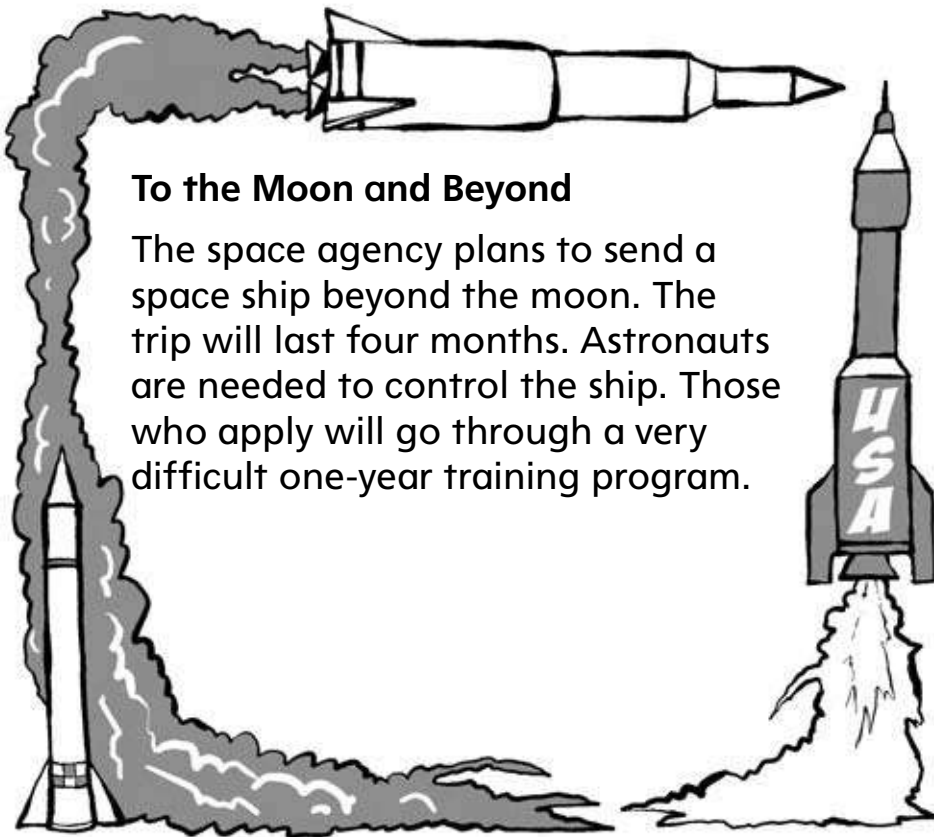
Name _____

Jobs for Hire

The jobs listed below and on the next page have been filled. What kind of person do you think was hired? Let's talk about the jobs and discuss the facts that qualified him or her for the job.

To the Moon and Beyond

The space agency plans to send a space ship beyond the moon. The trip will last four months. Astronauts are needed to control the ship. Those who apply will go through a very difficult one-year training program.



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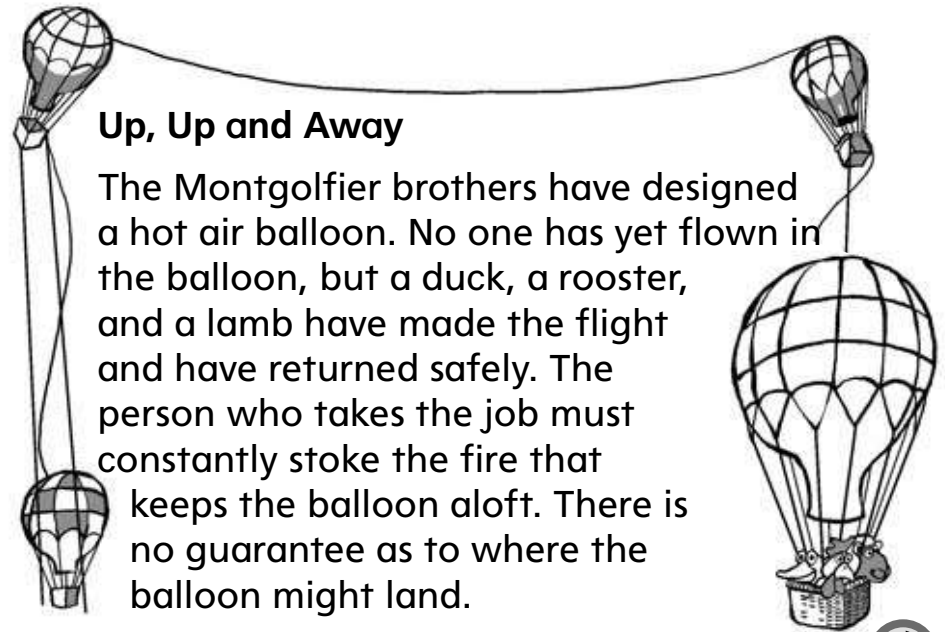
Flying High

Wilbur and Orville Wright are perfecting their flying machine. They need someone to pilot the plane while they observe it from the ground. During the last two trials the flying machine crashed, but there was minor damage. No experience necessary.



Up, Up and Away

The Montgolfier brothers have designed a hot air balloon. No one has yet flown in the balloon, but a duck, a rooster, and a lamb have made the flight and have returned safely. The person who takes the job must constantly stoke the fire that keeps the balloon aloft. There is no guarantee as to where the balloon might land.





Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

anchored	companion	dense	hydrogen
inflates	launched	particles	scientific

Significados parecidos Escoge una de las palabras y dime una o dos que signifiquen casi lo mismo.

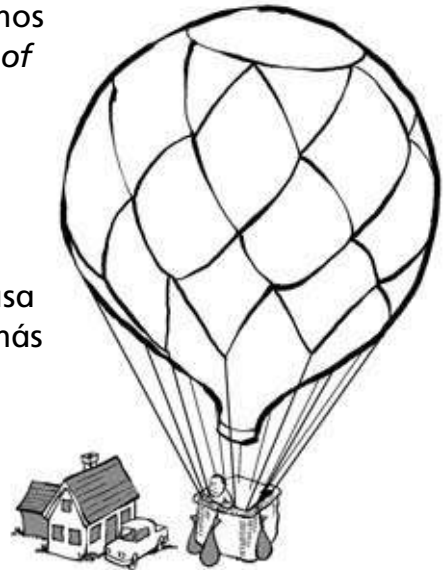
PALABRAS DE ORTOGRAFÍA

you've	there's	we're	shouldn't
she'd	you're	couldn't	wouldn't
that's	wasn't	I've	he'd
what's	we'll	didn't	don't
doesn't	we've	they're	isn't

Acción-contracción Voy a decrite una oración que incluya dos palabras que pueden combinarse para formar una contracción. Vas a decir y a escribir la contracción. Entonces vamos a revisar tu lista para ver cuántas palabras escribiste correctamente.

Queridos familiares:

Cuando pienso en globos, pienso en fiestas de cumpleaños o celebraciones. No me imagino elevándome en un globo, pero en realidad, la gente sí viaja en ellos. Esta semana estamos leyendo *Up in the Air: The Story of Balloon Flight*. El autor incluye hechos y opiniones sobre los inventores que continuaron haciendo posibles los viajes en globo. Voy a seguir leyendo y pensando sobre cómo el autor usa hechos y opiniones para hacer más interesante el relato.



Destrezas de la semana

Comprensión: hechos y opiniones

Vocabulario: partes de una palabra—raíces griegas

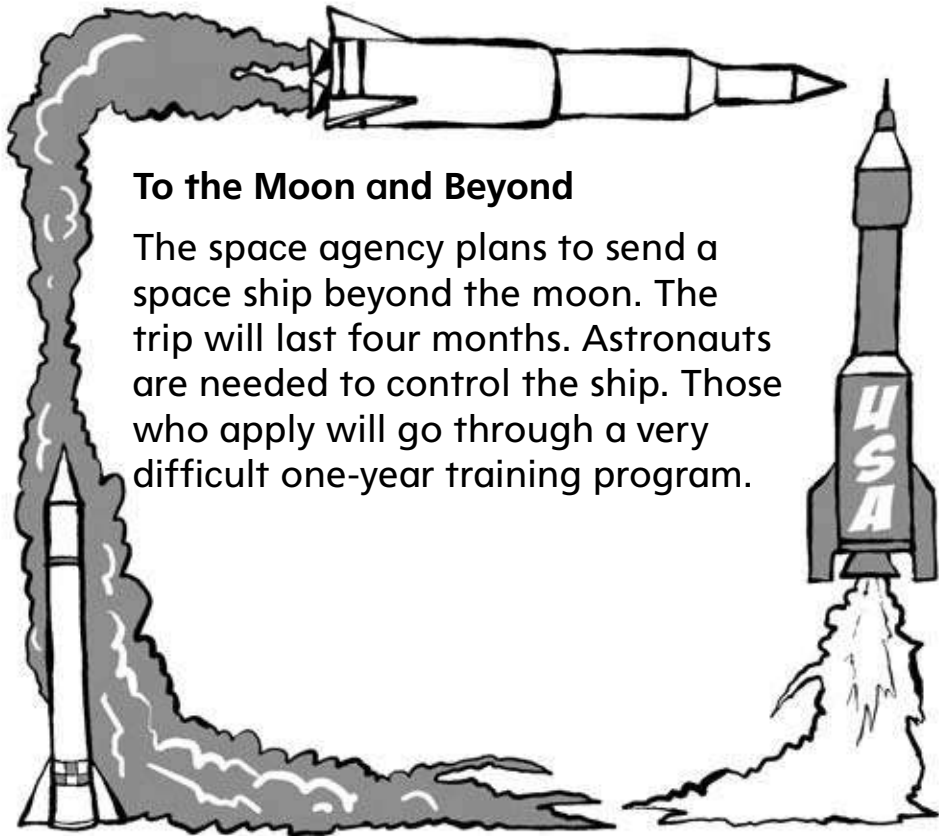
Ortografía/Fonética: contracciones

Nombre _____

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Empleos disponibles

Los empleos disponibles ya han sido tomados. ¿Qué tipo de persona crees que fue contratada? Hablemos acerca de los empleos y analizemos los hechos que lo calificaron para el trabajo.



To the Moon and Beyond

The space agency plans to send a space ship beyond the moon. The trip will last four months. Astronauts are needed to control the ship. Those who apply will go through a very difficult one-year training program.

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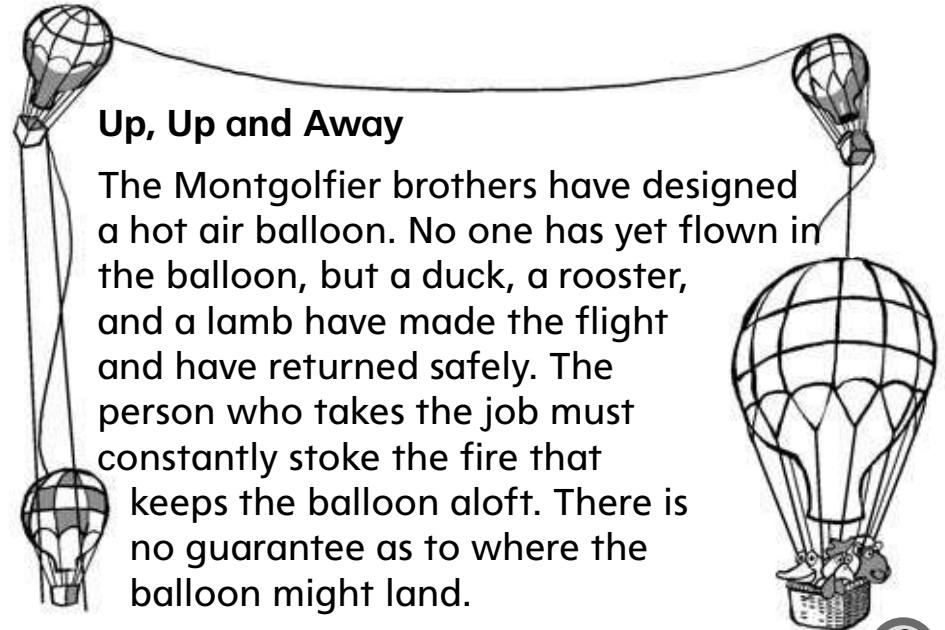
Flying High

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Comprehension Check

Summarize

Use your Fact and Opinion Chart to write a summary of *Sky Watchers*.

Fact	Opinion

Think and Compare

1. Identify two facts from the book. Then identify two opinions from the book. Use details from the book to explain whether the facts support the opinions. **(Fact and Opinion)**
2. If you could meet one of the sky watchers mentioned in this book, who would it be? What would you ask him or her? **(Analyze)**
3. In the days before telephones, computers, and other modern ways to communicate, how did scientists who lived far apart find out about each others' work? **(Apply/Analyze)**

Sky Watchers

by Carolyn Clark



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Introduction

Twinkle, twinkle little star, how I wonder what you are...

From the very earliest times, people have looked up at the night sky and wondered about what they saw there. Ancient people were fascinated by the sky. Some thought it sat on top of Earth like a bowl. Others believed the stars were the spirits of their ancestors shining down.

The ancient Greeks studied the sky. They did not always have enough information to make correct **assumptions**, though. Aristotle (384 B.C.–322 B.C.), one of the most important philosophers of all time, believed that Earth stood still, while the sun and everything else in the sky revolved around it.

Aristotle had no way to prove this was true, but people accepted his **theory** for more than a thousand years.

Early sky watchers could see Earth's moon, five planets—Mercury, Venus, Mars, Saturn, and Jupiter—and about 3,000 stars.

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Glossary

assumptions (*uh-SUHM-shuhns*) beliefs held to be true without proof **(page 2)**

astronomer (*uh-STRAH-nuh-muhr*) a sky watcher; someone who studies objects in space **(page 3)**

concave (*kahn-KAYV*) thicker near the edges than in the middle **(page 8)**

convex (*kahn-VEKS*) thicker in the middle than near the edges **(page 8)**

galaxies (*GA-luhk-seez*) very large groups of stars **(page 19)**

grant (*GRANT*) a sum of money given for a particular purpose **(page 15)**

lens (*LENZ*) a curved piece of glass that is used to bend light and form an image **(page 5)**

pendulum (*PEN-juh-luhm*) a hanging object that swings back and forth from a steady spot **(page 4)**

primary (*PREYE-mayr-ee*) most important **(page 20)**

refracting (*ri-FRAKT-ing*) bending, as a refracting telescope bends light through lenses **(page 8)**

reflecting (*ri-FLEKT-ing*) bouncing, as a reflecting telescope bounces light from one mirror to another **(page 11)**

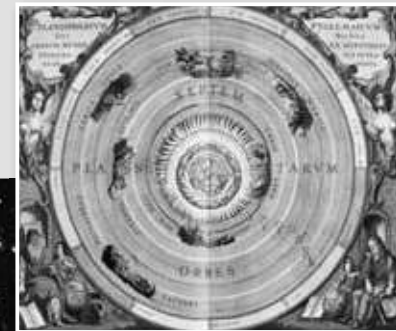
theory (*THEE-uh-ree*) an unproven belief, based on a set of facts **(page 2)**

universe (*YEW-nuh-vers*) everything that exists in space **(page 6)**

Nicolaus Copernicus (1473–1543) didn't accept it. Copernicus was a serious sky watcher. He believed that Earth revolved around the sun, and in 1543 he published a book about his ideas.

Many other **astronomers**, in addition to Aristotle and Copernicus, developed theories to explain the way objects seemed to move in the sky. But these theories were based on what people could see only with the naked eye. To learn more, astronomers needed a better way of seeing distant objects in the sky. In this book, you'll read about sky watchers who developed a new tool that opened up the secrets of the sky—the telescope.

This map, drawn in about a.d. 200, shows Earth as the center of the universe.



Chapter 1

Galileo's Great Discoveries

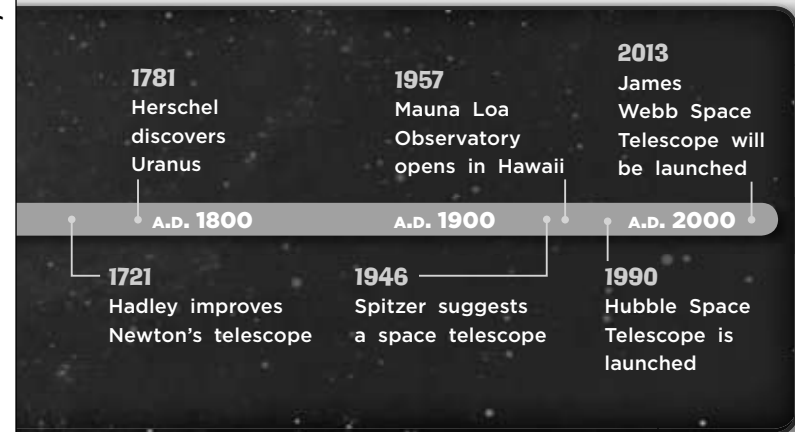
Galileo Galilei was born in 1564 in Pisa, Italy. His father, Vincenzo, was a musician, but Vincenzo wanted Galileo to be a doctor. Galileo tried studying medicine. It wasn't for him. Galileo was curious and preferred studying many different things to find out how they worked. For example, Galileo was fascinated by watching a hanging lamp swing back and forth. It later became the inspiration for his invention of the **pendulum** clock.

In 1609 Galileo heard about the invention of a tool, called a spyglass, that helped make objects that were far away appear larger. Galileo couldn't wait to build one himself.



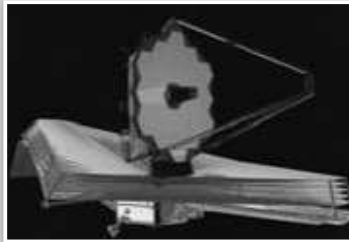
Galileo was one of the very first sky watchers to use a telescope.

We know a great deal more about the sky today than Galileo or Newton or any of the early astronomers could ever have imagined. We still have much more to learn. What's next, after the James Webb Space Telescope and the Overwhelmingly Large Telescope? Stand on the shoulders of giants, and see where your mind leads you. You, sky watcher, may have the next big idea!



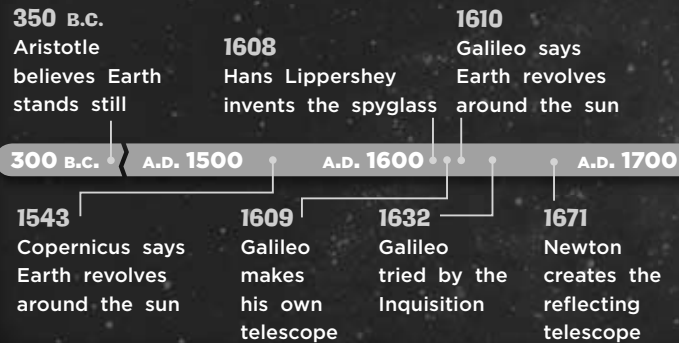
Conclusion

The future of the telescope is even more amazing than its past. In 2013, the James Webb Space Telescope (JWST) will be launched into space. The JWST will be even more powerful than the HST. Its **primary** mirror will be six times as large as that of the HST. And, unlike the HST, the JWST will orbit the sun nearly a million miles away from Earth. Because of the telescope's location and power, they will be able to observe galaxies, stars, and planets that people have only dreamed of before.



Astronomers from around the world will be able to use the James Webb Space Telescope.

Sky Watchers Time Line



Galileo wrote, "A report reached my ears that a certain Fleming had constructed a spyglass...Upon hearing the news, I set myself to thinking about the problem...Finally, sparing neither labor nor expense, I succeeded in constructing for myself so excellent an instrument that objects seen by means of it appeared nearly 1,000 times larger and over 30 times closer than when regarded with our natural vision."



The telescopes Galileo built looked very much like this one.

The spyglass came to be called the telescope.

Spyglass

The telescope was invented by a Dutch eyeglass maker named Hans Lippershey (1570-1619). Like many other scientific discoveries, this one began by chance. One day Lippershey somehow found himself looking through two eyeglass **lenses** at once. He realized that the two lenses made faraway objects look much closer, and the telescope was born. Lippershey thought his invention would be a perfect tool for spying on enemy troops, so it became known as a spyglass.

Galileo made and sold many spyglasses, but what he really wanted to do was to study the sky. When he did, Galileo saw amazing things no one had ever seen before. The moon, which everyone thought was smooth, was full of mountains, valleys, and craters! Galileo also saw multitudes of stars and discovered four moons orbiting the planet Jupiter.

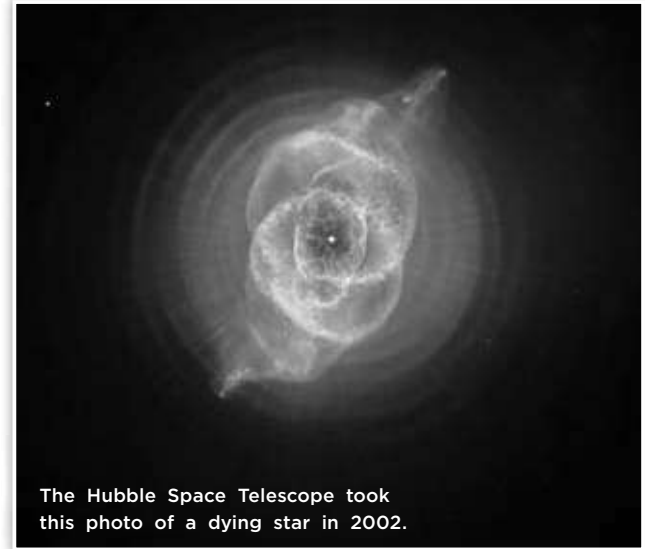
Wait a minute! According to Aristotle, everything in the **universe** orbited around planet Earth. How could four moons be orbiting Jupiter? By using his telescope, Galileo had proof that Aristotle's theory could not be correct.



When Galileo was young, a comet like this streaked across the sky. No one knew the bright light was.

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Sky Watchers



The Hubble Space Telescope took this photo of a dying star in 2002.

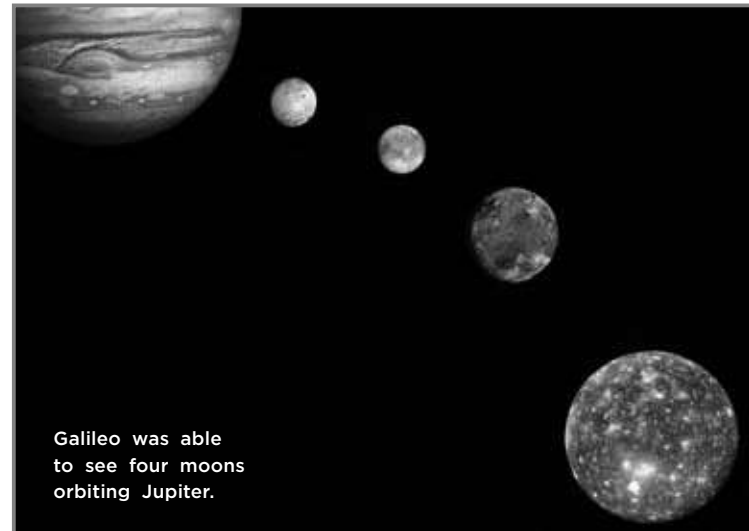
The HST is about the size of a school bus and weighs as much as two elephants. It sends enough information back to Earth every day to fill an encyclopedia. Because of the HST, astronomers have the incredible ability to see and learn about distant **galaxies**. The HST is the greatest tool astronomers have for exploring the entire universe.

From time to time, the HST needs repairs. Astronauts take the space shuttle to the HST to service it. Among other things, astronauts have had to adjust the telescope's mirror, bring new batteries, and fix other equipment. The HST should keep working until 2014. At that time, the telescope will most likely retire. Astronauts will find a way to bring it back safely to Earth.

In 1946, a scientist named Dr. Lyman Spitzer (1914–1997) came up with an unusual idea. He wanted to send a telescope into space. A space telescope could see a lot more than a telescope on Earth. The atmosphere in space is less dense than on Earth. It has less dust and other particles.

Dr. Spitzer kept pushing for his idea, while scientists learned to launch rockets and even went to the moon. Finally, in 1990, he got his wish. The space shuttle Discovery, fueled with liquid hydrogen and oxygen, carried the Hubble Space Telescope (HST) 370 miles above Earth and set it into orbit.

Scientists and engineers on the ground control the Hubble Space Telescope by computer.



Galileo was able to see four moons orbiting Jupiter.

In 1610, Galileo wrote a book about his observations. It was called *The Starry Messenger*. The book made Galileo famous, but some people did not like hearing that everything they had been taught was wrong.

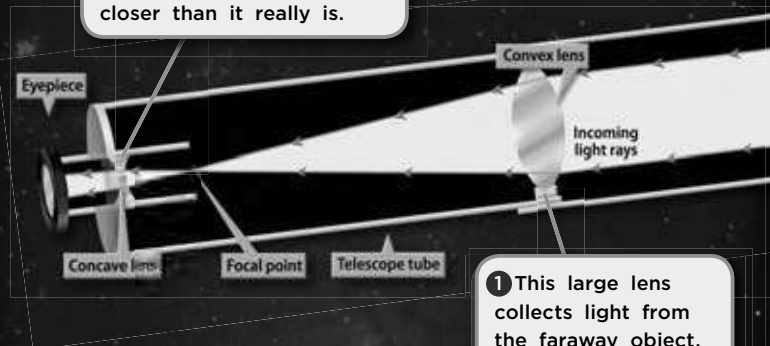
In 1624, Galileo went to Rome and talked with Pope Urban VIII, the head of the Catholic Church. The Pope respected Galileo but told him to be very careful about expressing new ideas about how the universe worked. Galileo was told he must express these thoughts only as a theory, never as the truth.

Galileo listened and tried to obey. In 1632, however, he wrote another book in which he said he was right, and Aristotle and the Catholic Church were wrong.

How a Refracting Telescope Works

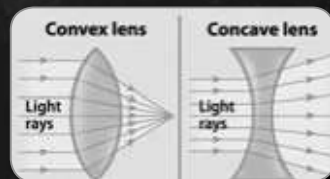
The kind of telescope Galileo built is called a **refracting** telescope. A simple refracting telescope has two clear glass lenses in a long, narrow tube. The lenses refract, or bend, the light rays coming into the telescope.

2 This lens magnifies this image, making the faraway object appear larger and closer than it really is.



Convex and Concave Lenses

A lens is a curved piece of glass that refracts light. **Convex** lenses are thicker in the middle than on the edges. They refract light rays together. **Concave** lenses are thicker on the edges than in the middle. They refract light rays apart. Convex and concave lenses are also used in eyeglasses, magnifying glasses, and microscopes.



1 This large lens collects light from the faraway object. The larger the lens, the more light it collects. It brings the light into focus to form an image.



This image of the Crab Nebula was taken with the Very Large Telescope.

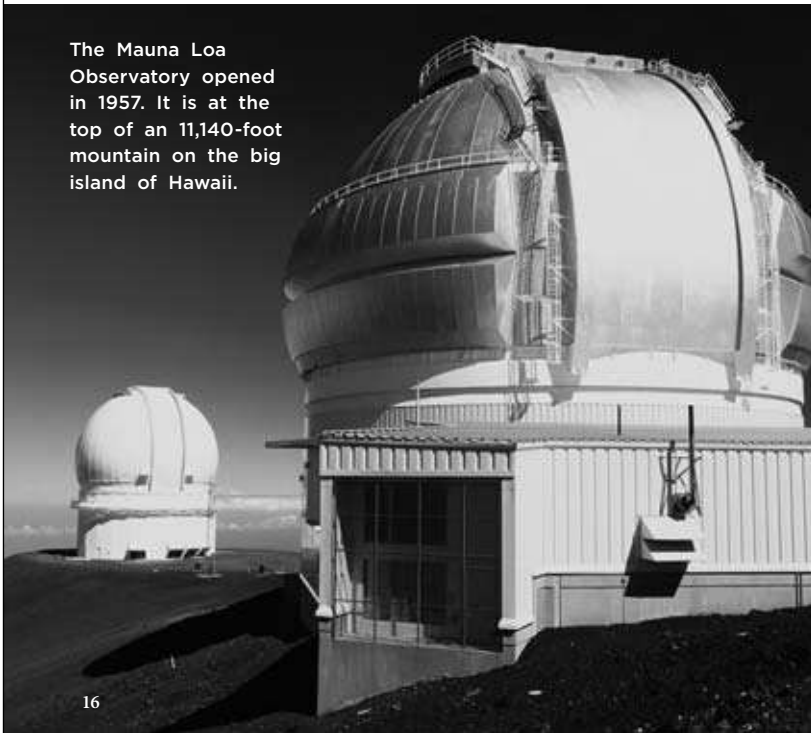
One of the most powerful telescopes on Earth today is called the Very Large Telescope. The Very Large Telescope is actually several different telescopes. They can be combined to work as one gigantic telescope. The Very Large Telescope is able to see objects that are 4 billion times more faint than ones people can see with just their eyes.

The European Southern Observatory, which built the Very Large Telescope, has plans to inflate the size of the telescope once again. This new telescope will be called the Overwhelmingly Large Telescope (OWL). The OWL will be about the size of a football field and weigh between 15 and 20 tons. They are now searching for just the right spot in the world to build it.

After Herschel's time, astronomers kept trying to find ways to improve the telescope. They added cameras to take photos of what they saw in the sky. They made telescopes bigger and bigger, to see farther into space.

They also created observatories—buildings that house huge telescopes. Observatories are usually found on mountaintops, so that no other buildings or objects can block the view of the sky. They are also often in remote places, where there is less air pollution. The observatory with the best location in the United States is Mauna Loa, in Hawaii.

The Mauna Loa Observatory opened in 1957. It is at the top of an 11,140-foot mountain on the big island of Hawaii.



Galileo had to face the Inquisition because of his beliefs about the universe.

The Church was very powerful. It had its own court, called the Inquisition. It could put people on trial and punish them. Galileo was brought before the Inquisition.

His trial lasted almost three months. It was the worst experience of Galileo's life. He was threatened with torture if he did not take back his ideas. Galileo was almost 70 years old and not in the best of health. Galileo gave in and told the Inquisition that the Church was right, and everything he had written was false.

Did Galileo mean it? Almost certainly not, but it was the only way he could save his life. The Church sentenced Galileo to life in prison. He was imprisoned in his house until he died in 1642.

Chapter 2

Newton's New Idea

Galileo's telescope did wonders for what sky watchers could see in the sky. It had some problems, though. The next improvement in the telescope came from a scientist in England.

Isaac Newton (1642–1727) is most famous for “discovering” the force gravity. Newton realized that gravity is found throughout the universe. He discovered that it is the force that keeps the moon orbiting Earth instead of flying off into space.

Newton was famous for other scientific discoveries, as well. He created calculus, a whole new type of mathematics. Newton also identified the basic laws of motion.



Newton is one of the greatest scientists in history.

Greek Origins

These sky-related words came from the Greek language:

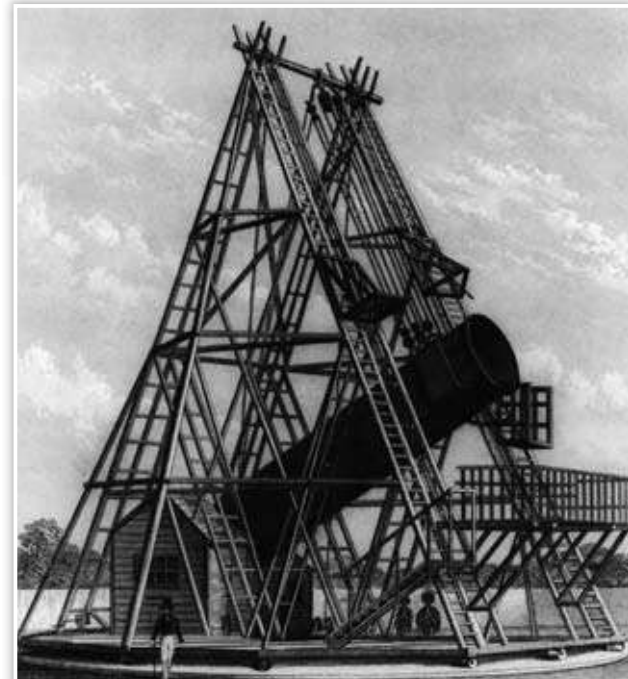
Astronomy has the prefix *astro-*, which means “stars” or “outer space.”

Telescope is made up of *tele-*, which means “far” and *skopos*, which means “watcher.”

The most important object Herschel found in the sky was the planet Uranus. The first time he saw the planet, in 1781, he thought it was a comet. As he kept watching, Herschel realized it couldn't be a comet because it had a regular orbit. It had to be a planet!

Herschel was named King George III's astronomer. He received a **grant** so he could work on astronomy full-time. Caroline also received a yearly grant from the king for being William's assistant. She was the first woman ever to receive such an award.

Herschel later built a telescope that was 40 feet long.



Hadley's telescope led the way for even more powerful sky-watching tools. William Herschel (1738–1822) was born in Germany but lived in England. Astronomy was Herschel's passion and he spent a lot of time thinking about how to get a better view of the sky.

The bigger a reflecting telescope is, the farther you can see. So Herschel built the biggest telescope he could. It included a large reflecting mirror and was 20 feet long. The eyepiece was near the top, so Herschel would climb to a platform at the top of the telescope and observe the sky. Herschel would shout his findings down to his sister Caroline, who was safely anchored on the ground. Caroline wrote down everything he saw.



Herschel's sister brought him food while he was working, so he didn't have to stop to eat.

Caroline's Comets

Caroline Herschel (1750–1848) came to her older brother's house to be his housekeeper and companion. She ended up as his astronomy assistant. In 1783, William gave Caroline a telescope. She discovered eight comets, and became a well-known astronomer in her own right.



Newton once wrote, "If I have seen a little further [than other people] it is by standing on the shoulders of giants." The "giants" were the scientists who came before him. He studied their work and then tried to improve on it. Newton's work helped to prove that Galileo's theory of the universe was true.

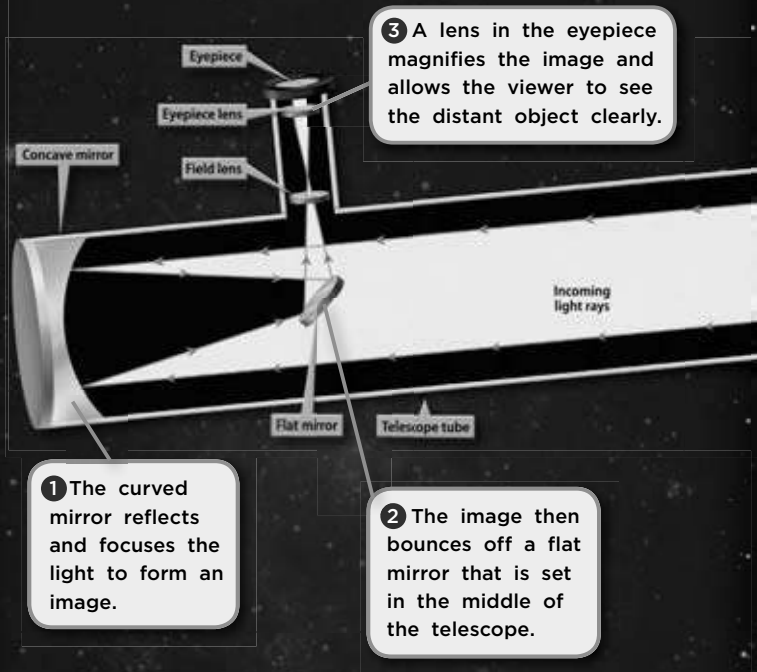
Newton was also able to improve Galileo's telescope. Newton took the basic idea and changed it by using a curved mirror, instead of a curved lens, to gather and focus light. As a result, telescopes could be made larger and much more powerful. This type of telescope is called a **reflecting** telescope.



This was Isaac Newton's telescope. It was more powerful than Galileo's.

How a Reflecting Telescope Works

In a reflecting telescope, light enters the tube at one end and hits a large concave mirror at the other end. The mirror reflects and focuses the light to form an image.



A Mirror Image

Why can you see yourself in a mirror? Light rays bounce off you, and some of them hit the shiny, flat surface of the mirror. The mirror reflects, or bounces back, that light. You see an image of yourself. Mirrors are most often made of glass, but can be made from other materials, too.

Chapter 3

Hadley, Herschel, and Hubble

Newton and Galileo's telescopes led to more powerful sky-watching tools. Astronomers were able to improve both the refracting telescope and the reflecting telescope.

English scientist John Hadley (1682-1744) studied Newton's telescope. In 1721, he built a reflecting telescope more powerful than Newton's, but with a much shorter tube, making it easier to carry and use.



John Hadley also invented a way to mount telescopes so astronomers could keep objects in focus as Earth turned.

Word Workout

WORDS TO KNOW

atmosphere available contact damages
destruction property surge

Weather or Not Let's make up a weather report using the words above.

SPELLING WORDS

absent	pigment	blizzard	empire
submit	goggles	dentist	jogger
kennel	summon	champion	flatter
fragment	hollow	valley	fifteen
gallop	mustang	vulture	culture

Speedy Syllables I'll time you. I'll say each word; you give me the two syllables as quickly as you can. We'll time it and do it again.



Home-School Connection

Dear Family Member:

Hurricanes can cause terrible destruction. In the story *Hurricanes*, I'm learning how tropical storms form and the differences between them. The author of this article describes the hurricanes in a way that makes them seem very real. As I read I'll look for words and phrases the author uses to make the text come to life.

This Week's Skills

Comprehension: description

Vocabulary: dictionary—multiple-meaning words

Spelling/Phonics: syllables



Name _____

(fold here)
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Weather Report

Let's read about the weather conditions in the four locations below. Together, we can write a descriptive report for the TV news.

It's spring in the city. The grass is green, the trees are budding, and the flowers are blooming. Birds have returned. The weather radar indicates that there will be a spring shower, but it's not your typical spring shower. It will be raining cats and dogs—literally!



It's summer. Daily temperatures often reach 108 degrees Fahrenheit. But the weather radar tells a different story today. A cold air front is moving down from Canada, bringing freezing temperatures and snow! That's right, snow!



It's fall. The weather radar indicates a storm is arriving. The instruments show that the storm is a hailstorm. The hailstones might be as large as baseballs.



Gentle breezes are about to give way to strong winds. According to the National Weather Bureau, the wind is so strong that it will sweep people off their feet.



Ejercicio de palabras

PALABRAS DE VOCABULARIO

atmosphere available contact damages
destruction property surge

El clima Escribamos un reporte meteorológico usando las palabras de arriba.

PALABRAS DE ORTOGRAFÍA

absent	pigment	blizzard	empire
submit	goggles	dentist	jogger
kennel	summon	champion	flatter
fragment	hollow	valley	fifteen
gallop	mustang	vulture	culture

Sílabas veloces Voy a tomarte el tiempo. Vas a decir cada palabra, indicando las dos sílabas tan rápido como puedas. Volveremos a tomar el tiempo y a hacerlo de nuevo.



Conexión con el hogar

Queridos familiares:

Los huracanes pueden provocar una destrucción terrible. En el artículo *Hurricanes*, estoy aprendiendo cómo se forman las tormentas tropicales y las diferencias que existen entre ellas. El autor de este artículo describe los huracanes de una manera que los hace parecer reales. Mientras leo, busco palabras y frases que el autor usa para hacer que el texto cobre vida.

Destrezas de la semana

Comprensión: descripción

Vocabulario: diccionario—palabras con varios significados

Ortografía/Fonética: sílabas



Nombre _____

Reporte meteorológico

Leamos acerca de las condiciones climáticas en los cuatro lugares de abajo. Juntos, podemos dar un reporte descriptivo para las noticias de televisión.

It's spring in the city. The grass is green, the trees are budding, and the flowers are blooming. Birds have returned. The weather radar indicates that there will be a spring shower, but it's not your typical spring shower. It will be raining cats and dogs—literally!



It's summer. Daily temperatures often reach 108 degrees Fahrenheit. But the weather radar tells a different story today. A cold air front is moving down from Canada, bringing freezing temperatures and snow! That's right, snow!



It's fall. The weather radar indicates a storm is arriving. The instruments show that the storm is a hailstorm. The hailstones might be as large as baseballs.



Gentle breezes are about to give way to strong winds. According to the National Weather Bureau, the wind is so strong that it will sweep people off their feet.



Comprehension Check

Summarize

Use a two-column Description Chart. Find descriptive details that follow the signal phrase and add them to the chart. Then use your chart to summarize different kinds of weather extremes such as thunderstorms, tornadoes, and hurricanes.

Signal Words	Descriptive Facts

Think and Compare

1. Describe how a blizzard forms and what it is like.
(*Description*)
2. Would you enjoy working as a weather scientist?
Why or why not? (*Evaluate*)
3. Why is it important to have an organization like the National Weather Service to study and predict the weather? (*Analyze*)

Weather Extremes

by Rebecca Motil



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Introduction

In Florida, the rain is pouring down and the winds are strong. Before the storm is over, Florida will get three inches of rain.

On the same day, the **weather** across the country is very different. It is hot and dry in Death Valley, California. The temperatures are over 100°F (38°C).

Death Valley, California, is one of the hottest places on Earth.

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Glossary

air mass (*AIR MAS*) a large body of air that all has about the same temperature and moistness (*page 6*)

atmosphere (*AT-muhs-feer*) the layer of gases that surrounds Earth (*page 3*)

blizzard (*BLIZ-urd*) a storm that has large amounts of snow or blowing snow, with winds greater than 35 miles (56 km) per hour (*page 20*)

climate (*KLEYE-mite*) the average or usual weather pattern in an area (*page 3*)

condensation (*kon-den-SAY-shuhn*) when a gas turns into a liquid (*page 12*)

equator (*ih-KWAY-ter*) an imaginary line that circles Earth halfway between the North Pole and the South Pole (*page 4*)

evaporation (*i-VAP-uh-RAY-shuhn*) when a liquid turns into a gas (*page 12*)

front (*FRUHNT*) the line along which air masses meet (*page 8*)

hurricanes (*HUR-i-kayns*) large, destructive storms with wind speeds of at least 74 miles per hour (*page 18*)

precipitation (*pri-sip-i-TAY-shuhn*) rain, sleet, hail, and snow (*page 12*)

rain shadow (*RAIN SHA-doh*) an effect where one side of a mountain range receives less rain (*page 15*)

storm surge (*STAWRM SURJ*) a huge wave of water that hits the coast during a storm (*page 19*)

tornado (*tor-NAY-doh*) a rapidly spinning column of air with high winds that moves along the ground (*page 11*)

water cycle (*WAW-tur SYH-kuhl*) process by which water moves between the atmosphere and Earth's surface (*page 12*)

weather (*WETH-er*) what the atmosphere is like at any given time and place (*page 2*)

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Weather Extremes



During a big storm like a hurricane, the winds reach high speeds.

There are big differences in weather and **climate** across the United States. Weather is what the lower **atmosphere** is like at any given place or time. Climate is the usual pattern of weather in a place.

Some towns get more than 200 inches of snow during the winter, while others receive only two inches of rain all year. Some areas are hit by tornadoes, while others face hurricanes. Find out the story behind these weather extremes.

CHAPTER 1

The Sun and Weather

The sun is the engine that powers the weather. The sun heats Earth unevenly. In general, temperatures are hotter the closer you are to the **equator**, an imaginary line that circles Earth halfway between the North Pole and the South Pole. This is because near the equator, the sun rises high in the sky. The sun's rays hit Earth directly, heating the land and water.

As you move away from the equator, the sun is lower in the sky at midday. The rays spread out and are less strong. They hit the surface of Earth less directly. Temperatures are cooler.

In the areas near the North and South poles, the sun's rays are the least direct. It is very cold at the poles.

Conclusion

Rainy or dry, hot or cold, the weather affects us all. But knowing what causes the weather and listening to weather forecasts can help us deal with it. We can plan outdoor activities when the weather is good. We can stay inside when a severe storm is coming. Weather predictions can help keep us safe—and dry!

Staying Safe During Weather Extremes

- Listen to the weather reports on radio, television, or NOAA Weather Radio All-Hazards. Follow the advice given.
- Stay inside during severe storms.
- When lightning approaches, seek shelter. If you can't get to a building, sit in a car with the windows rolled up.
- During a tornado, go to the basement of the building to protect yourself. If no basement is available, move to a small room on the first floor. A bathroom is often the safest place in a home.
- For a hurricane, follow the advice of weather scientists. If they say to leave your home, leave immediately.



The National Weather Service provides weather forecasts and emergency alerts for every type of severe storm. They contact authorities about tornadoes, hurricanes, and blizzards.

BLIZZARDS

Picture a blinding snowstorm with cold winds and heavy, blowing snow. That type of storm is called a **blizzard**.

You read about lake-effect snow in places like Buffalo and Cape Cod. Sometimes these storms develop into blizzards. Winds blow more than 35 miles (56 km) per hour and temperatures are less than 20°F (-7°C).

Blizzards can strike other places, too. They can occur whenever a warm air mass meets a very cold air mass, forming a cold front that results in heavy snow and high winds.

A blizzard can be dangerous. Some blizzards have closed roads, schools, and businesses for weeks.

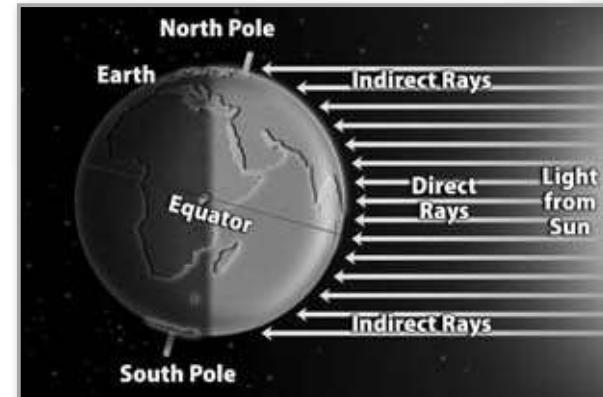
The blizzard of 1978 stranded 3,000 cars and 500 trucks on Route 128 near Boston, Massachusetts. Drivers and their passengers had to be rescued by emergency vehicles.



20

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Weather Extremes



The sun's rays strike Earth's surface at different angles. That is why it is hottest at the equator and coldest at the poles.

Warm air rises and cool air sinks. Air at the equator is heated more than air at the poles. So warm air at the equator rises and is replaced by colder air flowing in from the north and the south.

The moving air is pushed to the right or left by Earth's rotation, or spin. This constantly moving air produces global winds.

At the South Pole, the sun does not rise as high in the sky, so its rays hit the land Earth's surface indirectly.

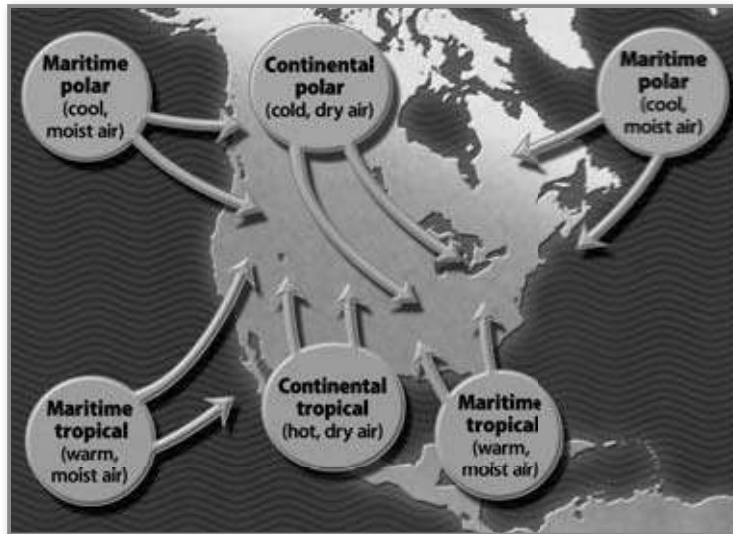


5

AIR MASSES

Because of the way the sun's rays hit Earth, the temperature on the surface varies. An **air mass**, which is a large body of air, sits over a surface for many days. It takes on the same temperature and moistness as the land or water below. Air masses can be 1,000 miles (1,600 km) across and a mile or two thick.

Over North America, air masses near the North Pole are cold. Air masses farther south are warmer.



This map shows the air masses that affect North America. The arrows show their direction of movement.

Storm Surge

During a hurricane, the winds push the water forward. This creates a huge dome of water that can be as much as 50 miles (80 km) wide and 10 feet (3 m) high. When a hurricane hits land, a huge wave of water slams into the coast. This is called a **storm surge**. The water surges inland, flooding everything in its path.



The high winds and heavy rains of a hurricane damage property.

If the storm stays over warm water, it keeps taking up moisture. It gets even larger, and spins even faster. When wind speeds reach at least 74 miles (119 km) per hour, the tropical storm becomes a hurricane.

Hurricanes are huge storms. They can be about 375 miles (600 km) across. They can reach 40,000 feet (12,000 m) high. When they hit land, they can cause a lot of destruction. The high winds and heavy rains can break windows, take off roofs, and cause other damages to property. They can uproot trees and cause floods.

After a hurricane hits land and moves inland, it weakens. This is because it no longer has the supply of warm water it needs to keep going.

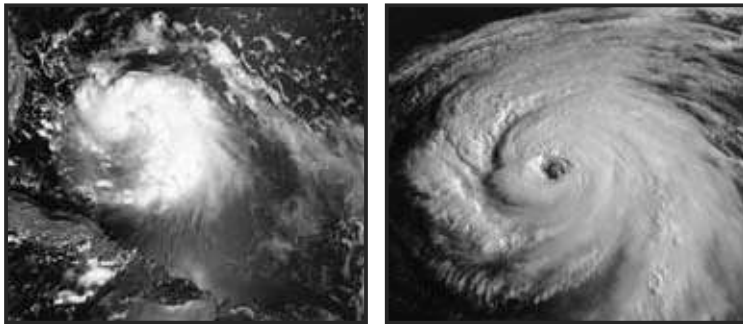
CHAPTER 4

The Big Storms: Hurricanes and Blizzards

If you live near the ocean, you probably know about **hurricanes**. Hurricanes are huge, spinning storms. They bring strong winds and heavy rains.

Hurricanes need warm, wet air to get going. This is why they usually start over the ocean near the equator. Most happen in late summer. This is when the ocean is warmest.

A hurricane begins when a group of thunderstorms moves over warm water. The storms begin to spin in a circle around an area of low pressure in the center. As they spin faster, they merge to form one giant storm. This is called a tropical storm.



The photo on the left shows Hurricane Katrina as it was forming. The photo on the right shows the fully-developed hurricane.

As air masses move, they cause changes in the weather. A warm air mass brings warm weather. A cold air mass brings cold weather.

For example, the continental tropical air mass forms over Mexico and the southwestern United States. When it moves east, it brings hot, dry weather to the Midwest.

When the continental polar air mass moves south, it brings cold, dry weather along with it.



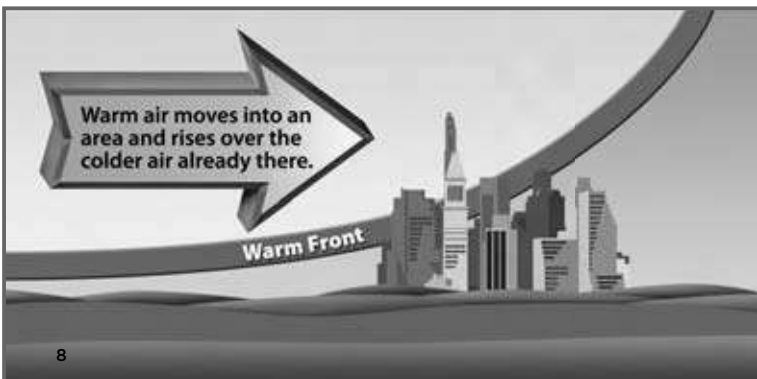
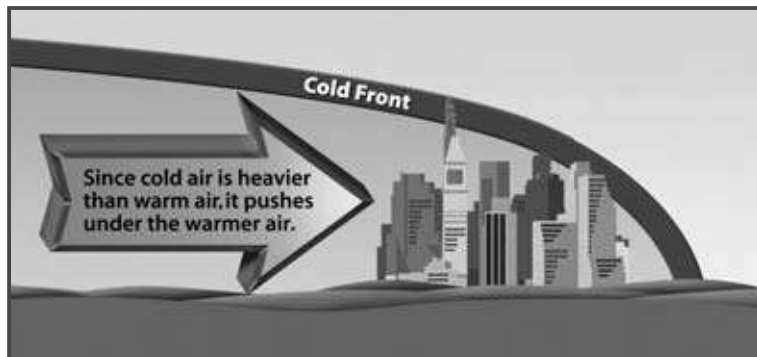
In winter, cold air flows south from Canada to the United States. It brings cold weather.

CHAPTER 2

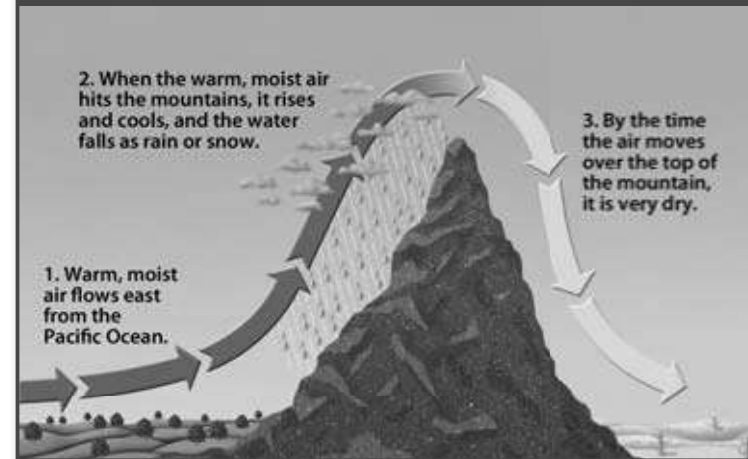
Cold Fronts and Warm Fronts

Extreme weather can happen in the areas where two air masses meet. The place where two air masses meet is called a **front**. Each front brings its own kind of weather.

A cold front is an area where a cold air mass is replacing a warm air mass. A cold front usually brings brief, heavy rains and strong winds.



Rain Shadow Desert



Winter storms in this area move east from the Pacific Ocean. But to reach Death Valley, they must first pass over four mountain ranges. Each time the clouds cross a mountain range, they rise up. This causes them to cool. The water droplets in the clouds fall as rain or snow on the west side of the mountains. The east side gets much less rain. This is called a **rain shadow**.

By the time the clouds cross all four mountain ranges and reach Death Valley, they have almost no moisture left.

Rain shadows can happen anywhere the conditions are right. For example, there is a rain shadow east of the coastal mountains of Washington and Oregon.

WHY DEATH VALLEY IS HOT AND DRY

The Great Lakes and other large bodies of water affect the water cycle. So do mountain ranges.

The hottest, driest place in North America is Death Valley, California. This desert averages just 2.5 inches (6.4 cm) of rain per year. That is a big difference from Buffalo's yearly snowfall!

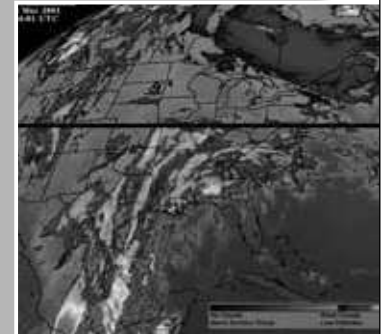
The very dry weather in Death Valley can be explained by the water cycle.

The hottest temperature ever recorded in North America was in Death Valley. It was 134°F (57°C).



Weather Satellites

Weather satellites are one of the tools available to weather scientists today. Many satellites orbit, or circle, Earth in different positions. The pictures they take can show where storms are forming. Weather satellites can also take infrared photos that take a "picture" of the temperatures on Earth's surface. They show us how hot or cold it is in a certain area.



Can you find a curved line of clouds on the photo? This is a front.

A warm front is an area where a warm air mass is replacing a cold air mass. A warm front brings light rain or snow. As a warm front passes, temperatures get warmer.

Sometimes a cold air mass and a warm air mass meet and stay over the same area for days. This is called a stationary front. The cold and warm air masses are still moving, but they are moving in about the same direction. A stationary front usually has calm weather. A light rain may fall as well.

A front is a clue to how the weather will change. Weather scientists use fronts to predict the weather.

THUNDERSTORMS AND TORNADOES

Thunderstorms are a dramatic example of what can happen during a cold front. Each year, the United States has about 100,000 thunderstorms.

Thunderstorms begin to form when cold, heavy air pushes under warm, moist air. This causes the warm air to rise quickly. The wind might blow upward as fast as 60 miles (100 km) per hour.

Next, a large, tall cloud called a thunderhead forms. Drops of water and ice crystals in the cloud grow in size. Finally, they get too heavy. They fall as rain or even hail, lumps of ice.

Thunderstorms create big electrical sparks—lightning. Lightning heats the air and causes thunder.



Look at the map. Do you notice something about lake-effect snow? It almost always falls east and southeast of the lakes. This is because winds in North America tend to blow from west to east. So, the winds blow snow clouds east off the lakes.

Lake-effect snowstorms are famous in the Great Lakes region. But these heavy snows can happen anywhere that cold air passes over a large, warm body of water. For example, Great Salt Lake in Utah also has lake-effect snow.

A similar effect occurs on Cape Cod in Massachusetts. There, the cold arctic air flows across the Atlantic Ocean. It drops snow on the Cape when it hits land.

"Lake-Effect" Snow Areas in North America





Lake-effect snow can drop a foot of snow in just a few hours.

LAKE-EFFECT SNOW

Imagine getting more than 200 inches of snow each year. That's more than 16 feet (5 m) of snow! It happens all the time in Buffalo, New York.

Buffalo's snow is an example of the water cycle in action. Buffalo is next to Lake Erie, a large body of water. Each summer, Lake Erie warms up by absorbing a large amount of heat. When winter comes, the lake is warmer than the surrounding land.

Cold air from Canada blows across the lake. As it flows over the warmer water, heat and moisture rise into the air. It condenses into big snow clouds. When the clouds cross the cooler land, snow starts to fall. These heavy snow showers are called lake-effect snow.

Some huge thunderstorms produce tornadoes. A **tornado** is a swiftly spinning column of air that stretches from a cloud to the ground. These spinning storms can cause great destruction.

The center of a tornado has the highest winds on Earth—up to 300 miles (480 km) per hour. The winds can blow away everything in their path. Luckily, most tornadoes last only a few minutes and move along a narrow path. However, some last as long as three hours.

Tornadoes can occur anywhere, but in the United States there is an area where the conditions are just right for thunderstorms and tornadoes. It is called "Tornado Alley" and it includes parts of Texas, Oklahoma, Kansas, and Nebraska. Each spring, cold, dry air from Canada meets warm, moist air from the Gulf of Mexico in this area. This causes big thunderstorms. When the conditions are right, these storms can generate tornadoes.

A tornado is often a funnel shape. Less than one percent of all thunderstorms generate tornadoes.



CHAPTER 3

Why Does It Rain?

Have you ever wondered where rain comes from? It's due to the **water cycle**. Water moves between the atmosphere, the oceans, and land. This cycle, like most of our weather, is powered by the sun.

The sun's rays heat the water in lakes, rivers, and the oceans. The water turns into a gas called water vapor, and then rises into the sky.

You can see this for yourself on a sunny day. Look at a puddle. As the day passes, the water evaporates, or turns into a gas. The liquid water turns into water vapor. This is called **evaporation**.

As water vapor rises, it cools. When it is cool enough, the vapor turns back into liquid water. This process is called **condensation**. The vapor becomes tiny drops of water that form fog or clouds. The water drops join with other drops. When they get heavy enough, they fall back to Earth as **precipitation**—rain, snow, sleet, or hail.

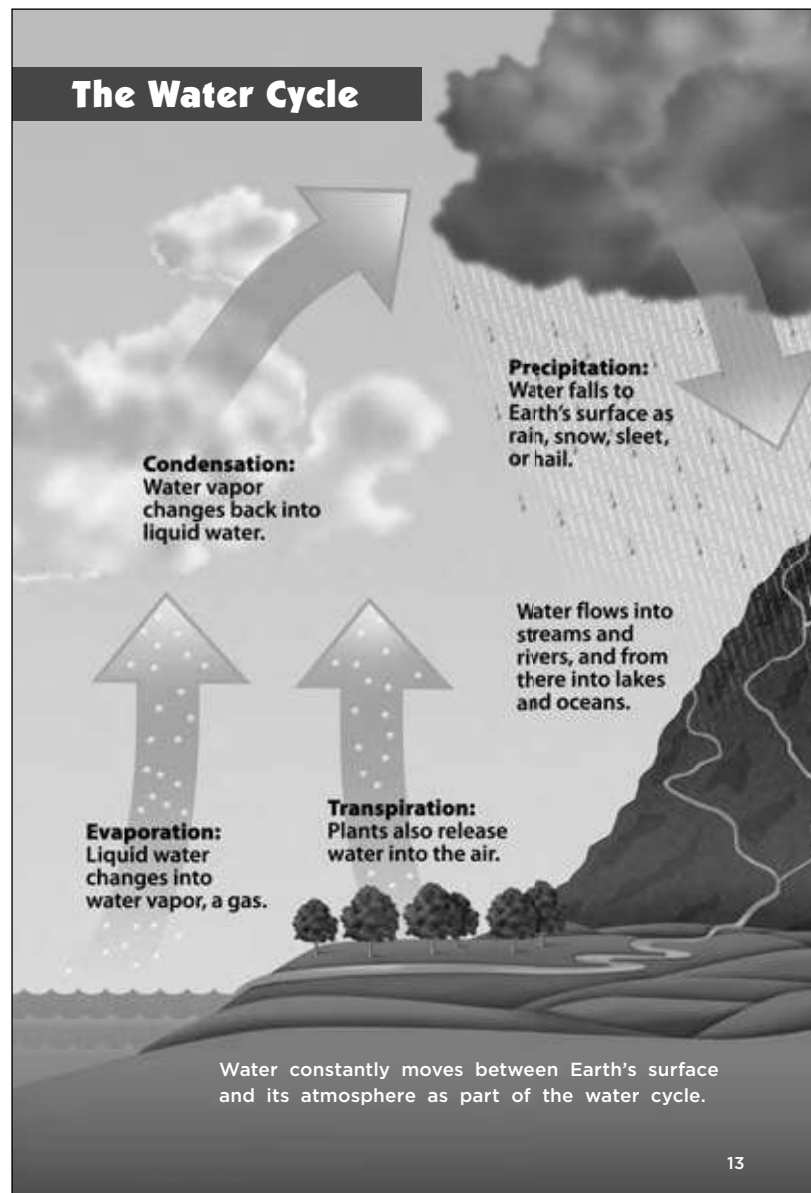


The water in this puddle will evaporate.



The water that forms on a car window overnight is an example of condensation.

The Water Cycle





Home-School Connection

Word Workout

WORDS TO KNOW

appreciation burdens educate merchandise
instruct treasurer wares unfortunate

Market on the River Let's use the words to talk about a marketplace on a riverbank.

SPELLING WORDS

tyrant	profile	smoky	minus	local
equal	linen	legal	loser	decent
humor	closet	comet	punish	vacant
recent	student	shiver	cavern	panic

Spelling Bee I'll say a word, then I'll spell it. Sometimes I'll spell it correctly, and sometimes I'll change the spelling. Tell me whether I've spelled it right. If not, spell it correctly for me.

Dear Family Member:

The Catch of the Day is a West African folk tale. One of the characters is the Griot, a storyteller. He tells stories to pass on the traditions of his ancestors and to entertain as well. In this play the Griot is telling a group of children a story about a tricky fisherman. It is interesting to learn about African traditions and the themes in folk tales. The fisherman has already tricked one person. Will he trick another person? Will someone trick him?

This Week's Skills

Comprehension: theme

Vocabulary: analogies

Spelling/Phonics:
syllables

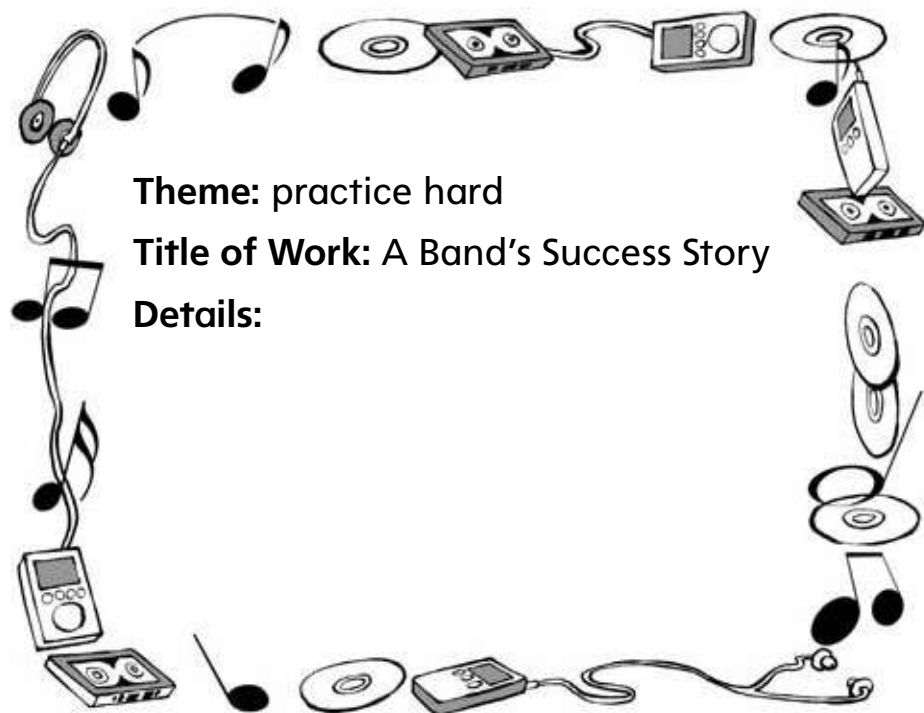


Name _____

(fold here)
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And the Theme Is...?

Let's list some details the authors might include in the following books.

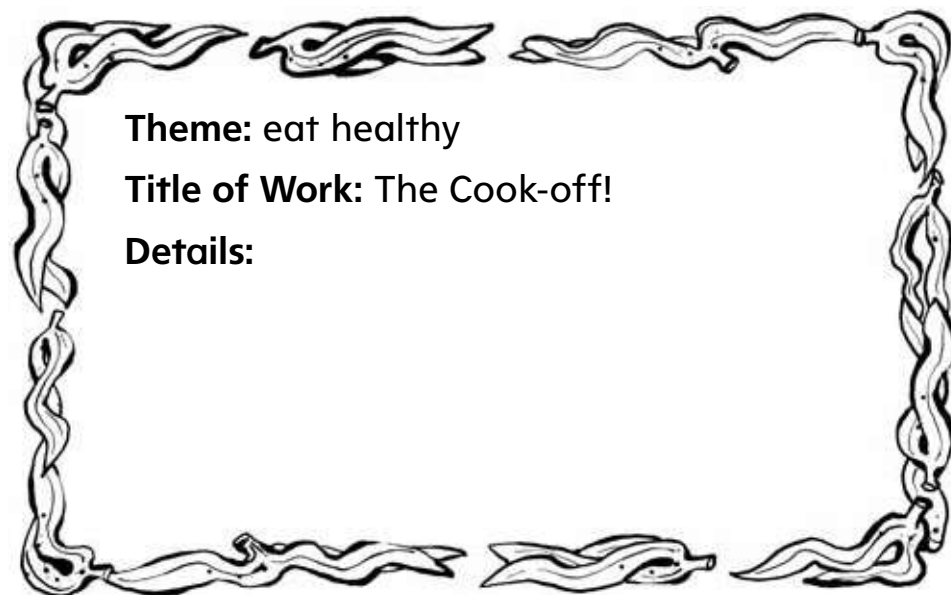


Theme: practice hard

Title of Work: A Band's Success Story

Details:

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Theme: eat healthy

Title of Work: The Cook-off!

Details:



Theme: share a culture

Title of Work: Coming to America

Details:

Ejercicio de palabras

PALABRAS DE VOCABULARIO

appreciation burdens educate merchandise
instruct treasurer wares unfortunate

Un mercado en el río Usemos las palabras para hablar acerca de un mercado a orillas de un río.

PALABRAS DE ORTOGRAFÍA

tyrant	profile	smoky	minus	local
equal	linen	legal	loser	decent
humor	closet	comet	punish	vacant
recent	student	shiver	cavern	panic

Concurso de ortografía Voy a decir una palabra y luego la voy a deletrear. A veces la voy a deletrear correctamente y otras veces voy a cambiar la manera de deletrear la palabra. Tú me dirás si voy bien o si me equivoqué. Si es así, tú deletrearás la palabra correctamente.



Conexión con el hogar

Queridos familiares:

The Catch of the Day es un cuento popular de África occidental. Unos de los personajes es el *griot*, un narrador de cuentos. Él narra cuentos para transmitir las tradiciones de sus ancestros y también para entretener a la gente. En esta obra de teatro, narra a un grupo de niños un cuento acerca de un pescador tramposo. Es interesante aprender acerca de las tradiciones y los temas de cuentos populares africanos. El pescador engañó a una persona. ¿Va a engañar a otra persona? ¿Alguien lo va a engañar a él?

Destrezas de la semana

Comprensión: tema

Vocabulario: analogías

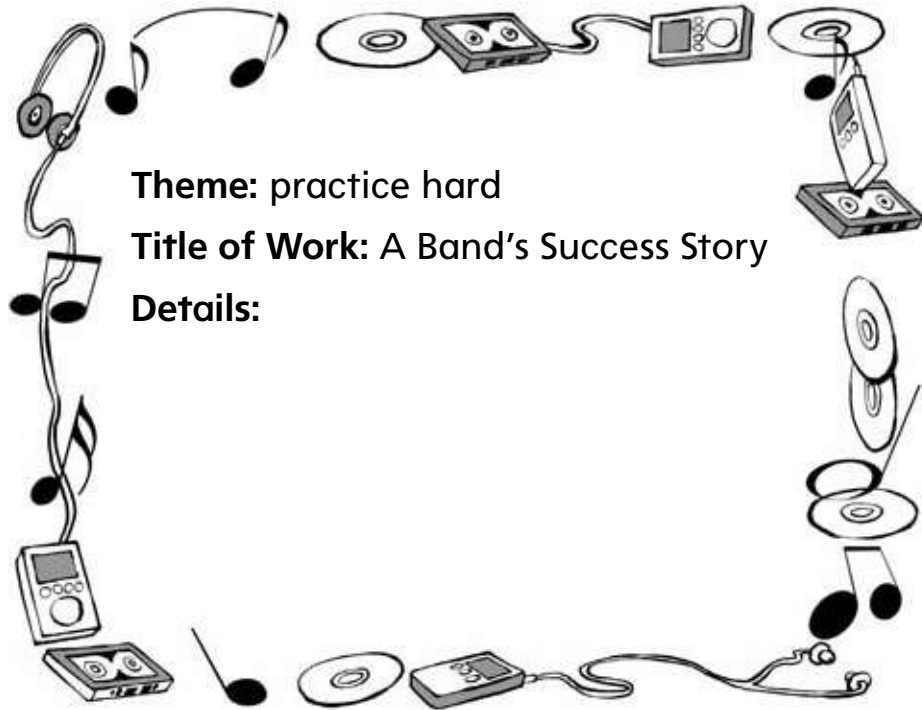
Ortografía/Fonética:
sílabas



Nombre _____

¿Y el tema es...?

Hagamos una lista de algunos detalles que los autores podrían incluir en los siguientes libros.

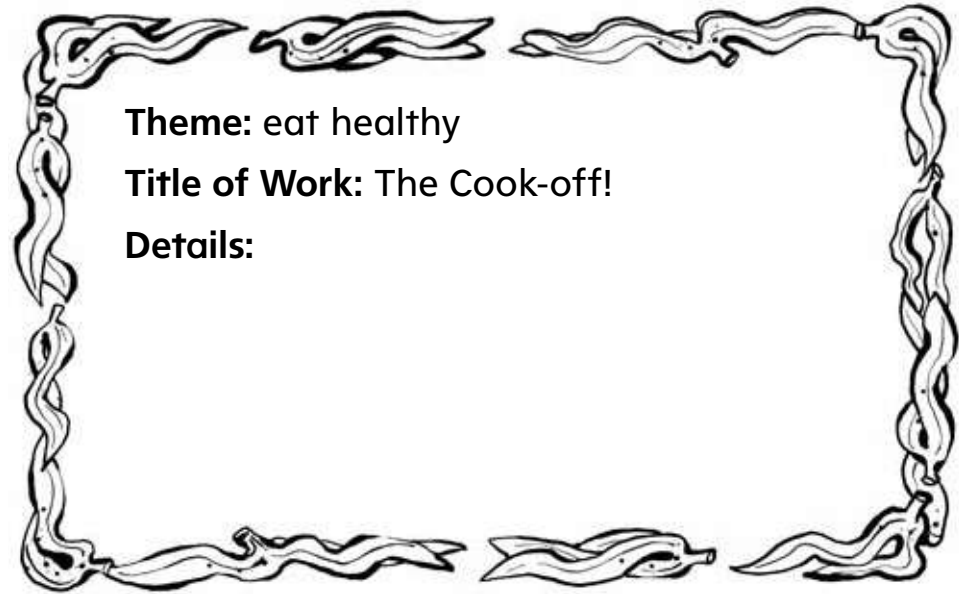


Theme: practice hard

Title of Work: A Band's Success Story

Details:

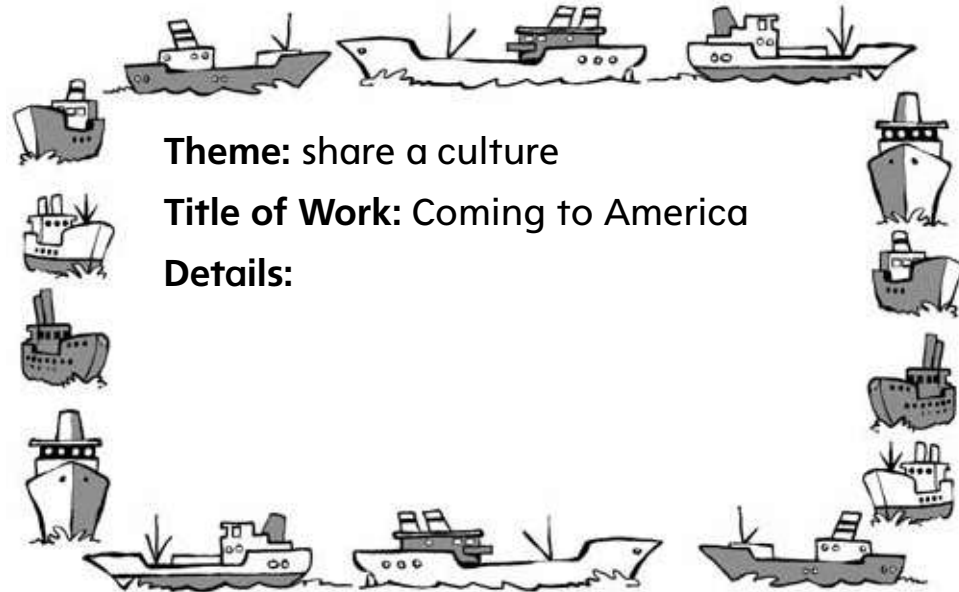
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Theme: eat healthy

Title of Work: The Cook-off!

Details:



Theme: share a culture

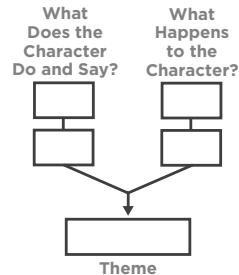
Title of Work: Coming to America

Details:

Comprehension Check

Summarize

Use the Theme Chart to help you summarize the play. Then tell what you think the theme of the play is.



Think and Compare

1. Why does Brer Rabbit bring up his daughter Lapina on page 7? **(Theme)**
2. Put yourself in the place of one of the characters. Then explain how you feel about the trick the other character plays on you. **(Apply)**
3. When you read that Brer Rabbit had set fire to the grass around Brer Gator, did it change your feelings about the two characters? Explain your answer. **(Analyze)**

Brer Rabbit and the Gizzard Eater

by Nomi J. Waldman
illustrated by CD Hullinger



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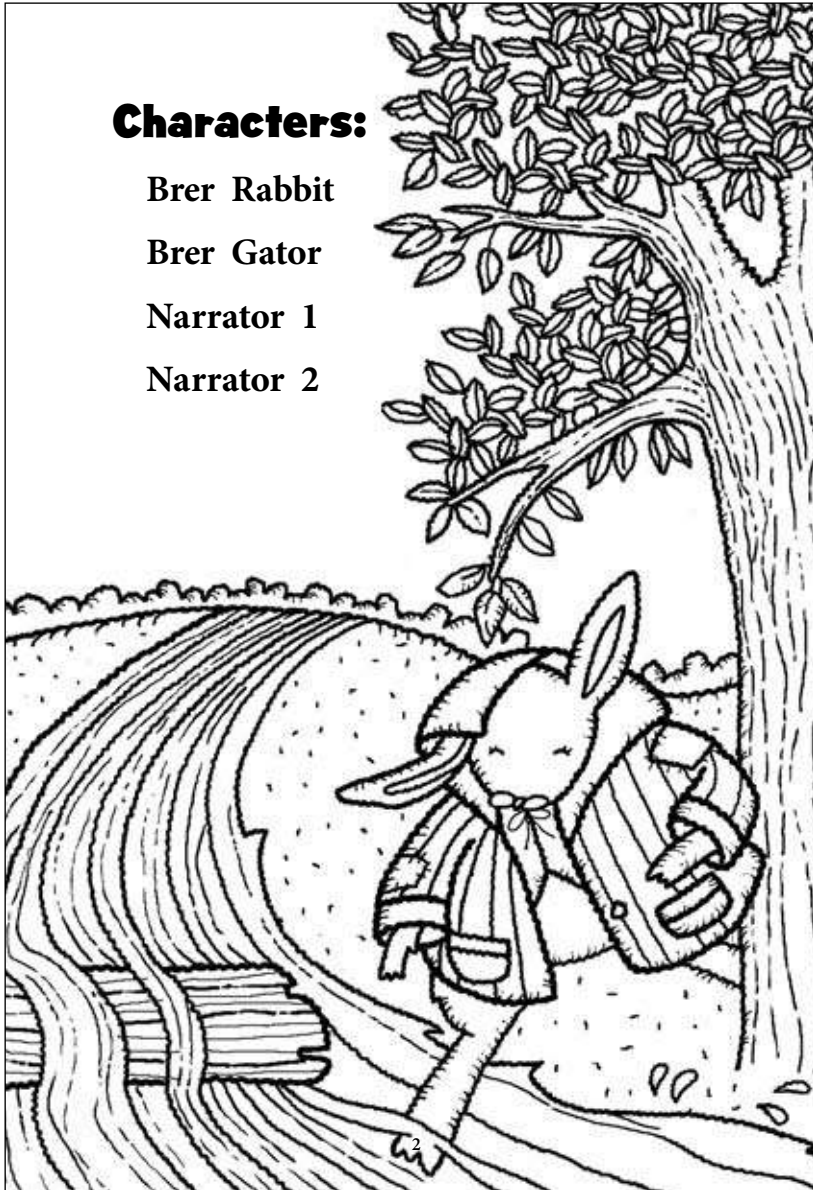
Characters:

Brer Rabbit

Brer Gator

Narrator 1

Narrator 2



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Brer Rabbit and the Gizzard Eater

Brer Gator: I see. (*thinking for a moment*) So where did you say that log is?

Narrator 2: The rabbit points the way to his own landing, and Brer Gator swings around and paddles his way back to the very place where Brer Rabbit started out. He's barely near the landing when Brer Rabbit makes a jump right off Brer Gator's back and onto solid ground. And then he turns around and sings this.

Brer Rabbit: You poor old Gator, if you knew A from *Izzard*, You'd know mighty well that I'll keep my gizzard.

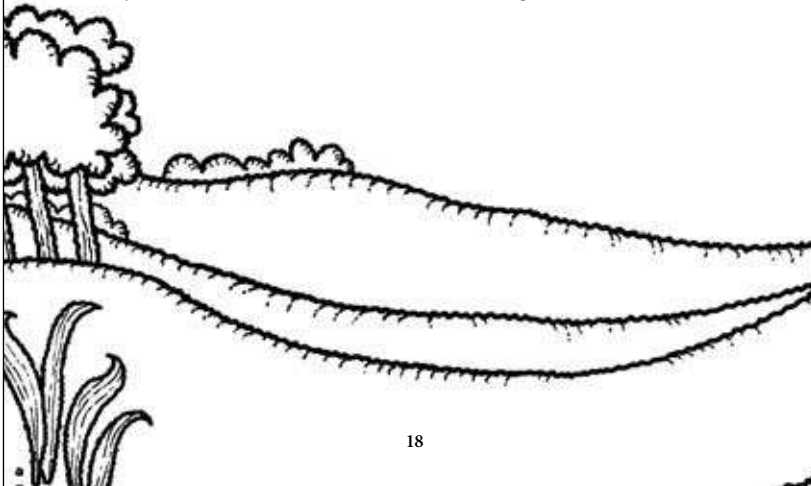
Narrator 1: And with that final insult, he's GONE.



Brer Rabbit: This doctor went and put his head together with another doctor. And sure enough, the next day he tells me that all my trouble comes from having a double gizzard. All I had to do, he says, is find me a gizzard eater. I asked where that would be, and he says, "You'll know him when you see him. Or he'll make himself known to you." Until then, I'm supposed to stay away from water, because a double gizzard can't stand being close to water. It swells up so that your skin can't hold it.

Brer Gator: So how come you're on the water right now, then?

Brer Rabbit: The truth is that before I came across, I left my double gizzard in a hollow log. Now, if you're the gizzard eater I'm supposed to meet, then you'd better take me back to that log.



Act I

Crossing the River

Scene I

Setting: *Side-by-side ropes mark a riverbank, with the only bridge a single log (a strip of brown paper). It is raining hard.*

As Narrator 1 speaks, Brer Rabbit approaches the river, looking up at the sky and holding out his hand. Feeling the rain, he pulls his collar up and approaches the log.

Narrator 1: You can hardly blame Brer Rabbit for wanting to get out of his house. It's been raining for days, and he hasn't seen his friends in all that time. So off he goes, because you just can't pen up a lively fellow like Brer Rabbit. If you try, well, it's like trying to keep a raging river within its banks, 'cause something's liable to spill over.

Narrator 2: Brer Rabbit studies the rising water and dips a toe into it. Finally he starts across, slowly putting one foot after the other.

Narrator 1: Well, at least it isn't a raging river that Brer Rabbit has to cross, just a creek. Though it is higher than usual, and the rain is still coming down hard.

Brer Rabbit: *(to the audience)* Well, that wasn't too bad. If getting my feet a little wet is the most unfortunate thing that happens tonight, I'll be just fine. *(He shakes off the wetness and looks around. Then, putting his hand to his ear, he listens for a moment.)* Music! I do believe I hear a party shaping up! *(He rubs his hands together eagerly.)* And that means dancing, and dancing means food to feed the dancers, and that means a fine time is had by all. *(He heads offstage with a hop, skip, and a jump.)*

Narrator 2: And indeed, a fine time is had by all, especially Brer Rabbit, who doesn't give another thought to the weather. He tries every dance and every dish and finds them all to his total satisfaction.



Act 4

A Second Opinion

Narrator 2: As fast as Brer Gator is moving, Brer Rabbit's mind is moving faster. He's thinking of how many times he's managed to stay ahead of Brer Gator, whose mind moves a lot slower than his body.

Brer Rabbit: Well, what a lucky day this has been for both of us, Brer Gator. Yes, indeed. You see, I've been looking high and low for a gizzard eater. I've been sick for some time now. I finally had to call a specialist, someone who could educate me about my problem. After watching me roll and moan and groan for hours, though, he said he'd never seen anyone with my kind of trouble.

Narrator 1: Brer Gator doesn't say anything but just keeps moving through the water while his mind tries to add up what Brer Rabbit's saying, sort of like a treasurer with columns of figures that she's checking twice.



Brer Rabbit: (*nervously*) What are you going to do with me, Brer Gator?

Brer Gator: I'm going to do just what the doctor told me to do. He says nothing will help me until I get something special for my insides.

Brer Rabbit: And what did the doctor instruct?

Brer Gator: (*grinning a gator grin*) Rabbit gizzard. I'm going to fill up my ailing insides with your very own, healthy insides. 'Course, to do so, I'll have to eat your outsides, too.

Scene 2

Setting: Same as Scene 1, except that the ropes are farther apart, and the log is gone.

Brer Rabbit: (*appears onstage and pantomimes the actions described by the Narrator*)

Narrator 1: But even the best party in the world has to end sometime. And when it does, and Brer Rabbit comes to the place where he has to cross the river to get to his landing, he barely recognizes it.

Now, I told you that this is no great river. But it sure is acting like one. It might as well be an ocean, because the log is gone, and there's no way for Brer Rabbit to get home.



Brer Rabbit: Oh, oh, how am I ever going to get across? *(He walks back and forth, holding his head and trying to think.)* I'll need help. *(He stops, and begins to call, pausing after each name.)* Brer Bear! . . . Brer Fox! . . . Hello! . . . Anyone? . . . Help. . . . Help. . . . Help!

Narrator 2: He calls everyone he can think of. He calls them once, he calls them twice, he calls them three times. It doesn't matter. They don't hear him. And if they do, they don't come. Well, that is, except for Brer Gator, who is sleeping in a muddy bed nearby—he hears him.

Brer Gator: *(lumbering on the opposite riverbank, slowly and sleepily rubbing his eyes)* Who's making all that noise?

Brer Rabbit: *(puts his hand to his face in alarm at what he sees)* Uh-oh.

Brer Gator: Brer Rabbit! *(smiling gleefully)* Aha!

Narrator 1: And you might as well know right now that "Aha" is alligator talk for "Now, doesn't he look tasty!"

Brer Rabbit: *(puts one hand on Brer Gator's back)*

Narrator 1: With Brer Rabbit hanging on, Brer Gator takes off through the water like a racer at the starting gun. All Brer Rabbit can do is hang on. But he soon sees that the alligator is not heading toward Brer Rabbit's landing.

Brer Rabbit: Brer Gator, I don't want to bother you, but you don't seem to be heading for my landing.

Brer Gator: You're quite right, Brer Rabbit. You see, I haven't forgotten that day when you set fire to the dry grass near where I was resting and thought it was so funny. That fire sure did scare me, and half the swamp heard me cry like a baby. I haven't felt well since then. I've waited and waited for this day, and here it is, and now the joke's on you. *(He shakes with laughter.)*



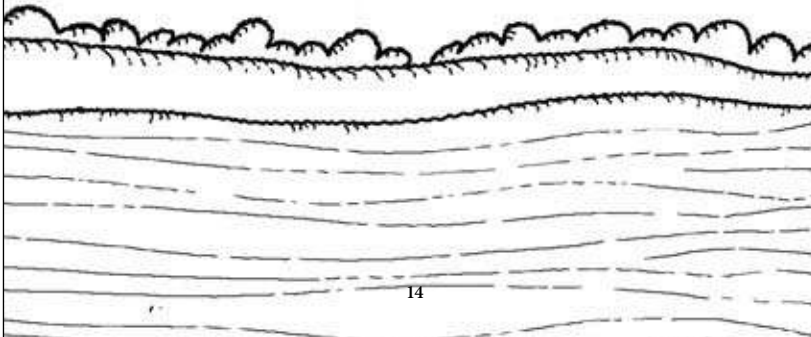
Brer Rabbit: *(backing up as Brer Gator comes closer)*
I don't know, Brer Gator, I don't know. I'm so chilled already, and I might just get even wetter and colder if I ride on your back.

Narrator 1: Brer Rabbit really is shaking as though he has a chill. But it is just plain terror that's causing it. Brer Gator doesn't say anything. He just moves a little closer to the rabbit. Brer Rabbit is looking this way and that, as though he might find some help somewhere. But of course there's no one around.

Brer Rabbit: Well, now, how can I ride on your back? It's so rough.

Brer Gator: Ha, it won't be any harder than sitting on a rocking chair. Just hold on to one of the ridges and brace yourself on the bumps.

Narrator 2: There's no help for it, so Brer Rabbit climbs onto Brer Gator's back.



Act 2

An Opportunity . . . of Sorts

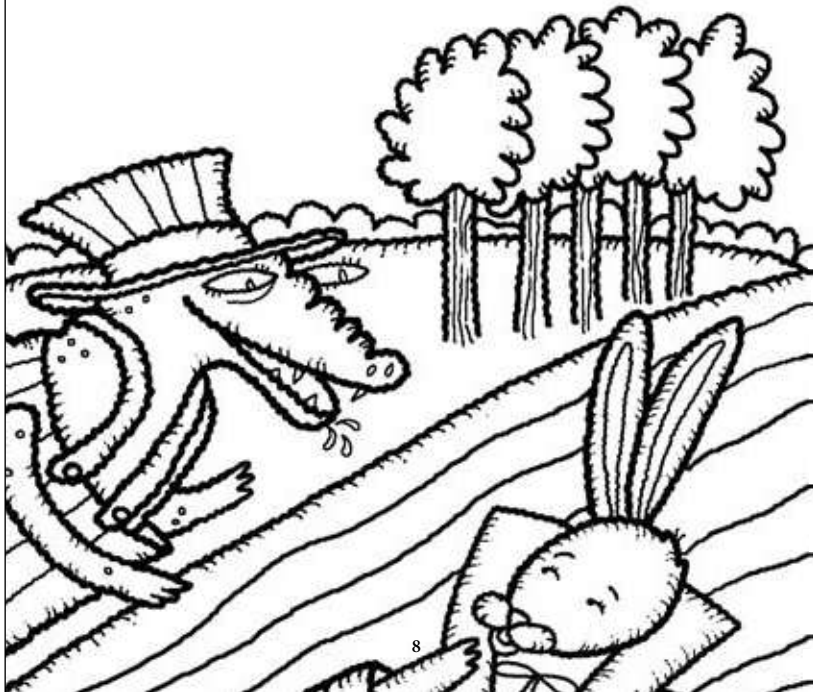
Narrator 2: Brer Rabbit, seeing Brer Gator's bulging eyes staring hungrily at him from the opposite riverbank, is quite alarmed. But then he's never been one to miss an opportunity. And the opportunity he needs right now is to get across the river. So he decides to make the best of it, especially after he remembers that Brer Gator has a soft spot for Lapina, the Rabbit family's oldest daughter.

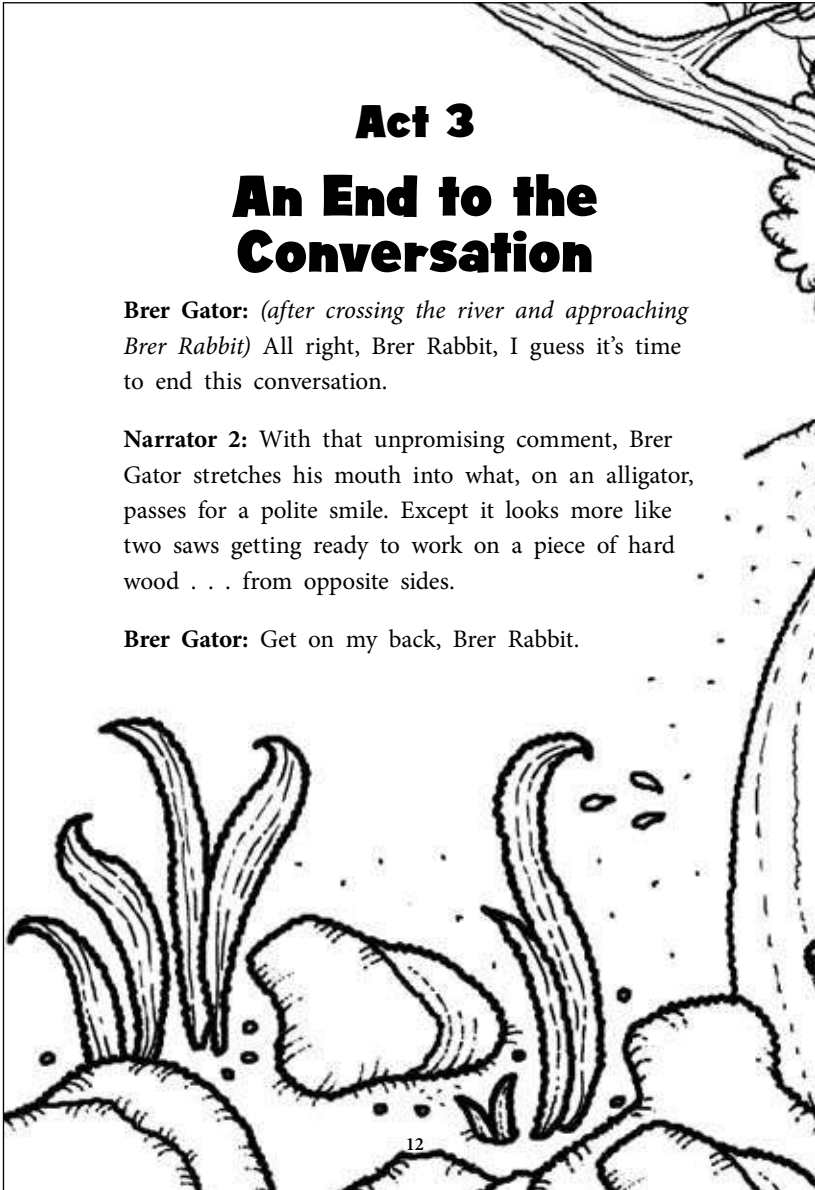
Brer Rabbit: *(wringing his hands and shaking his head in distress)* Oh, thank goodness it's you, Brer Gator. I just got through saying to myself, if anyone can help you, Brer Rabbit, it's Brer Gator. Let me express my appreciation in advance, and I know Lapina will be grateful, too.

Brer Gator: *(with a silly half-smile, which on an alligator is still pretty wide)* How IS your charming daughter?

Brer Rabbit: Not well, not well. So kind of you to ask. When I left home—why, it seems like hours ago—her head was all swollen. Seems Brer Fox's children were outside flinging rocks this way and that, and one of them hit Lapina right between her ears. I had to run to the doctor to get some pills 'cause she has just the worst headache.

Brer Gator: (*shaking his head*) What IS this world coming to? Children throwing rocks and hurting your lovely daughter! What's next? What's next?





Act 3

An End to the Conversation

Brer Gator: *(after crossing the river and approaching Brer Rabbit)* All right, Brer Rabbit, I guess it's time to end this conversation.

Narrator 2: With that unpromising comment, Brer Gator stretches his mouth into what, on an alligator, passes for a polite smile. Except it looks more like two saws getting ready to work on a piece of hard wood . . . from opposite sides.

Brer Gator: Get on my back, Brer Rabbit.

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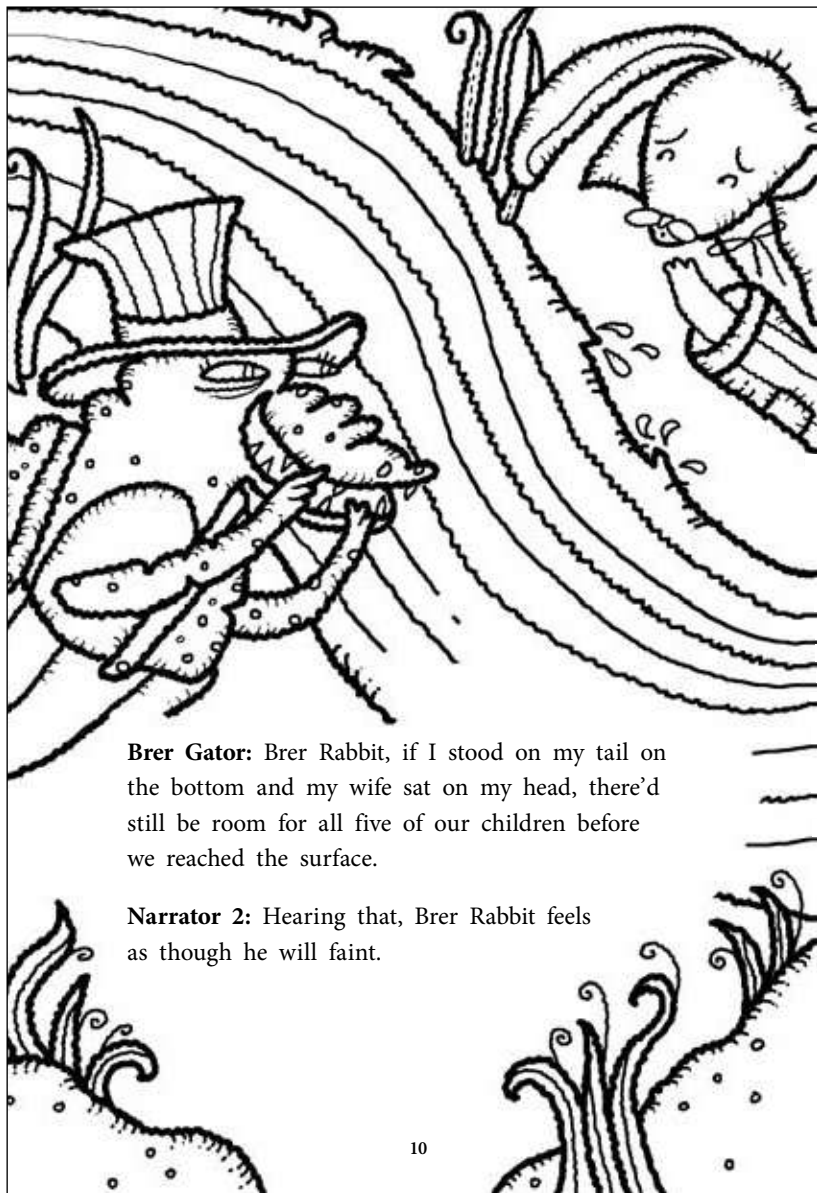
Brer Rabbit and the Gizzard Eater

Brer Rabbit: I don't know, Brer Gator, I don't know. All I do know is that I set out for the doctor as soon as I could. He looked through all his wares till he found me some pills that are sure to help poor Lapina's head. But when I came back to the river, it was all swollen up, even more than Lapina's sore head. And now here I am on this side, and my poor daughter's there on that side. But if I try to cross and get this medicine in my pocket all wet, why, all the pills will melt, and that won't do me any good. And they certainly won't do anything for poor Lapina.

Brer Gator: Well, Brer Rabbit, that is a mighty sad story you have to tell. Things haven't been too good between us lately, but I guess I could try to get you across this creek.

Narrator 1: That, of course, is what Brer Rabbit wants . . . and needs. But once Brer Gator mentions the recent bad blood between them, he begins to have second thoughts.

Brer Rabbit: Um, Brer Gator, just how deep is that water?



Brer Gator: Brer Rabbit, if I stood on my tail on the bottom and my wife sat on my head, there'd still be room for all five of our children before we reached the surface.

Narrator 2: Hearing that, Brer Rabbit feels as though he will faint.

Brer Rabbit: *(to the audience)* Now what have I gotten myself into? *(to Brer Gator)* No, no, I couldn't trouble you. Anyway, how would you get me across?

Brer Gator: I'll take you across on my back. I've carried a lot heavier burdens than you, Brer Rabbit. Five little gators weigh a lot more than one little rabbit. And how many times have I carried merchandise back when my wife sent me shopping? No, no, it won't be any trouble . . . at least, not for me.

Brer Rabbit: Well, I guess what you say is pretty near the truth. I'd better go with you, 'cause I've got to get this medicine to poor Lapina.

Narrator 1: All the time Brer Rabbit is talking, Brer Gator is moving left and right. His head is bobbing around as though he's looking for a way to cross the rushing water. Well, he must have found it, because, next thing you know, he's coming straight at Brer Rabbit.



Home-School Connection

Word Workout

WORDS TO KNOW

accompany seek consented delicacies
descended despair dismiss intentions

Horse Sense Using the vocabulary words, let's make up a story about working with horses.

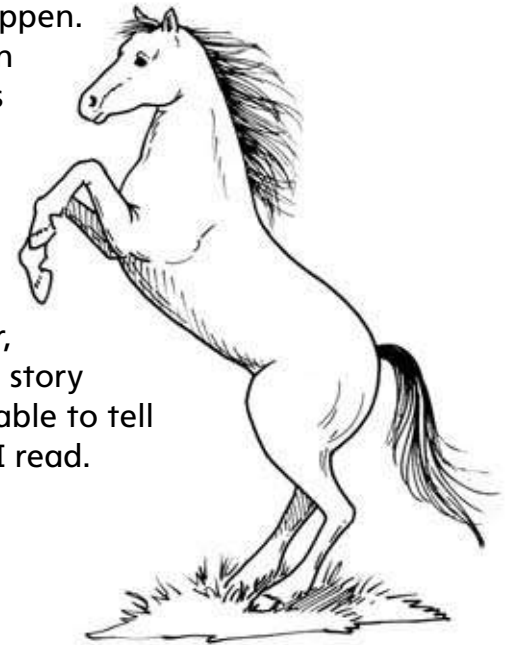
SPELLING WORDS

ideas poet riot video piano
diary radio fluid genuine rodeo
meteor cruel casual meander diameter
fuel patriot ruin diet trial

Vowels Galore I'll give you a word to spell. Before you spell it, tell me the vowels that are together. For example, in the word **genuine**, the letters **u** and **i** are together.

Dear Family Member:

This week we're reading a fairy tale called, *The Golden Mare, the Firebird, and the Magic Ring*. I'm paying attention to what happens, and the order in which things happen. A golden mare found Alexi in the forest. Alexi was hired as a huntsman because the Tsar was impressed with his wonderful horse. Alexi then became an excellent huntsman. If I keep remembering events in order, I'll be able to summarize the story after I finish reading. I'll be able to tell you a short version of what I read.



This Week's Skills

Comprehension: sequence

Vocabulary: homophones

Spelling/Phonics: vowels and syllables

Name _____

(fold here)
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Word Search

Look at the words below. We're going to find and circle the words in the grid on the next page. Then we can write the remaining letters, in order, in the spaces below. We'll have the quote about fairy tales by Danielle Steel.

- Alexi

Events

Firebird

Golden mare

Palaces
- Arrow

Fairy tale

Fortune

Huntsman

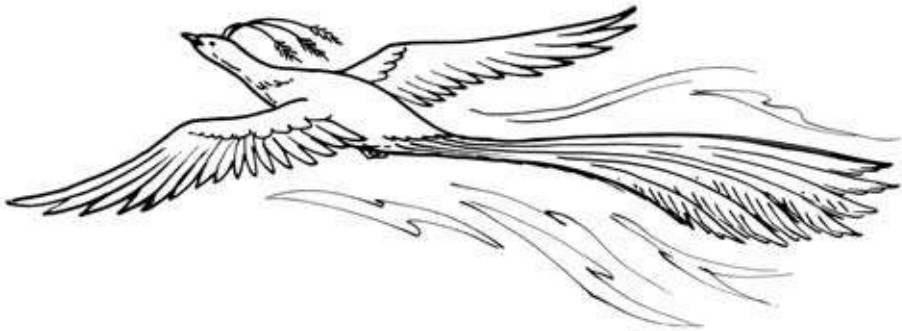
Sequence
- Bridle

Feather

Glade

Magic ring

Tzar



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

ANSWER: If you can see the magic in a fairy tale, you can face the future.

Ejercicio de palabras

PALABRAS DE VOCABULARIO

accompany seek consented delicacies
descended despair dismiss intentions

Un cuento galopante Usando las palabras de vocabulario, inventemos un cuento sobre caballos.

PALABRAS DE ORTOGRAFÍA

ideas poet riot video piano
diary radio fluid genuine rodeo
meteor cruel casual meander diameter
fuel patriot ruin diet trial

Vocales a granel Te voy a dar una palabra para deletrear. Antes de deletrearla, dime qué vocales están juntas. Por ejemplo, en **genuine**, las vocales **u** e **i** están juntas.



Conexión con el hogar

Queridos familiares:

Esta semana estamos leyendo un cuento de hadas que se llama *The Golden Mare, the Firebird, and the Magic Ring*. Estoy prestando atención a lo que ocurre y el orden en que ocurren las cosas. Una yegua dorada encontró a Alexi en el bosque. Alexi fue contratado como cazador porque el zar estaba impresionado con su maravilloso caballo. Alexi entonces se convirtió en un excelente cazador. Si sigo recordando los eventos en orden, podré resumir el cuento una vez que termine de leerlo. Podré contarte una versión corta de lo que he leído.



Destrezas de la semana

Comprensión: orden de los sucesos

Vocabulario: homófonos

Ortografía/Fonética: vocales y sílabas

Nombre _____

(fold here)
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Búsqueda de palabras

Mira las palabras de abajo. Vamos a buscar y encerrar en un círculo las palabras en la cuadrícula de la página siguiente. Luego, podemos escribir en orden las letras que quedan en los espacios de abajo. Tendremos una cita de Danielle Steel acerca de los cuentos de hadas.

- Alexi

Events

Firebird

Golden mare

Palaces
- Arrow

Fairy tale

Fortune

Huntsman

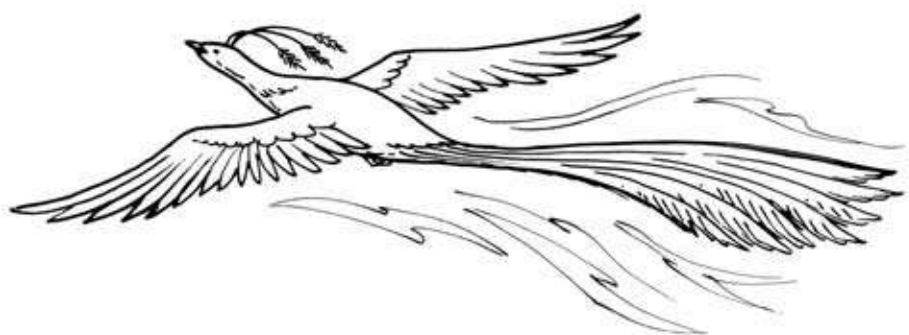
Sequence
- Bridle

Feather

Glade

Magic ring

Tzar



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

ANSWER: If you can see the magic in a fairy tale, you can face the future.

Comprehension Check

Summarize

What are the major events in the story *Daisies in Winter*? Use the Sequence Chart to summarize what happens in the story.

↓
↓

Think and Compare

1. Turn to page 2. What events happen to Katharine? Why is she called “Poor Katharine”?
(Sequence)
2. If you were Katharine, how would you behave toward your cousins? Would you let them treat you the way Katharine did? What can you do if someone treats you badly? What are some things you could say?
(Synthesize)
3. What other stories can you think of where the main character was poorly treated by her family? How was the character’s reaction similar to or different from Katharine’s? **(Evaluate)**

Daisies in Winter

by Louise Orlando

illustrated by Alexi Natchev



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Chapter 1

Poor Katharine

Once upon a time, a really, really long time ago, there lived a beautiful, kind-hearted girl named Katharine. You would have thought that such a lovely girl would be happy. But she was not. She was sad and terribly lonely.

For you see (as is to be expected in a story like this), Katharine's life was filled with sorrow. Her mother died when she was young. Her father brought her to live with her Aunt Mara and cousins Melina and Ursula while he went off to fight for the king. Her father loved Katharine dearly and promised to return for her as soon as possible, but that promise was made many years ago.

Over the years Katharine's cousins grew to hate her. They knew that Katharine was kinder and more beautiful than they were. Each day Melina and Ursula were meaner. They ordered her around. Katharine was truly miserable.

Katharine and the Prince were wed at the royal castle.

Katharine's father continued to live on the farm. Every now and then, he wondered where Mara, Melina, and Ursula were. Katharine told him they went out one winter day in search of pears and never returned. He always thought that heading out in the middle of winter for pears was a little strange, but he did not question it. He had never cared much for Mara and her girls, so he was actually relieved that they were not around. And most of all, he was glad his lovely daughter was happy.

As for Mara, Melina, and Ursula, no one knows what happened to them. They set off during one of the worst blizzards that anyone could remember. They were never found. But somehow their horses managed to return home wearing only their bridles. It was the strangest thing.

And so everyone—with the exception of Mara, Melina, and Ursula—lived happily ever after.

The End

On the first day of summer, Katharine's father returned with a visitor. He did not notice that the aunt and cousins were gone.

The visitor had an injured leg and needed rest. The moment Katharine and the visitor saw each other, they fell in love. And it just so happened that the visitor was the Prince. Once his leg healed and he was rested, he asked for Katharine's hand in marriage. Her father happily agreed, and the proud townspeople gave the couple a beautiful bridal blanket as a gift.



So what did Katharine do all day? She did everything! Inside she cooked and cleaned. Outside she planted, weeded, and harvested the garden, fed the animals, cleaned the barn, collected the eggs, and milked the cow. She was exhausted, but she never complained.

Katharine, though, never had any intention of harming her aunt or cousins. She could easily have cooked them rotten eggs and made them all sick, but she did not. Katharine's beauty was truly more than skin deep.



Melina and Ursula were so jealous of Katharine that they refused to eat with her. Katharine had such fine manners that she made the cousins uncomfortable. Luckily for Katharine, eating alone was actually enjoyable. She didn't like watching and listening to Melina and Ursula gobble and chew. They sounded like a couple of animals.

As for clothing, Katharine was left wearing her cousins' old dresses. Melina and Ursula did their best to rip and stain their dresses before giving them to Katharine. But somehow Katharine always managed to look lovely in them. You can only imagine how this enraged her cousins even more.

Aunt Mara saw all this and knew that Katharine's presence meant her daughters would never be married. As long as Katharine was around, there was no way a suitor would come for anyone but her.

Deep down Melina and Ursula also knew they would never be wed with Katharine living under their roof. They were positively green with envy for all that Katharine was. They made a pledge to destroy her.

Her aunt and cousins did not believe her. Enraged by Katharine's quiet behavior, Mara boldly told her daughters to gather up their cloaks and prepare to accompany her in the search for more pears. Her aunt ordered Katharine to fetch the horses.

Katharine obeyed and put the correct saddle and bridle on each horse.

The three mounted their horses. Katharine started to warn her aunt and cousins about the weather, but they dismissed her.

Just as the trio set off, it began to snow. The wind picked up and howled through the trees. It was bitter cold. Ice and snow quickly covered everything in sight. Night came. Katharine's aunt and cousins did not return.

Days passed. Weeks passed. Soon it was spring. Katharine was all alone tending to the house and farm, but now a smile lit her face.

Katharine moved quickly and picked all of the pears. She placed them carefully in her pocket.

"Thank you, kind ones," said Katharine before heading back down the mountain.

When the door to the house opened and Katharine walked in, Mara flew into a rage. Melina and Ursula began weeping. They knew there was no way they would ever be rid of Katharine.

Without saying a word, Katharine placed three perfect pears gently on the kitchen table. Her aunt and cousins grabbed them and ate them greedily.

Katharine watched her aunt and cousins eat, with juice dripping and their jaws chomping. When Aunt Mara held out her hand for the rest of the pears, Katharine told them this was all the tree had to offer.



The evil sisters wreaked havoc in the stable by letting the animals trample the garden.

One night Melina purposefully let the milk boil over, scorching the pot and filling the kitchen with smoke. Katharine had to clean up. Another night Ursula poured salt into the flour. When the cake that Aunt Mara baked tasted awful, Ursula said it was Katharine's fault.

Of course, no matter how hard Katharine tried to deny her cousins' lies, her aunt would dismiss her protests. She blamed everything on Katharine. Oh, poor Katharine!



Chapter 2

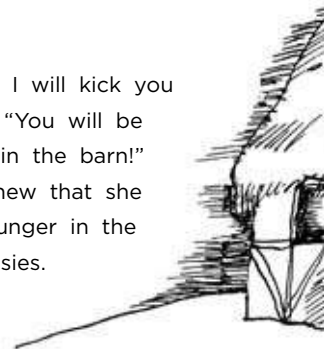
I Want Daisies!

One cold morning when the snow was very, very deep and the wind could not blow any harder, Melina woke and decided she wanted an armful of daisies.

Melina knew it was an absolutely, positively crazy idea, but she insisted that Katharine get them *now*. After all, thought Melina, she and her sister had pledged to break Katharine, and Melina figured this just might do it.

Katharine listened to Melina's request and started to protest, but before she could get a word out, Melina dismissed her with a wave of her plump fingers and a threat.

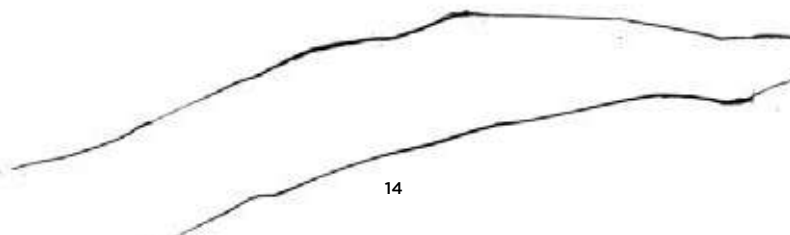
"If you don't get me daisies, I will kick you out of this house," said Melina. "You will be forced to live with the animals in the barn!" Melina was serious. Katharine knew that she would surely die of cold and hunger in the barn. She had to find some daisies.



Katharine explained that her aunt wanted pears. Again she told the Months that if she did not return with sweet, juicy pears, she would be forced to live in the barn and would surely die.

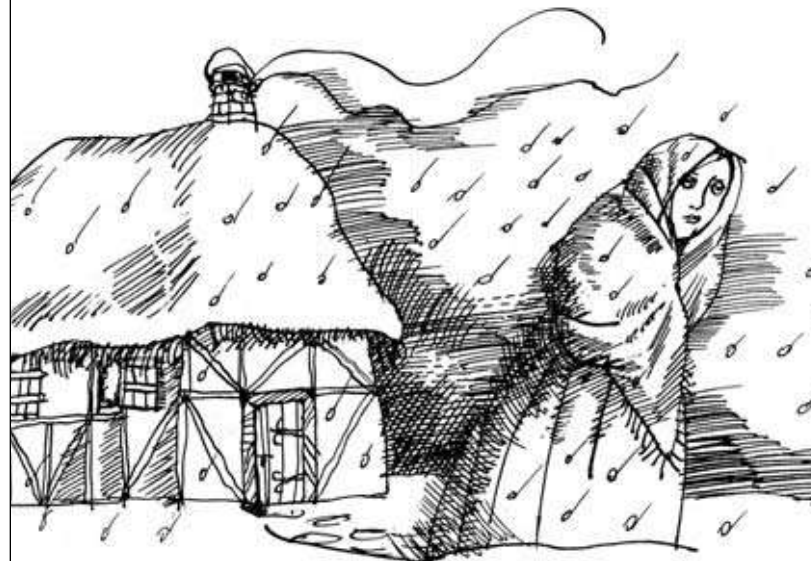
The Months listened, and then January spoke. "Pears in winter. Hmmm, this is an odd request," said January. "Sister October, if you will."

Without a word, Sister October consented and opened her arms. Suddenly the snow all around melted. The mountain was bathed in a warm, golden light. Katharine could feel and smell the autumn air. She saw at the top of a hill a single pear tree. Hanging from the branches were three yellow pears. She had never seen such beautiful fruit before.



Katharine wrapped herself in her warmest shawl and stepped out into the bitter cold and blowing snow. It was the middle of winter and there would be no daisies for sale in the village. Maybe there would be something on the other side of the mountain. Katharine began to climb up the mountain to seek the daisies.

The climb was steep, and every few steps she slipped. Still, Katharine kept going. There was no point descending the mountain and returning home now.



Katharine was close to freezing when she came upon 12 people sitting on mats around a roaring fire. No one spoke. They just sat and watched the flames. Without knowing it, Katharine had stumbled upon the 12 Months, a very powerful group.

"Please, kind ones," said Katharine. "May I warm myself by your fire?"

An old woman wearing a colorful wrap stood up. "Months? Shall we let this visitor join us?" The 12 Months all nodded. Thank goodness, because Katharine was nearly frozen to death.

"Tell us what brings you here," said January as she took off her wrap and put it around Katharine.

Katharine explained that her cousin wanted daisies. If Katharine did not return with them, she would be forced to live in the barn and would surely die. She knew there would be no daisies in the village. She explained that she decided to walk over the mountain in the hope that there would be a place with daisies on the other side.



Chapter 4

I Want Pears!

That night, as Katharine slept, her aunt worried. Mara would get rid of Katharine if it was the last thing she ever did.

First thing in the morning, Mara demanded that Katharine go out and find her some pears.

"I want sweet, juicy pears," said Aunt Mara. "As ripe and juicy as the peaches that you found. Or else." Her Aunt Mara let her threat hang in the air. Katharine did not even bother to protest. Again Katharine met the 12 Months sitting around the roaring fire.

"Please, kind ones," said Katharine. "May I warm myself by your fire?"

"Of course," said January as she took off her wrap and put it around Katharine. "Tell us what brings you here."

Katharine explained that her cousin wanted ripe peaches. If Katharine did not return with ripe peaches, she would be forced to live in the barn and would surely die.

The Months listened, and then January spoke. "Peaches in winter, this is an odd request," said January. "Brother July, if you will."

Without a word, Brother July consented and opened his arms. Suddenly the snow all around melted, and soon the area was covered in peach trees. Katharine quickly picked a basket of peaches.

"Thank you, kind ones," said Katharine before heading back down the mountain.

When Katharine walked into the house with the basket of peaches, Ursula fell on the floor in despair.

Peaches in winter. What a delicacy! Ursula ordered Katharine to bake a pie. The pie was perfect.



The Months listened, and then January spoke again, for January was the oldest Month and in charge. "Daisies in winter. Hmmm, this is an odd request," said January. "Sister May, if you will."

Sister May consented and opened her arms. Suddenly the snow melted and the area was filled with flowers. Katharine did not even take a moment to marvel at what she saw, although it was truly spectacular. She quickly picked a large bunch of daisies.

"Thank you, kind ones," said Katharine before heading back down the mountain.



Chapter 3

I Want Peaches!

Katharine's walk down the mountain took her no time at all. In fact she was warm the entire way.

When she walked in the door with an armload of daisies, Melina nearly fainted. She had been positive that Katharine would fail. Melina's surprise quickly turned to anger. "Where did you find the flowers?" demanded Melina.

"On the mountain," said Katharine.

Melina was so angry she could not speak.

Ursula did not like any of this. Katharine should be up to her neck in snow! Ursula would put an end to her immediately. She looked right into Katharine's eyes and said, "I want ripe peaches!"

In fact she wanted enough ripe peaches to make a pie! Evil glinted in Ursula's eyes. She figured that Katharine would fail to satisfy this impossible request.

Katharine started to protest. But before she could get a word out, Ursula dismissed her with a wave of her bony fingers and a threat.

"If you do not get me peaches, I will banish you from this house. You will be forced to live in the barn!" said Ursula.

Katharine had no choice. She would climb the mountain and hope that the Months would help her. She arrived at the fire where the 12 Months sat.

"Please, kind ones," said Katharine. "May I warm myself by your fire?"

"Of course," said January as she took off her cloak and put it around Katharine. "Tell us what brings you here."





Home-School Connection

Dear Family Member:

In class, we are reading a magazine article called *Tricky Tales*. Before science was developed, people used to tell stories to explain how natural events happened, such as tornados and hurricanes. Since we are learning to compare and contrast, I am looking for information about how stories from around the world are alike and how they are different. Comparing and contrasting as I go along helps to get a clearer picture and understanding of the subject matter.

This Week's Skills

Comprehension: compare and contrast

Vocabulary: homographs

Spelling/Phonics: vowel teams



Name _____

Word Workout

WORDS TO KNOW

generations globe preserve
reveal amusing

Word vs. Word Let's use each word in a sentence that compares and contrasts two people, places, or things.

SPELLING WORDS

footprint appoint encounter entertain
fairground coastal grouchy applause
although bleachers flawless faucet
laughter grownup lawyer caution
boundary doubting southern roughness

Team It Up I'll write down your spelling words, leaving out the vowels that are teamed up with other vowels. Look at my words and tell me what letters are missing.

(fold here)
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How Would You Compare...?

We can each fold a piece of paper in thirds and write each word pair in the first column. We'll write "same" and "different" as the titles of the next columns. Then we can compare and contrast. When we're done, we can compare each other's lists.

hip-hop and pop



computer and pen



bicycle and train



submarine and bird

video game and camera



Ejercicio de palabras

PALABRAS DE VOCABULARIO

generations globe preserve
reveal amusing

Palabra contra palabra Usemos cada palabra en una oración que compare y contraste dos personas, lugares o cosas.

PALABRAS DE ORTOGRAFÍA

footprint appoint encounter entertain
fairground coastal grouchy applause
although bleachers flawless faucet
laughter grownup lawyer caution
boundary doubting southern roughness

Vocales en grupo Voy a escribir tus palabras de ortografía, sin incluir las vocales que estén agrupadas con otras vocales. Mira mis palabras y dime las letras que faltan.



Conexión con el hogar

Queridos familiares:

En clase, estamos leyendo un artículo asombroso llamado *Tricky Tales*. Antes de que se desarrollara la ciencia, la gente solía decir historias para explicarse cómo ocurrían eventos de la naturaleza, como los tornados o los huracanes. Ya que estamos aprendiendo a comparar y contrastar, voy a buscar información acerca de cómo historias de todo el mundo se parecen y cómo se diferencian. Comparar y contrastar mientras leo me ayuda a entender mejor el tema de la materia.

Destrezas de la semana

Comprensión: comparar y contrastar

Vocabulario: homógrafas

Ortografía/Fonética: grupos de vocales



Nombre _____

(fold here)
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¿Cómo compararías?

Cada uno de nosotros va a doblar una hoja de papel en tres partes y va a escribir cada par de palabras en la primera columna. Vamos a escribir las palabras *same* y *different* en las siguientes columnas. Luego, vamos a comparar y contrastar lo que representan las palabras. Una vez que terminemos, vamos a comparar nuestras listas.

hip-hop and pop



computer and pen



bicycle and train



submarine and bird

video game and camera



Comprehension Check

Summarize

Write a brief summary of each story. Then make a list of the ways the stories are alike and how they are different.

Think and Compare

1. Look back at each story. What trick does the rabbit pull in each story? How are the tricks different?
(Compare and Contrast)
2. Uncle Rabbit and Uncle Jaguar are friends, and yet Uncle Rabbit plays tricks on Uncle Jaguar. Do you think it's okay for friends to play tricks on each other? **(Make Judgments)**
3. Trickster tales are told around the world. Why do you think these stories are so popular? **(Analyze)**

Tales of the Trickster Rabbit

by Suzanne Weyn • illustrated by Leah Palmer Preiss



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The Hare and the Lion

Can you locate South Africa on a globe? That's where this tale comes from. The Sotho people have passed this tale down from generation to generation. It's about a scrub hare, a kind of large rabbit, and a fierce lion.

Once there was a lion that was a skillful hunter. He caught every animal that he set his sights on. He never missed. Soon there were almost no animals left because he had eaten so many of them.

The remaining animals got together to discuss this problem. "Soon we will all be gone," said Zebra. "Only Lion will be left alive. Then he will die too because he has nothing left to eat—not that I care what happens to him."

"We must come up with a plan," said Gazelle. "This is what I think we should do. We must strike a deal with Lion. Each day, one of us will offer to become Lion's meal. Lion will like this because he is a lazy creature at heart. He would rather not work for his meal if he doesn't have to."

The Tradition of the Trickster Rabbit

Trickster tales are short and often amusing fables. They are usually quite old. At first they were passed down by word of mouth from one generation to the next. Later, they were written down.

In trickster tales the animals have different human traits. The rabbit usually stands in for a person who is fast, quick-witted, and has a good sense of humor.

The rabbit takes different forms, depending on what part of the globe the trickster tale comes from. The African scrub hare was a star of African folklore. In the United States, there is the popular Brer Rabbit of southern folklore. Uncle Rabbit or *Tio Conejo* stories began in Latin America.

The trickster rabbit is still with us today. Can you think of a tricky rabbit who likes a certain type of cereal just for kids? How about a cartoon rabbit who loves carrots and wisecracks? These rabbits are related to the trickster rabbits of folklore.

Finally, Uncle Jaguar grew angry. "I asked you a question," he yelled.

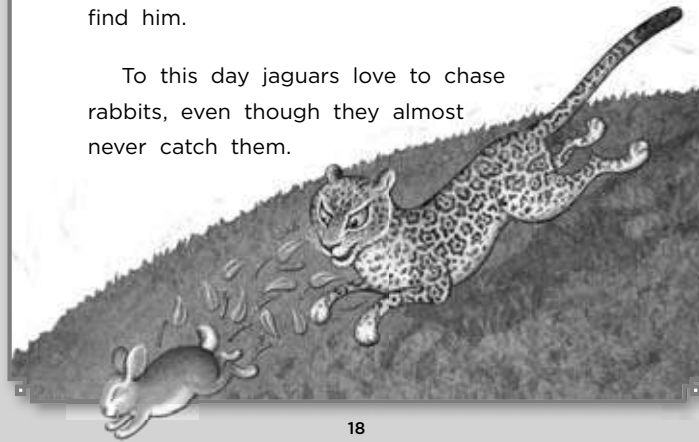
Uncle Rabbit finally lifted his head to speak to Uncle Jaguar. "The last time I drank was the day that I tied your tail into knots," he said, letting out a wild whoop of laughter.

"Oooooohhhh!" Uncle Jaguar shouted angrily. "I'll get you yet!"

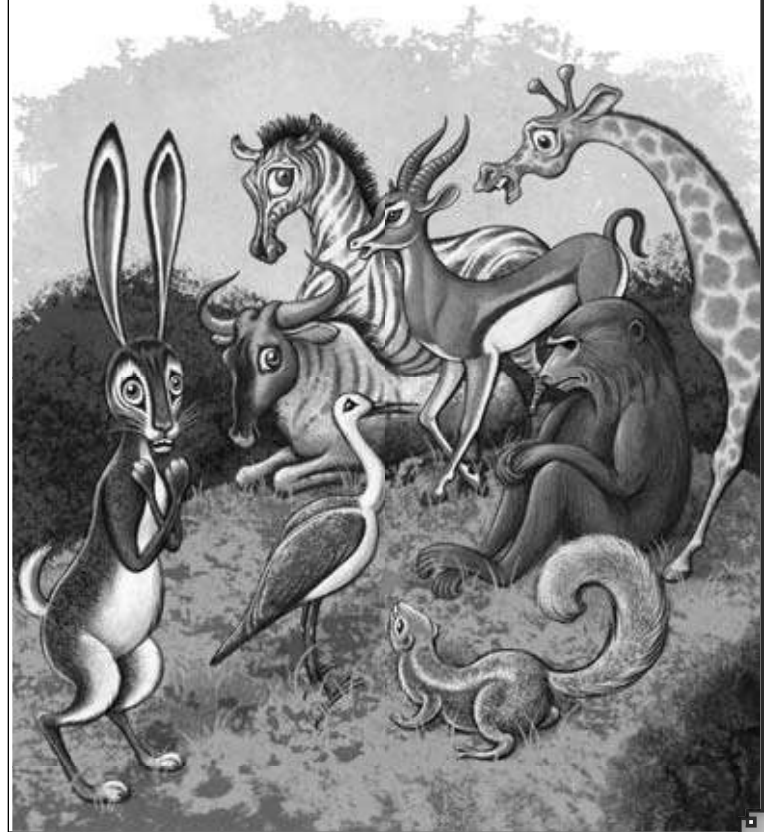
"No you won't," Uncle Rabbit replied. After shaking off all his leaves and twigs, he took off running with Jaguar right behind.

They ran in circles around trees and for miles across grassy plains. Neither would give up. Finally, Uncle Rabbit darted into some bushes where Uncle Jaguar could not find him.

To this day jaguars love to chase rabbits, even though they almost never catch them.



Hare's eyes went wide with horror. His ears stood straight up. "Excuse me for saying so, but that's the silliest idea I've ever heard," he said. "Why would any of us offer to be eaten by Lion?"



"In return, Lion will agree not to eat the others, at least for that day," Gazelle revealed. "This way all of us won't get eaten."

"I don't know," Hare said. "Shouldn't we all be thinking about moving away from the lion?"

"There will just be another lion wherever we go," said Baboon. "It is useless to move."

"What if we all get together and fight him?" Hare suggested. But this only caused great laughter among the other animals. Ignoring Hare's protests, the animals voted to go with the first plan.

Since none of them were brave enough to approach Lion, they asked Elephant to go. He was so large that not even Lion bothered him. Elephant soon returned with news that Lion had accepted their offer. "He wants his first meal to arrive alive at noon tomorrow."

That night, the animals put a pile of sticks in the center of a circle and covered it with leaves. One of the sticks was shorter than the others.

Once he felt sure Uncle Jaguar would not recognize him, he hopped to the water hole and began to drink. After two days without water, he was very thirsty. He drank, and drank, and drank some more.

Uncle Jaguar was in the bushes watching. This strange creature lapping up so much water made him curious. He approached the creature. "Why are you so thirsty?" he asked.

Uncle Rabbit did not want to reveal his true self by speaking, so he said nothing but only kept drinking.

Uncle Jaguar tried again. "When did you last have a drink?"

Still Uncle Rabbit said nothing.



Uncle Jaguar spent all that night picking at his tail, trying to undo the crazy knots. He was determined to get Uncle Rabbit back for making a fool of him. The next day, he went to the water hole where he knew Uncle Rabbit would come to drink. Uncle Jaguar wanted to preserve what was left of his dignity by making Uncle Rabbit regret his joke.

Luckily for Uncle Rabbit, he spied Uncle Jaguar waiting in the bushes and he kept away. This did present a new problem, though. Rabbit was thirsty and this water hole was the only one around.

Uncle Jaguar was still waiting there for the next two days. On the third day, Uncle Rabbit could stand it no longer. "I must do something," he said to himself.

Uncle Rabbit hopped over to where the bees buzzed around their hive. He asked them to pour honey all over him and they did it.

Then he rolled in the dirt, making sure to cover himself with it. Next, he stuck on leaves and twigs. He was a complete mess.

One by one, each animal drew out a stick from under the leaves. Hare was glad to see that his stick was no shorter than the others.

This first time it was Wildebeest who had drawn the short stick. He hung his head and spoke humbly. "It is my sad fate but I am proud to serve my fellow animals," he said.

"He's a noble guy," Hare thought. "Not me. If I drew the short stick I'd be hopping right out of here."

In the morning, Hare watched Wildebeest walk through the high grass where Lion lay waiting. Hare looked away as Lion rose and, with a terrifying roar, pounced on his willing victim. "This is terrible," Hare thought. "There's got to be a better way than this."



Day after day came and went. Each night a new animal drew a short stick. At noon the next day, that animal went to Lion. Each night, Hare held his breath as he drew the stick from the pile and felt lucky not to be the chosen one. But one night, his luck finally ran out. He had the short stick.

"Don't even think of running away," Baboon told him in front of all the others. "We all know how you feel about this. If you try to escape, we will track you down and drag you to Lion."

"Ah, relax," Hare said. "I know what I have to do and I intend to do it. Clearly I can't depend on any of you for help."

"How will you spend your last night on earth?" Gazelle asked kindly.

"I'm sure not going to sit around whimpering, if that's what you mean. I'm going to enjoy myself," said Hare.

And that's what Hare did. He beat a path to a nearby farmer's garden and helped himself to the tender greens. He slept in his underground home for a long while.

"There, I am finished," Uncle Rabbit said. The jaguar's tail was now a snarl of knots. When he looked over his work, Uncle Rabbit couldn't control himself. He fell onto the ground laughing.

"What's so funny?" asked Uncle Jaguar.

"Your tail—that's what," Uncle Rabbit said, pointing.



Uncle Jaguar turned in circles as he tried to see his own knotted tail. This only made Uncle Rabbit laugh even harder.

"Why, you tricked me," Uncle Jaguar growled angrily. He tried to pounce on Uncle Rabbit. But the small rabbit was too quick and jumped away into some bushes.

"Yes, it is. But there is a secret to it,"
Uncle Rabbit insisted.

Jaguar came closer, very interested. "Tell
me, please."

"First you must promise never to reveal the
secret," Uncle Rabbit insisted.

"Do not worry, my friend. You have my
promise," Uncle Jaguar said.

"Come closer," Uncle Rabbit instructed.
"Turn around three times, jump up and down,
and wiggle your ears to seal the promise."

While Uncle Jaguar did this, Uncle Rabbit
turned away to laugh softly to himself.

"All right, here is the secret. If you prepare
a tail just right, it tastes yummy. It will also
grow back even longer and more beautiful
than it was before," Uncle Rabbit told him.

"Will you show me how?" he asked.

"I'll do it for you," Uncle Rabbit offered. He
moved behind the jaguar and began twisting
and tying knots in the cat's long tail.

Then, at sunset, Hare hopped down to a
watering hole for a drink. After that he raced
a herd of elk, to see if he could beat them.
Then he ran in circles just for the fun of
getting dizzy and falling over.

At night he sat gazing up at the starry
sky, thinking about what the next day would
bring. "This world is too wonderful," he
thought. "I can't give it up. But I can't let the
other animals down either. Besides, they'd just
find me and make me go to Lion." His clever
mind began working harder than it had ever
worked in his life, needing to come up with
some answer to this great problem.

He fell asleep still thinking about what to
do. He slept, tossing and turning while he
dreamed of Lion and the awful coming day.

Late the next morning, he awoke sure
of only one thing. He could not betray his
animal friends but he had to find a way to
preserve his life. If only he could come up
with a plan!

Hare hopped out into the noon day heat and started off to see the lion. While hopping along, he noticed a well. It was so hot, he thought he'd put the bucket into the well and draw up some water for a last cool drink.

As he was bringing the bucket up, he gazed down into the deep well at himself. "You are too handsome to be eaten by a lion on this beautiful, warm day," he told himself.

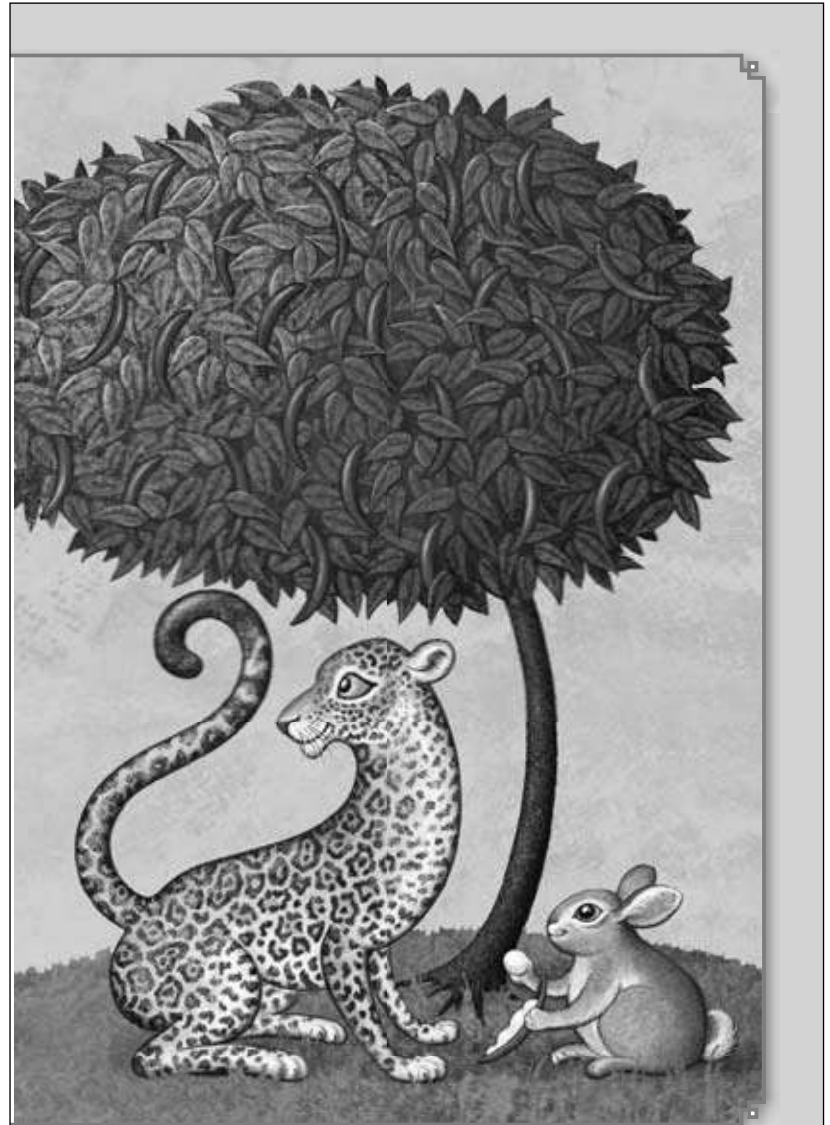
As he thought this thought, he suddenly stopped turning the bucket. He forgot his thirst. He had a plan.

All Hare had to do was wait. After a while, he could hear Lion roaring. He was roaring because his meal hadn't arrived yet. Hare shivered at the scary sound but stayed put.

Soon Lion came by searching for his meal. "Are you looking for me by any chance?" Hare called out to him.

"I don't know. Are you my meal today?" Lion replied gruffly.

"Indeed I am. You've come to the right place," Hare said brightly.



How Uncle Rabbit Tricked Uncle Jaguar

Uncle Rabbit in Latin America is called *Tío Conejo*. This tale is about him and a jaguar called Uncle Jaguar.

Nothing amused Uncle Rabbit more than playing tricks on his friends. He especially liked to trick Uncle Jaguar since the animal was so serious. He was also a bit vain about his sleek coat and long, graceful tail.

One day Uncle Rabbit was eating a piece of fruit. Uncle Jaguar came along and asked him what he was doing. As he spoke, Uncle Jaguar waved his tail about, showing it off. That tail gave Uncle Rabbit an idea for a joke. He replied to Uncle Jaguar's question by saying: "I am eating my fluffy little tail."

Uncle Jaguar was surprised. "Is that wise?" he said.

"Take a taste," Uncle Rabbit offered. He handed Jaguar a piece of the fruit.

"It's very good," Uncle Jaguar said. "I still wonder if it is healthy to eat one's own tail."

"Then why didn't you show up at noon?" Lion asked.

"Well, I did, but then I thought of something that would make your day special," Hare said. "Hare and honey. You must have heard of it. It's a very popular meal."

"No, but it sounds good," Lion said.

"Good? It's great!" Hare told him. "I figured that you are going to eat me one way or another. I might as well make it memorable for you. So I went to the honeybees and asked them for some honey. When I told them it was for you—the King of the Beasts—they gave me their best honey right away."



"Where is it?" Lion asked. "I want some of that honey to eat with my . . . well . . . you."

"Here's the problem," Hare said. "I was bringing you the honey and . . . uh . . . myself . . . for your lunch when another lion grabbed it from me."

Lion looked angry. "Where is he? I want my honey back."

Hare hopped next to Lion and spoke in a low tone. "I don't want to say this too loudly because he might hear me. He's right down in that well hiding from you while he eats all the honey. He said that you're a fool and would never find him down there."

Lion roared. "A fool?" he bellowed. "I'll show him who is the fool!" He jumped up, bracing his front paws on the edge of the well, and peered down.

Sure enough, there was a lion at the bottom of the well and he was eating a pot of honey.

"I told you he was there," Hare said, hopping up alongside Lion. "Look at him gobbling that honey."



Lion began to shout threats down to the lion in the well. The lion in the well was shouting back at him. But he was so far down that he could not be heard.

Finally, Lion became so enraged that he leaped down into the well. Only when he splashed into the water did he realize his mistake. The lion in the well was his own reflection. The honey pot was the golden sun also reflected in the water.

With Lion safely trapped in the well, Hare hopped off to tell the others what he'd done.

The other animals hailed him as a genius. And from then on, they always asked his advice if they had a problem. If Hare couldn't solve it himself, he would write to his Uncle Rabbit, who was as smart as his nephew and every bit as full of tricks.



Home-School Connection

Word Workout

WORDS TO KNOW

consulted recover tasks previous
pursuit proceeded urgency detected

The Doctor is In! Pretend you are a doctor for a day. Use words above to write a story about a patient and how you tried to diagnose what was wrong with him. Try to use as many words in the list as you can.

SPELLING WORDS

stable	cattle	stumble	terrible
beetle	saddle	kettle	eagle
royal	cripple	table	hospital
legal	label	vocal	noble
journal	medal	several	sample

L Sounds! Fold a piece of paper in half and write **-le** and **-al** at the top of each half. Put all of the words that end in **-le** in the first list. Then put all of the words that end in **-al** in the second list. Choose one of the lists and use as many words as you can to make a sentence.

Dear Family Member:

Blancaflor is a tale of adventure about a prince who made a deal to save his father's life. One day when he was sad about his father's illness, he sat under a giant tree to gather his thoughts about his father's condition. Out of nowhere, he heard a voice that promised to make his father better only if the prince promised to return the favor in three years time. The prince agreed and the next day the prince's father made a full recovery. I think the theme of the story is about keeping promises. I wonder if the prince will keep his promise.



This Week's Skills

Comprehension: theme

Vocabulary: context clues—figurative language

Spelling/Phonics: words that end in the sound of **-le**

Name _____

(fold here)
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Theme Them!

Let's think of a book, conversation, TV show, or newspaper article we think have themes. We can talk about them and jot down notes on these pages.

Book

Conversation

TV Show

Newspaper Article



Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

consulted recover tasks previous
pursuit proceeded urgency detected

¡Llegó el doctor! Imagina que eres doctor por un día. Usa las palabras de arriba para escribir un cuento acerca de un paciente y cómo tú trataste de hacer un diagnóstico sobre su problema de salud. Trata de usar tantas palabras de la lista como puedas.

PALABRAS DE ORTOGRAFÍA

stable	cattle	stumble	terrible
beetle	saddle	kettle	eagle
royal	cripple	table	hospital
legal	label	vocal	noble
journal	medal	several	sample

¡Creo que suena como L! Dobra una hoja de papel por la mitad y escribe en la parte superior de cada mitad **-le** y **-al**. Pon todas las palabras que terminen en **-le** en la primera lista. Luego pon todas las palabras que terminen en **-al** en la segunda. Elige una palabra de estas listas y usa tantas palabras como puedas para hacer una oración.

Queridos familiares:

Blancaflor es el nombre de una leyenda de aventuras sobre un príncipe que hace un trato para salvar la vida de su padre. Un día en el que estaba triste por la enfermedad de su padre, se sentó bajo un árbol gigante para meditar sobre la situación de su padre. De la nada, escuchó una voz que le prometía que haría que su padre mejorara solamente si el príncipe prometía devolverle el favor en tres años. El príncipe acepta y al día siguiente su padre se recuperó totalmente. Yo creo que el tema de este cuento es cumplir las promesas. Me pregunto si el príncipe cumplirá su promesa.



Destrezas de la semana

Comprensión: tema

Vocabulario: claves del contexto—lenguaje figurado

Ortografía/Fonética: palabras que terminan con el sonido **-le**

Nombre _____

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¡Dales un tema!

Vamos a pensar en un libro, conversación, programa de televisión o artículo de periódico que tengan temas. Hablemos sobre ellos y hagamos algunas anotaciones en estas páginas.

Book

Conversation

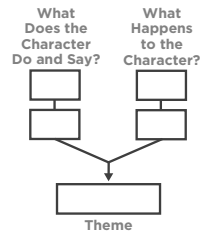
TV Show

Newspaper Article

Comprehension Check

Summarize

What is the theme of this story?
What happens in the story to support the theme? What do the characters say and do that relates to the theme? Use your theme chart to help you organize your thinking.



Think and Compare

1. Look again at page 11. What “lesson” did the scorpions want to teach the wealthy woman? Why didn’t Isis agree with this lesson? **(Theme)**
2. What character traits do you think heroes should have? Do you think Isis is a hero? Why or why not? **(Analyze)**
3. In the story, the scorpion Befen says that everyone should show hospitality to travelers. What ways do people show hospitality to travelers today? **(Apply)**

ISIS AND THE SEVEN SCORPIONS

retold by Duncan Searl
illustrated by Grizelda Holderness



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Chapter 1
THE GODDESS IN HIDING

Isis, the mother of all things, was in mourning. Her husband Osiris, had been killed by Set, an evil god.

Now, her only family was her baby son Horus. Isis checked on him asleep in the cradle beside her. Horus had been born on the day his father died, and he was growing stronger every day. Just thinking about their son made Isis smile through her tears. If all went well, he would become god of the sun some day.

Isis knew, however, that all would not be well unless she and Horus were safe from Set.

Set would do anything to keep Horus from becoming the sun god, a role he wanted. Isis and the baby were hiding in a small room. But they couldn't remain there for long without being detected by Set. He seemed to know everything, and he had spies everywhere. Surely, he would find Isis soon, and what would he do then?

THE MYTHS OF ANCIENT EGYPT

The myth of Isis and the Seven Scorpions was discovered in 1828. It was carved on a stone panel, or *stele*, discovered in Alexandria, Egypt. The story was first told in Ancient Egypt over 3,000 years ago. At the time, the Egyptians worshipped many gods and goddess.

To the ancient Egyptians, the goddess Isis was a devoted mother. She not only protected Horus but was the guardian of all children. As this myth shows, Isis was seen as a healer. She healed by the use of spells, perhaps given to her by Thoth. Several myths about Isis include her special spells.

Why did Thoth give Isis seven scorpions? Seven was a number of great power in ancient Egypt. Seven scorpions would have been the best protection against the evil Set. Thoth, by the way, had several forms. As in this story, he often appeared as an ibis. At other times, his head took the likeness of a baboon.

Isis, Horus, and the scorpions continued on their journey until they reached the northern delta. There, in a place called Chemmis, Isis decided they would be safe.

The scorpions had completed their mission, and for the most part they had done it bravely and well. So when they saw that the goddess was safe, they returned to Thoth.

Isis and Horus were safe from Set for now, but the delta marshes were a dangerous place. Young Horus faced many dangers from the crocodiles and poisonous snakes that roamed these places. Fortunately, Isis watched over her son and kept him safe until he reached manhood.

And when that time came, Horus left Chemmis and returned to Lower Egypt to avenge his father. And as other myths of Egypt tell, after many bloody struggles, Horus finally defeated Set and became the greatest sun god.



Someone knocked at the door. Isis picked up Horus and held him close. Another knock, and in stepped a powerful man with a head the shape of a bird. Isis relaxed and smiled at the sight of Thoth, with his round eyes and curved beak. For important decisions, Isis always consulted Thoth, the god of wisdom.

“Isis,” Thoth began, “I must warn you that you are in danger. Evil Set hurries here to kill Horus. You must flee. You must do everything in your power to protect yourself—and the young god.”

“Thank you, wise Thoth, for this warning,” sighed Isis. “But where can I go? Does not Set know every valley, every cave, every temple in Egypt? Wherever I go, he will follow me. Wherever we hide, he will seek us out and kill us.”

"Isis, do not despair!" said Thoth. "You must live, and you must raise Horus to avenge the death of his father Osiris. One day, Horus will overthrow the evil Set and take his place on the throne!"

"Avenge the death of his father," Isis repeated softly. "Yes, that is what Horus must do some day. But for now . . ." Her voice trailed off.

"For now you must travel north to the Nile Delta," Thoth explained. "The marshland there is the one place that Set does not know. You will be safe from his pursuit there."

Isis fell silent. Thoth had helped her in the past, and she knew that she could trust him. Still, the long journey would be difficult, and who would protect them on the way? "Will you go with us?" Isis asked.

Thoth shook his head. "Unfortunately, I cannot. There are many tasks for me here, and I must protect my libraries from Set. Do not fear though, for I have brought seven friends to take you to your destination. Come and meet them."



As the poison drained from his body, the boy began to recover. The wealthy woman was overcome with joy. Her son was alive.

The woman was also ashamed of herself though. She had slammed her door on a goddess. True, she had not known that the woman was Isis, but she had turned her back on a tired and hungry traveler with a baby. Why had she not acted like the fisherman's daughter, who shared the little she had?

The woman hurried back to her house. She gathered together her gold bracelets and necklaces, as well as her silver plates. She carried all these valuable things to the street.

"The great Isis has given me what is dearest to me—my son," the woman said. "Words are not enough to thank her for this. So I also share my gold and silver."

After saying these words, the woman gave much of the gold and silver to the fisherman's daughter. The rest she gave to the poor people in the other huts. Then people thanked her for her generosity. And they praised Isis for saving the boy.

Outside Isis couldn't believe her eyes. Thoth's seven friends were scorpions—giant ten-foot creatures. Isis walked slowly among the scorpions, carefully avoiding the poisonous stingers on their tails. "In all Egypt, there are no braver, stronger, or more loyal guards!" Thoth assured her.

Thoth began to introduce his friends. "This is Petet, Tjetet, and Matet. They've helped me in previous struggles with Set. Here are Mesetet and Mesetetef, the strongest scorpions in Egypt. Finally, meet Tefen and Befen, feared everywhere for their deadly venom!"

"Considering the urgency of the situation, we will leave at dawn," said Befen.



Chapter 2

A TRIP ACROSS THE DESERT

At sunrise, the strange procession set forth with Petet, Tjetet, and Matet leading the way. Walking ahead of Isis, they scanned the horizon for signs of danger. If Set or any troublemakers appeared, they would be ready.

Mesetet and Mesetetef carried Isis's sedan chair. The powerfully built scorpions shouldered the heavy chair easily. Picking their way carefully over the desert trail, they did their best to give Isis and the baby a smooth ride.

Tefen and Befen followed behind Isis's chair. If an attack came from the rear, they would sound the alarm.

From time to time, the scorpions checked the poison in their stingers. For the first few days, however, they didn't use their weapons. For the time being, at least, Isis and Horus seemed to have escaped Set and his spies.

Even so, the trip was anything but easy.

Chapter 5

THE GODDESS OF LIFE

Isis threw off the shawl that had been her disguise. As she walked out of the hut, her golden dress shone in the sunlight. "Bring me your poisoned son," she called to the wealthy woman. "For I am Isis, mother of all things, and all things obey me, even the scorpion."

The wealthy woman fell to the ground in front of Isis. She held out the body of her lifeless son.

Isis took the boy. "Poison of Tefen, come out!" Isis commanded. "Come out and fall harmless to the earth." Isis called out the poison of the scorpions.



The frantic mother raced outside, but the street was as silent as a tomb. The villagers had seen the giant scorpions pass by earlier and were afraid. Not even the woman's screams could persuade them to open their doors now.

"Help! Help!" the wealthy woman screamed, pounding on door after door. Desperately, she shook her son's limp body.

The loud screams reached the fisherman's hut and wakened Isis. "Tefen!" Isis called from the doorway. "Who is that woman and why does she need help?"

"She is the wealthy woman from the large house," Tefen explained, "the woman who would not help us earlier. It seems her son is poisoned."

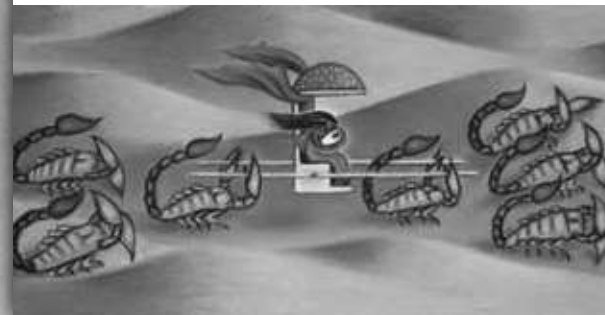
"How did this happen, Tefen?" Isis stared hard at Tefen. For she already knew the answer.

Tefen lowered his head. "The boy has felt the scorpions' anger," he said at last.

For one thing, the travelers did not have enough food and water. They had left in a hurry, and did not have time to get supplies. Also, they were following a secret route north. This route helped them avoid Set's spies, but there were no villages along it and no place to get food and water.

Thoth had told Befen about an oasis town where they could get food, but they missed it during a sandstorm. The sand had swirled around them for thirty hours, all but blinding Tjetet and Matet. Then Mesetet and Mastefetet had stumbled, badly cracking their pincers.

Now the wind had died down, and the travelers were back on the trail. Still their troubles weren't over. Inside the sedan chair Horus was wailing loudly from hunger.



Chapter 3

A WEALTHY WOMAN AND A POOR GIRL

On the fourth day, not far from the delta, the procession reached a small oasis. The houses were tiny, little more than mud huts. A few children played in the street, but they scurried indoors when they saw the scorpions.

"Not much of a village," said Befen, "but there's a fine-looking place up there!" He waved his pincers at a mansion surrounded by flowers and blossoming fruit trees. "The people there are wealthy. They'll be generous enough to share some food with us," he concluded.

Isis agreed with Befen's suggestion. She needed food and water, and there might not be another house before the delta.

"I'll ask," said Isis, "but I won't tell the owners who I am. It's too risky to let people know my true identity."

A short pathway led through the gardens and up to the house. Isis gathered her veil around her head and proceeded up the path.



In the bedroom, Tefen found what he was looking for. The woman's son was napping on the bed. Tefen crept closer, to where the boy's tiny arm hung down over the pillow. Raising his stinger, Tefen struck and injected venom into the child's veins.

The woman came rushing into the room when she heard the boy scream. She saw a giant scorpion scrambling past the bed and out the door. Then she gasped in horror when she saw her poisoned son on the bed.

"Help, help!" the mother screamed. Picking him up, she raced from the bedroom, but there was no one in the house to help her.

Chapter 4

A HARD LESSON

Isis had finished eating and was now napping beside Horus. Outside, the seven scorpions had their heads together. In a low voice, Tefen described his deadly scheme.

"Perhaps that is *too hard* a lesson," said Matet, when he had heard the plan. He was the youngest of the scorpions, and he had never stung a person. The stares and frowns of the others, however, silenced him.

"Of course, I'll need an extra-strong dose of poison," said Tefen, "to do the job right."

Nothing else needed to be said. One by one, the other scorpions stood up and poured some poison into Tefen's outstretched stinger.

Then Tefen scuttled out of the yard and down the road. A minute later, he was at the wealthy woman's house. The scorpion found an open window that was wide enough for him to scrape through. Then he moved from room to room in pursuit of his innocent prey.

The owner of the house opened the door. She was dressed in a silver gown and gold bracelets lined her wrists. Her four-year-old son was standing at her side.

"I'm sorry to bother you," began Isis, "but my baby and I have traveled a great distance, and we are hungry and thirsty. Could you share some food and water?"

The woman nodded and smiled. Perhaps she was about to say, "Yes, of course, come in." She didn't say that though. In fact, she didn't say anything. The woman's words suddenly froze in her throat, and terror filled her eyes.

Isis saw why. Befen and Tefen were sidling up the pathway to the house. Hungry and thirsty, they were anxious for a meal too.

At last, the woman found her voice. "Get out of here!" she screamed. Then she slammed the door in the goddess's face.

Disappointed, Isis walked back to the road and told the scorpions to continue north to the delta.

Just then, a young girl stepped out of a mud hut. She was barefoot and wore a ragged linen dress. Smiling, she stepped around the scorpions and up to Isis's chair.

"Greetings," the young girl said. "I saw what happened over at the big house. You and your baby look tired. My house is very small, but you are welcome to come inside and rest there."

Isis smiled and thanked the girl for her hospitality. "My father is a poor fisherman," the girl went on. "Most days, he catches almost nothing. Yesterday, however, he was lucky and caught six fish. You are more than welcome to share them with me."

So Isis carried Horus into the tiny mud hut. It was too small for the seven scorpions, but they preferred the yard anyway.



The girl filled cups with water for her visitors. Then she handed Isis bread, grapes, and a plate of cooked fish. Finally she filled a bucket with water for the scorpions outside.

Isis fed Horus and gave him some water. Then she ate hungrily. It was her first real meal in days. After eating, Horus took a nap. The girl, who had no mother, was glad to have a woman visitor. She asked Isis questions, and the goddess helped her understand many things.

Outside in the yard, however, the conversation wasn't so friendly. The seven scorpions were brooding about how the rich woman had treated them. "How dare she slam her door on us because we're scorpions," muttered Matet, staring over at the big house.

"She wouldn't have been so rude if she had known that it was Isis," Petet added.

Befen exclaimed, "Everyone—especially the rich—should show hospitality to travelers!"

"That woman needs to be taught a lesson," Tefen concluded.



Home-School Connection

Dear Family Member:

The author of *The Unbreakable Code* has strong feelings about the Navajo men who fought in World War II. From what the characters say, I know those men were brave and that they loved America. The feelings the author has about his subject are clear. When the main character says it is important that the Navajo know their own language as well as English, I know that the author is proud of being Navajo.



This Week's Skills

Comprehension: author's perspective

Vocabulary: context clues

Spelling/Phonics: words ending in **ar**, **er**, and **or**

Name _____

Word Workout

WORDS TO KNOW

corridor creased enlisted invasion
location reservation transmission shield

We're the Authors Let's pretend we're authors from a different time period. Then we'll use as many vocabulary words as we can to write a few sentences of a story.

SPELLING WORDS

director	shatter	soldier	governor
error	commander	peddler	professor
pillar	splendor	scissors	vapor
scholar	sugar	equator	labor
founder	crater	saucer	gentler

Spell That R-Sound I will write down the spelling of the ending sounds in these words (**or**, **er**, **ar**) and give it to you. Then I'll give you a spelling word, and you can spell it for me. To make sure of the spelling, tell me if the word ends in **or**, **er**, or **ar** before you spell.

(fold here)
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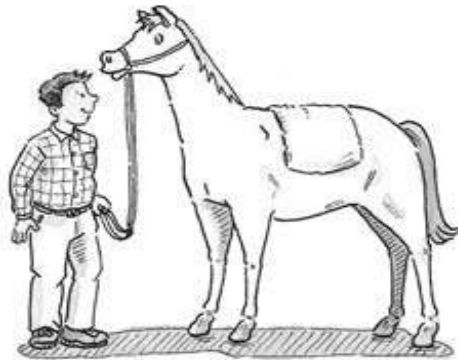
What's the View?

A book reviewer has written about two books that have just come out. What is each author's perspective?

Mrs. Fielding has now published her 23rd cookbook, and is already on her 24th. She has traveled the world and written about the people and food of many cultures. Her recipes are almost secondary to the accounts of her travels.



Mr. Trent has just written a book about horse racing. He has collected statistics about horses for as long as he can remember. He writes about famous horses—the time they ran in each race; the jockeys who rode them; the names of their breeders. He has statistics on the number of horses in each important race, which one came in first, in second, in last.



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Topic: _____

Point of view _____

Topic: _____

Point of view _____



Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

corridor creased enlisted invasion
location reservation transmission shield

Somos autores Vamos a imaginarnos que somos autores de otra época. Usemos la mayor cantidad de palabras de vocabulario que sea posible para escribir oraciones de un relato.

PALABRAS DE ORTOGRAFÍA

director	shatter	soldier	governor
error	commander	peddler	professor
pillar	splendor	scissors	vapor
scholar	sugar	equator	labor
founder	crater	saucer	gentler

Escribe ese sonido R Voy a escribir los sonidos finales de estas palabras (**or**, **er**, **ar**) y te los voy a dar. Luego, te daré una palabra de ortografía y tú la vas a deletrear. Para asegurarte de que la ortografía es correcta, dime si la palabra termina con **or**, **er** o **ar** antes de escribirla.

Queridos familiares:

El autor de *The Unbreakable Code* tiene sentimientos fuertes acerca de los hombres navajo que pelearon en la Segunda Guerra Mundial. Por lo que dicen los personajes, sé que esos hombres fueron valientes y amaban Estados Unidos. Los sentimientos que el autor tiene acerca del tema son claros. Cuando el personaje principal dice que es importante que los navajo conozcan su propio idioma además del inglés, sé que el autor se siente orgulloso de ser navajo.



Destrezas de la semana

Comprensión: perspectiva del autor

Vocabulario: claves de contexto

Ortografía/Fonética: palabras terminadas en **ar**, **er** y **or**

Nombre _____

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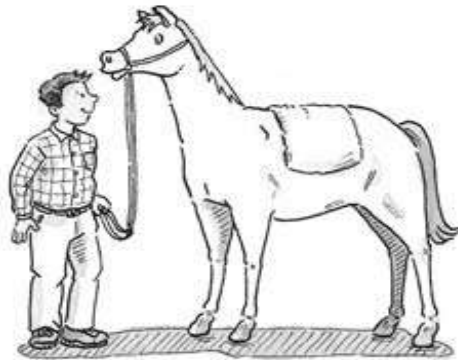
¿Cuál es el punto de vista?

Un crítico literario ha escrito acerca de dos libros que acaban de salir publicados. ¿Cuál crees que es el punto de vista del autor?

Mrs. Fielding has now published her 23rd cookbook, and is already on her 24th. She has traveled the world and written about the people and food of many cultures. Her recipes are almost secondary to the accounts of her travels.



Mr. Trent has just written a book about horse racing. He has collected statistics about horses for as long as he can remember. He writes about famous horses—the time they ran in each race; the jockeys who rode them; the names of their breeders. He has statistics on the number of horses in each important race, which one came in first, in second, in last.



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Topic: _____

Point of view _____

Topic: _____

Point of view _____

Comprehension Check

Summarize

Use the Author's Perspective Chart to help you summarize the book. What is the author's perspective regarding the people of the homefront during World War II? List the clues that support this point of view.

Clues	Author's Perspective

Think and Compare

1. Look back at page 18. What clues tell you how the author feels about Manzanar? **(Author's Perspective)**
2. Many women worked outside the home during the war. What kinds of work did they do? Why do you think they were proud of their work? **(Analyze)**
3. How would you feel and what would you do, if the armed forces asked you to donate your pet for the war effort? Explain. **(Apply)**

On the Home Front

LIFE DURING WORLD WAR II

Katherine Talmadge Sallé



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Introduction

It was December 7, 1941. A sunny day dawned at Pearl Harbor, a U.S. Naval Base in Hawaii. Battleships floated at anchor. Hundreds of planes stood in silent airfields. Most of the men were resting. All was quiet and still.

Then, just before eight o'clock, Japanese planes attacked. Bombs exploded. Ships blew up, and planes shattered. The horror lasted just two hours. In that time, 2,403 Americans died. Almost 200 airplanes were destroyed, and 19 ships were sunk or damaged.



More than 300 Japanese planes attacked Pearl Harbor.



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Glossary

alliance (*uh-LIGH-uhnz*) an agreement between two or more countries, groups, or people to work together in doing something (**page 3**)

armed forces (*AHRMD FAWRS-es*) all the military forces of a nation, including the army, navy, air force, marines, and coast guard (**page 3**)

civil defense (*SIV-uhl di-FENS*) a system of warning devices and volunteer workers, organized to defend the public against danger (**page 16**)

discrimination (*di-SKRIM-uh-NAY-shuhn*) an unfair difference in treatment (**page 12**)

drafted (*DRAFT-ed*) selected a person or persons for military service (**page 3**)

enlisted (*en-LIST-ed*) joined the armed forces (**page 3**)

invasions (*in-VAY-zhuhn*) attacks by a large military force (**page 16**)

rationing (*RASH-uhn-ing*) measuring available supplies into equal or fair portions (**page 9**)

reservations (*rez-uhr-VAY-shuhn*) public lands set aside for a specific use, such as a Native American reservations (**page 12**)

U-boats (*YOO-bohtz*) German submarines (**page 17**)

veterans (*VET-uhr-uhnz*) people who have served in the armed forces (**page 21**)



Thousands of men stood in line to sign up to fight for the United States.

The United States joined the Allies. This was an **alliance** led by Britain, France, and the Soviet Union. Japan had a similar partnership. Japan, Germany, and Italy formed the Axis Powers. So the U.S. declared war on Germany and Italy, too.

Our **armed forces** needed thousands of troops. All able men aged 18 to 35 were **drafted**, or called to serve. Many other men rushed to **enlist**.

Soon soldiers went off to war. And back on the home front, people worked hard to support them.

United We Stand

People at home were eager for news of their men at war. Everyone had a family member or friend who was away at war. People didn't have televisions yet, but there were newspaper and radio reports.

Mothers hung "service flags" in the front windows of their homes. Each flag held a blue star for each son at war. If her son died, the mother would cover the blue star with a gold star. The government honored these "Gold Star Mothers," whose sons were lost at war.

People wrote letters and sent packages to the soldiers overseas. Volunteers knitted socks and hats for them. School classes sent notes and valentines. And many mothers and grandmothers sent cookies and cakes.

In Their Own Words

Prudence Moylan was six when the war ended. She remembers:

"Everyone, or at least lots of children in the neighborhood, brought pots and spoons out into the street and marched around, banging on the pots and making lots of noise to celebrate the end of the war."

Then the troops began to come home. The returning **veterans** needed jobs. That led most factories to fire their "wartime" staff. But the war had brought these women and African Americans hope. They had proved their worth as workers. There would be more struggles ahead. Yet the war years had planted the seeds of civil rights. Equality seemed possible.

A new law, the GI Bill, gave veterans loans. They used the loans to attend college, buy homes, and start businesses. Factories started making new cars and bikes. They also made something new and exciting—television.

Better times rolled in at last. In fact the decade after World War II was one of the most peaceful times the United States has ever had.

Conclusion

People on the home front were lucky. They were never attacked.

President Roosevelt died suddenly on April 12, 1945. It was a crushing shock. Then Vice President Harry S. Truman stepped in. He brought the nation through the last of the war.

Then, at last: Victory! Germany surrendered on May 7, 1945. This date is called VE Day, for "Victory in Europe." Japan surrendered on August 15. Throughout the world the Allies celebrated.

In cities and towns all across America, people crowded into the streets to celebrate the end of the war.



Red Cross volunteers brought food to soldiers leaving for war.

The American Red Cross worked hard for our troops. On the home front, volunteers made bandages and blankets. They also collected blood for wounded soldiers. Red Cross workers went to war, too. They staffed wartime hospital tents, trains, and ships.

Dr. Charles Drew's Discovery

Dr. Charles Drew made a discovery that saved many lives during the war. Blood cannot be stored for more than two days because the red blood cells break down. This made it impossible to ship blood to battlefields. But Drew found a solution to this problem. He found that in an emergency plasma, which is the watery part of blood, is just as helpful to a patient as whole blood is. So he figured out how to separate plasma and red blood cells. Then he removed the water from the plasma, leaving a white powder. It could be sealed in bags, shipped to the battlefield, and kept for a long time.



Then the armed forces asked for more help. They needed dogs. Many families gave up their dogs.

Each dog was trained for a special job. Sentry dogs were guards. They barked or growled to warn of nearby enemies. Scout dogs watched quietly to warn their trainers of enemies.

Messenger dogs had two trainers. In battle one trainer would attach a message to the dog and tell it to take the message to the other trainer. The dog learned to creep along out of the enemies' sight.

The dogs came home after the war. Sometimes the soldier handler asked to keep the dog. Often the families agreed. They decided that two heroes who fought together should stay together.

Each dog usually worked with one trainer. The dog and his trainer then became a team.



At the camp the Japanese Americans lived in long wooden buildings. A family often lived in just one room. The rooms were not heated, and there were no kitchens. Everyone ate in a large dining hall.



Women could train as nurses at Manzanar. Some went on to serve in the war.

They tried to keep their spirits up. They made gardens and ran schools for their children. They even set up sports teams. And although their nation had imprisoned them unfairly, they helped the war effort. Many worked in the prison factory, making supplies for the American troops.

In 1944 the government realized its terrible mistake. Soon the camps closed. The Japanese Americans were freed. More than 17,000 of them joined the armed forces and helped the Allies win the war.



Today Manzanar is a National Historic Site. It honors the Japanese Americans who were unfairly kept there.



About 120,000 Japanese American men, women, and children were sent to the prison camps.

Fear brought some tragic mistakes.

After the attack on Pearl Harbor, people were scared. They feared the Japanese. They even feared Japanese Americans. It was totally unfair. But the fears grew and spread. Some thought the Japanese Americans were spies. Others worried that they might plot invasions.

To answer those fears, the government passed a law. All Japanese Americans in the western United States had to leave their homes. They were sent to prison camps.

One camp was Manzanar. It was in the dry desert of California. More than 10,000 people were sent there.



President Roosevelt's "Fireside Chats"

President Franklin Delano Roosevelt led the United States during World War II. He often spoke to the American people through radio broadcasts called "Fireside Chats." Roosevelt encouraged everyone to work together to win the war. During one speech he said:

"Whatever our individual circumstances or opportunities, we are all in it and our spirit is good, and we Americans and our allies are going to win—and do not let anyone tell you anything different."

CHAPTER TWO

Living with War

The war dragged on. Our armed forces needed more and more supplies. To fill that need, people at home did without many things.

Before the war women wore silk stockings. Most silk came from Japan. After Pearl Harbor the United States stopped trading with Japan. Silk stockings disappeared. So American factories made nylon stockings. But soon they disappeared, too. The armed forces needed nylon to make parachutes.

Leather was in short supply. It was used to make soldiers' boots. Therefore people could not buy new shoes.

The armed forces needed wool and flannel for uniforms. At home fashions had to change. Women's skirts became shorter. Men's suits no longer had vests.



In Their Own Words

Tom O'Connor was about your age during World War II. He was a civil defense volunteer.

"My father was one year over the draft age, so he was never in the service. But he signed up as an air-raid warden. I got a job as a messenger. I wore an armband like my dad's and was allowed out on the street on my bicycle during the drills. My pals were jealous."

Plane spotters went to work for the Air Warning Service. They stood on the tops of buildings or fire towers and watched for enemy planes. If they spotted a plane, they sent an emergency transmission to the CDC.

People also feared submarines. In 1942 alone, German **U-boats** sank nearly 400 American ships. Many were off the coast of Florida. In response motorcycle teams and boat owners patrolled the Florida coast. In Maine Coast Guard Reserve members patrolled beaches, armed with flare guns. If they spotted a U-boat, they were to shoot off a flare. Buried turrets, towers with guns on them, would then rise from the sand, and tanks would arrive from a nearby warehouse.

CHAPTER FOUR

On the Alert

Americans feared **invasions**. Japanese planes had bombed Pearl Harbor. German subs had sunk our ships. Was the homeland safe?

To shield the public from danger, the government formed a **civil defense** program. It was called the Civilian Defense Corps (CDC). By 1942 there were 10 million volunteers.

People feared airplane attacks. So the CDC held air-raid drills to help prepare for an attack. When a siren rang, people ran to basements or safe corridors, away from windows. After a while, an “all-clear” siren rang to end the drill.

Some volunteers worked in schools to keep them safe.



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On the Home Front

Meat, sugar, flour, and coffee were needed to feed the soliders. Because of this, there were food shortages. To solve that problem, the government started a **rationing** program. Every family, rich or poor, received ration books. These books held coupons to trade for food at a market. Each person got the same number of coupons, so everyone got the same amount of food.

People also pitched in and starting growing their own fruits and vegetables. Even people in cities dug up parks to plant gardens. These were called “Victory Gardens.” They helped everyone get enough food to eat.



Many people tore up their lawns to plant vegetables.

In Their Own Words

Tom O'Connor grew up during the war and he remembers:

“As soon as a delivery truck pulled up to the market, people would find out what was being delivered. If it was anything that was rationed, word would spread like lightning. There would be a line of at least a hundred people. Sugar, bacon, butter, and meats were the prime catches.”



9

The armed forces needed gasoline for fuel and rubber for tires. At home people used ration coupons to buy gas for their cars. They could buy just a few gallons a week. People walked to work instead of driving. They patched their old tires. Even children patched their bicycle tires!

Many paper mills closed when their workers left for war. The Boy Scouts held paper drives to recycle used paper. They also helped out when the armed forces ran out of the fluffy material used to stuff sailors' life vests. Scouts gathered the fluffy seedpods from milkweed plants. Those seedpods filled many wartime life vests!



Theaters and restaurants sometimes had to close because they had no fuel for heat.

Farms needed help, too. Many farmers were also serving in the armed forces. Others had gone to cities because factories paid better than farm jobs. Crop production sagged. In 1943 the Women's Land Army was formed. It brought out a force of more than a million women farmworkers. They picked crops, weeded fields, tended cattle, and sheared sheep.

Teenagers worked, too. In a Fireside Chat, President Roosevelt said that at one farming location, the whole high school came out to harvest a ripe crop.

Some women moved to the farms, living in bunkhouses. Others came by bus each morning and went home at night.



Rosie the Riveter

This poster was created to encourage women to go to work in factories to help the war effort. The woman in the poster became known as "Rosie the Riveter." Later there was a song about Rosie, and the artist Norman Rockwell painted a Rosie the Riveter for a magazine cover. People began to call all women factory workers "Rosies."



By 1943 more than half the women in the United States were working. One woman said, "When my husband and my brother...and all the other boys come back home, I want to be able to look them in the eye with a clear conscience and say, 'I did all I could.'"



These women were working as riveters. Rivets are heavy bolts that hold pieces of metal together.

Wartime Toys

During the war there was no extra rubber to make dolls, bicycle tires, and soccer balls. There was no extra metal to make bikes, toy and metal lunch boxes. Children played with paper dolls and cut out and pasted together cardboard trucks.

The armed forces needed metal for trucks, planes, ships, and guns. Therefore people on the home front saved all scraps of metal. They gave up old pots, rakes, and shovels, too. The Dodgers baseball team, then in Brooklyn, would give a free ticket to anyone who brought five pounds of scrap metal to the game!



Scrap metal drives were popular during the war.

American factories made no cars during the war. They made tanks and trucks instead. Airplane factories made warplanes. Shipyards built battleships. The shift to war production was smooth. But there was one big problem. Most workers had gone to war. Who could take their place?

We Can Do It!

Factories worked around the clock. They had to make huge amounts of war supplies. Workers were badly needed.

Before the war some factories would not hire African Americans. President Roosevelt put an end to that. He wanted jobs open to all. So he made a law that banned **discrimination**. Then African Americans filled many factory jobs. Native Americans did, too. About 40,000 left **reservations** to work in factories.

The President Speaks

President Roosevelt spoke out strongly against discrimination. In the quote below he uses the word *Negroes*, which people used for African Americans before the 1950s.

"In some communities, employers dislike to employ women. In others, they are reluctant to hire Negroes. In still others, older men are not wanted. We can no longer afford to indulge such prejudices or practices."

—President Franklin Delano Roosevelt,
October 12, 1942

Women Go to Work!



Then the largest new group of workers came to help—about 6 million women!

Before the war many women worked in the home. Others worked as nurses or teachers. But women did not work in factories. Some people thought women were not strong enough for heavy work. But the women proved them wrong. They built planes, trucks, and ships. They learned to weld, rivet, and operate cranes.

It was a shock for some people even to see a woman wearing pants. They weren't used to women wearing dirty, creased working clothes.

Many women worked 70 hours a week in factories.





Home-School Connection

Dear Family Member:

Spirit of Endurance is the incredible story of explorers who set out to be the first men to cross the Antarctic. They met huge islands of ice that began to damage their ship. They abandoned it and made camp on the ice. As we're reading this book in class, I'm learning about all the other problems the men faced, and how they solved each one of them. Recognizing the problems and solutions in a book is a way of keeping me focused on what is essential in a story.



This Week's Skills

Comprehension: problem and solution

Vocabulary: word parts—root, prefix, suffix

Spelling/Phonics: words ending in **en, an, on, ain, le, el,** and **al**

Name _____

Word Workout

WORDS TO KNOW

abandon dismantled expedition frigid
labor treacherous triumph uninhabited

Word to Word Let's begin with the first word, **abandon**, and start a story of people setting off on a journey into the unknown. We'll use each word in a sentence, going in order as we string words together to make the story.

SPELLING WORDS

angle	heron	lengthen	marvel
woolen	listen	bushel	signal
nozzle	practical	barrel	captain
frighten	slogan	fable	global
mountain	pretzel	sandal	chuckle

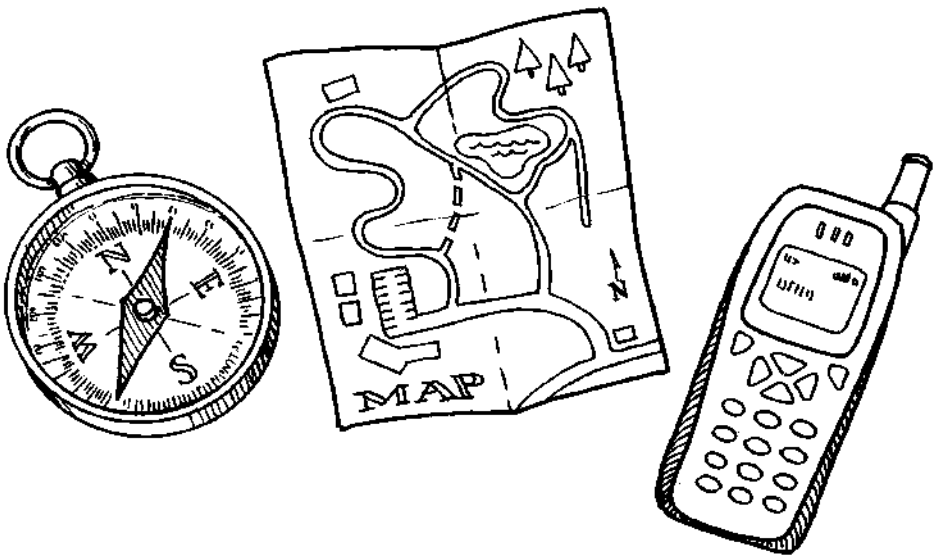
Guess that word! I'll give you the definition of a spelling word. See if you can guess the word and answer by spelling it out. We'll keep playing until you have guessed all the spelling words correctly!

(fold here)
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Solve the Problem

We’re going to solve the problem five hikers have when they are lost. Each one has an item that will help all of them.

- Read each clue. When a clue tells you a hiker does not have a certain item, draw an **X** in the chart in the matching row and column.
 - When you have four **Xs** in a row or column, write **Yes** in the remaining squares.
 - When you have a **Yes** in a square, draw **X** in any remaining squares in the row or column.
 - Keep looking across and down as you play, looking for where you can write **X** or **Yes**.
-
- Neither Elvis nor Tina have a map.
 - Without a map, hikers cannot have a plan.
 - Sasha has no phone, and so she has no plan.
 - Jack has no compass, and he sure would like a clue.
 - Rick has no clue, and so he doesn’t have a plan.
 - A phone would help Tina and Elvis.
 - With no clue, Elvis doesn’t know what’s going on.



	clue	map	phone	compass	plan
Elvis					
Tina					
Jack					
Sasha					
Rick					

Elvis has a _____.

Tina has a _____.

Jack has a _____.

Sasha has a _____.

Rick has a _____.

Ejercicio de palabras

PALABRAS DE VOCABULARIO

abandon dismantled expedition frigid
labor treacherous triumph uninhabited

Palabra a palabra Vamos a comenzar con la primera palabra, *abandon*, y a empezar con un relato de gente que parte a un lugar desconocido. Usemos cada palabra en una oración y continuemos en orden con la próxima palabra, y luego la próxima, colocando las oraciones en orden para armar nuestro relato.

PALABRAS DE ORTOGRAFÍA

angle	heron	lengthen	marvel
woolen	listen	bushel	signal
nozzle	practical	barrel	captain
frighten	slogan	fable	global
mountain	pretzel	sandal	chuckle

¡Adivina esa palabra! Voy a darte la definición de una de las palabras de ortografía. ¿Puedes adivinar la palabra? ¿Puedes deletrearla? ¡Vamos a jugar hasta que adivines todas las palabras correctamente!



Conexión con el hogar

Queridos familiares:

Spirit of Endurance es el increíble relato de unos exploradores que partieron para ser los primeros hombres en cruzar la Antártida. Allí se encontraron entre inmensas islas de hielo que comenzaron a dañar su barco y quebrarlo.

Entonces lo abandonaron y establecieron campamento sobre el hielo. Mientras leemos este libro en la clase, estoy aprendiendo acerca de todos los problemas que tuvieron que enfrentar los hombres y cómo resolvieron cada uno de ellos. Reconocer los problemas y las soluciones en un libro es una manera de mantenerme enfocado en lo que es esencial en un relato.



Destrezas de la semana

Comprensión: problema y solución

Vocabulario: partes de una palabra—raíz, prefijo, sufijo

Ortografía/Fonética: palabras terminadas en **en, an, on, ain, le, el y al**

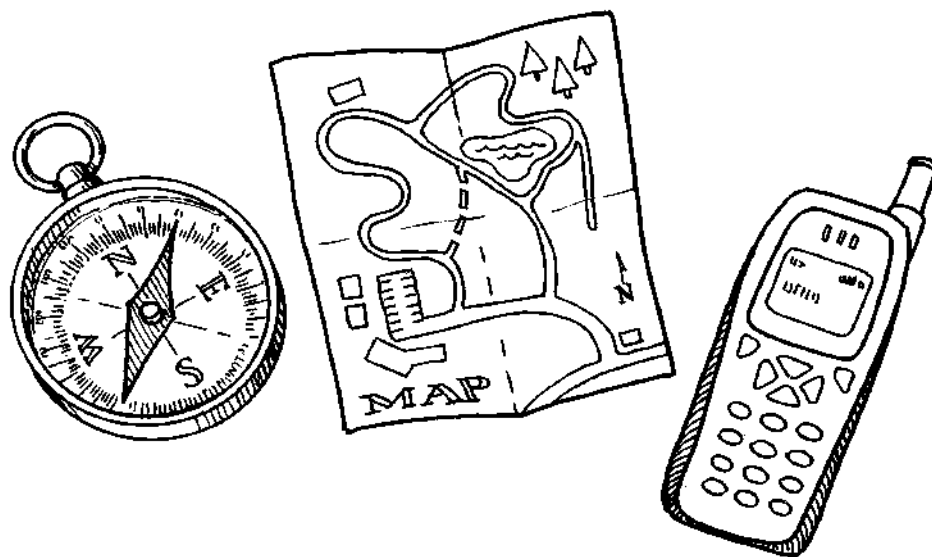
Nombre _____

(fold here)
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Resuelve el problema

Vamos a resolver el problema que tienen cinco excursionistas cuando se pierden. Cada uno de ellos tiene una cosa que ayudará a los demás.

- Lee cada pista. Cuando una pista te dice que un excursionista no tiene una cosa determinada, escribe una **X** en la tabla, en la hilera y en la columna correspondiente.
 - Cuando tengas cuatro **X** en una hilera o en una columna, escribe **Yes** en la casilla que quede.
 - Cuando tengas **Yes** en una casilla, escribe una **X** en las casillas que queden en la hilera o en la columna.
 - Mientras juegas, sigue buscando en forma horizontal y vertical dónde más puedes escribir **X** o **Yes**.
- Neither Elvis nor Tina have a map.
 - Without a map, hikers cannot have a plan.
 - Sasha has no phone, and so she has no plan.
 - Jack has no compass, and he sure would like a clue.
 - Rick has no clue, and so he doesn't have a plan.
 - A phone would help Tina and Elvis.
 - With no clue, Elvis doesn't know what's going on.



	clue	map	phone	compass	plan
Elvis					
Tina					
Jack					
Sasha					
Rick					

Elvis has a _____.

Tina has a _____.

Jack has a _____.

Sasha has a _____.

Rick has a _____.

Comprehension Check

Summarize

Use a Problem and Solution Chart to list some of the problems that scientists have attempted to solve at the polar regions. What are some of the scientists' solutions?

Problem	
Attempts	Outcomes
Solution	

Think and Compare

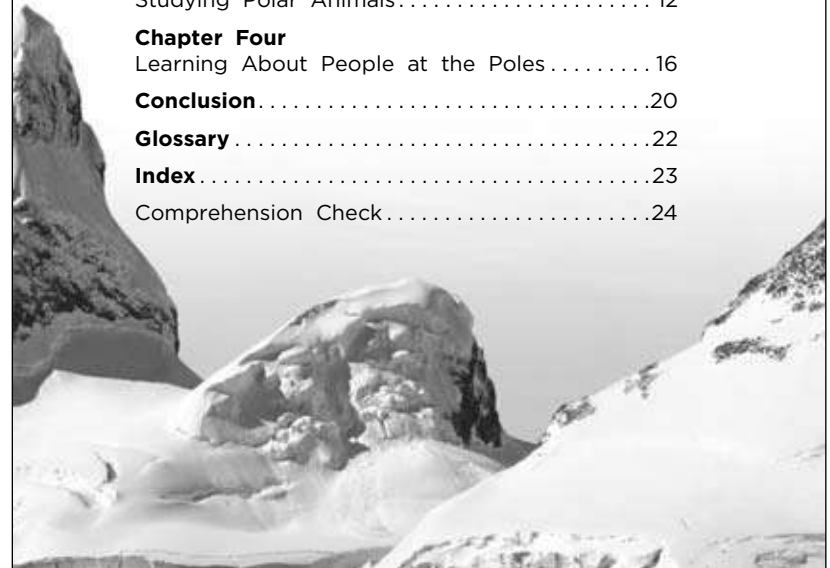
1. Look back at pages 12 and 13. What problems did the scientists face when studying krill? How did they solve them? (**Problem and Solution**)
2. How would you like to be a scientist in the polar regions? What problem would you want to try to solve? (**Analyze**)
3. What mysteries or problems are left in the polar regions that scientists still have to solve? (**Apply/Analyze**)

Science in the Snow

by Barbara Burt

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Introduction

Why do people travel to the North and South Poles? After all, the poles are very cold. They are not easy places for humans to live. Snow and ice stretch for miles. Still, the first polar explorers risked their lives to travel there. They wanted adventure. But they also wanted to make scientific discoveries. Today, many scientists build upon the work of these early explorers. Some work in the Arctic while others work in Antarctica.

The North Pole and South Pole are alike in many ways. But they are very different, too. The North Pole is in the middle of the Arctic Ocean. The ocean freezes over in winter. In summer, the ocean breaks up into big slabs of ice. The South Pole is on the continent of Antarctica. It's covered in snow and **glaciers**, huge sheets of ice. The Southern Ocean surrounds the South Pole.

In this book, you'll read about scientists who study the Arctic and Antarctica. Many of these scientists travel to treacherous places. Frigid weather makes their work difficult. But still, they triumph.

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Glossary

algae (*AL-jee*) simple, plant-like living things that usually live in water (**page 12**)

anthropologist (*an-thruh-POL-uh-jist*) a scientist who studies human beings and their beliefs and ways of life (**page 16**)

arthropod (*AHR-thruh-pod*) an animal that has jointed legs with its skeleton outside of its body; examples are insects, spiders, and crabs (**page 5**)

atmosphere (*at-muhs-FEER*) the layers of gases that surround Earth (**page 8**)

ecosystem (*EK-oh-sis-tuhm*) all the living and nonliving things in a certain area (**page 12**)

fossil (*FOS-uhl*) the hardened remains or traces of an animal or plant that lived long ago (**page 4**)

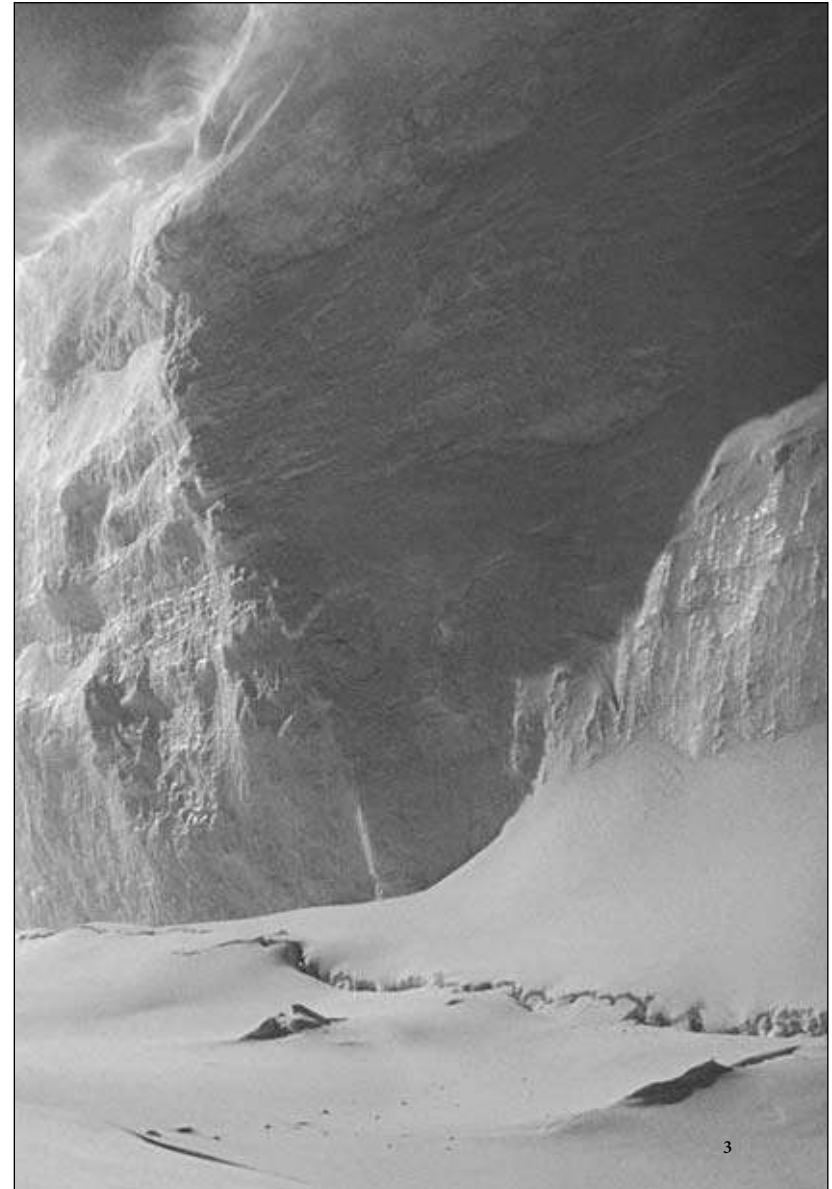
glacier (*GLAY-shur*) a large mass of moving ice in very cold regions or in mountains (**page 2**)

krill (*KRIL*) tiny, shrimp-like creatures that live in the ocean (**page 12**)

microbe (*MIGH-kroh-b*) a tiny living thing that is too small to see without a microscope (**page 6**)

paleontologist (*pay-lee-uhn-TOL-uh-jist*) a scientist who studies fossils of prehistoric animal and plant life (**page 4**)

predator (*PRED-uh-tur*) an animal that lives by hunting other animals for food (**page 5**)



CHAPTER ONE

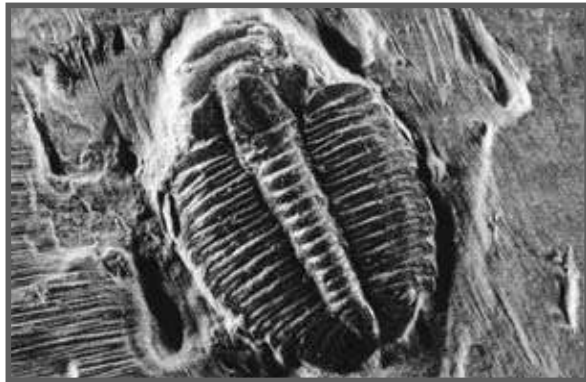
Frozen Fossils

Professor Loren Babcock worked in Antarctica. He is a **paleontologist**. He studies **fossils**. Fossils are the remains of animals and plants that lived long ago. Scientists study fossils to learn about Earth's past.

Why does a fossil hunter go to Antarctica? After all, Antarctica has no land animals. It has few plants. How could fossils be there?

The answer lies in the past. Antarctica was very different 160 million years ago. It was warmer. Professor Babcock looks at frozen Antarctica today, but he thinks about how it looked long ago.

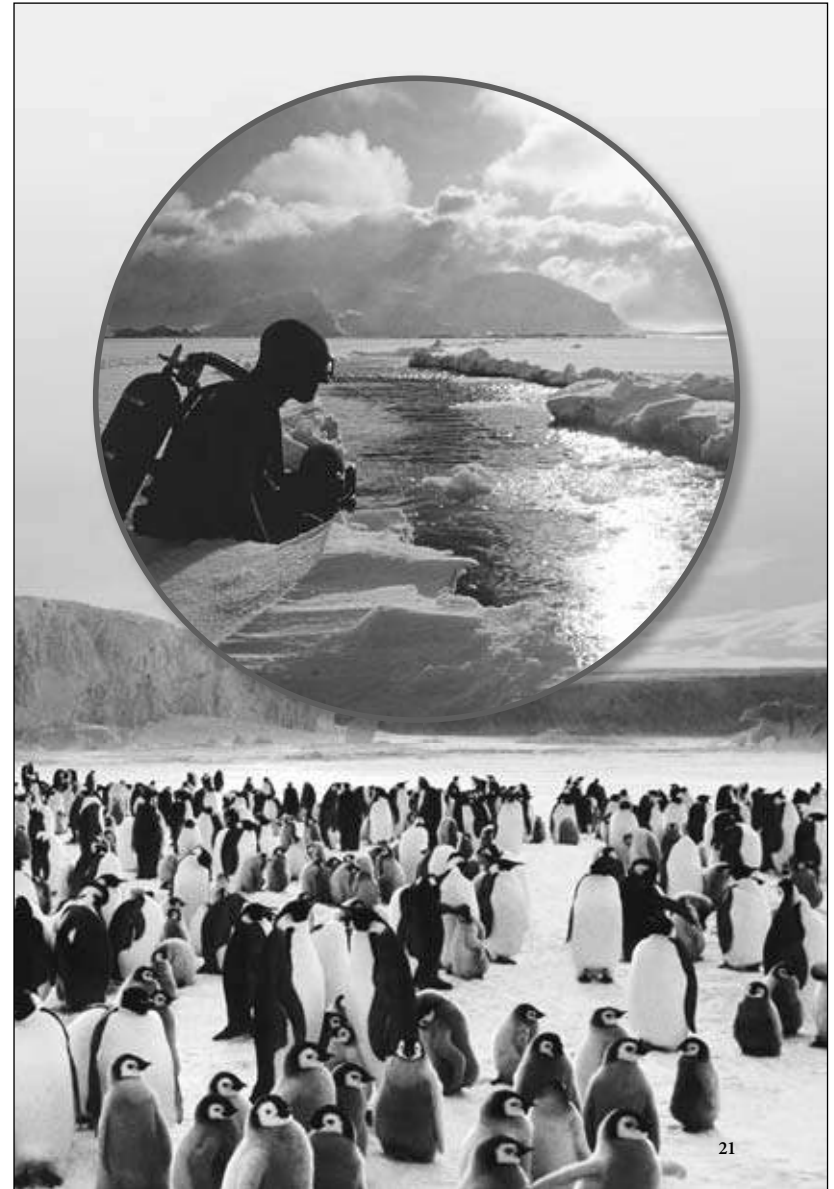
🕒 This fossil is about 400 million years old.



4

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Science in the Snow



21

Conclusion

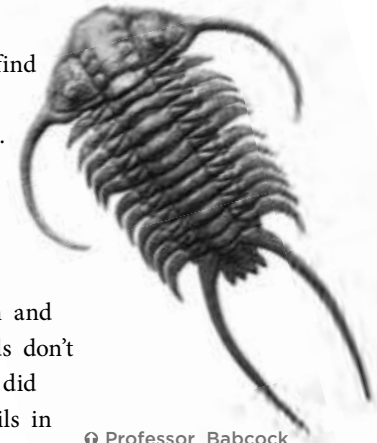
Antarctica and the Arctic may seem like vast, empty spaces. But the polar regions have captured people's imaginations since the first explorers reached the North and South Poles.

Scientists who work there today know much is still to be learned. Who knows what amazing fossil a scientist might find? What else will scientists learn about Earth's past from the ice? Scientists have much to discover at the icy poles.

🔊 Groups of penguins huddle shoulder to shoulder to keep each other warm.



Professor Babcock did find some fossils in Antarctica. The fossils are **arthropods**. Insects, spiders, and lobsters are all arthropods. Few arthropods become fossils. Fossils are usually hard body parts, like teeth and bones. But most arthropods don't have teeth or bones. Why did these animals become fossils in Antarctica?



🔊 Professor Babcock found many arthropod fossils in Antarctica.

Two things must happen before a fossil forms. First, a **predator** cannot eat the animal. Second, something must turn the animal parts into rock.

Professor Babcock thinks he knows what happened. He found the fossils in old mountains. Long ago these mountains were active volcanoes. He thinks that the little arthropods lived in hot pools. The pools were close to openings in the volcanoes. The openings made the pools hot. Most predators could not live there.

But how did these animals become fossils? To find out, scientists used a special microscope. It showed **microbes**, which are tiny living things. The arthropods died. Then microbes covered their bodies.



Antarctica is one of the most isolated places on Earth. The winter population is about 1,000.

You might think that the scientists would study how people react to the cold. And they do. But scientists also study how humans behave in isolated places. They look at how people act in groups. They study how well people work together within the group.

They also study body rhythms. These are body cycles, like sleeping and waking. During winter, the South Pole has 24 hours of darkness. In summer, it has 24 hours of light. Many people find it hard to sleep normally in Antarctica. So scientists test ways to help people get a good night's sleep. One experiment is to shine bright lights for part of the day.

Scientists Studying Scientists

Antarctica has no native people. It is uninhabited. In fact, the largest land animal on Antarctica is a tiny midge. That's a fly about a half-inch long! Few visitors come here, and they are mostly scientists.

But scientists study people here, too. They study the visiting scientists. You might say that this is a case of scientists studying scientists. The people living on Antarctica all arrive in great health. They eat the same food. They live and work in the same places under the same conditions.

🕒 Scientists at the poles live and work in close quarters.



Babcock remembered an experiment. Microbes grew on a decaying crab. The microbes caused a fossil to form. So, Babcock figured out that the microbes on the arthropods helped to turn them to stone. Other scientists could now apply what he had learned.

🕒 Some parts of Antarctica's coastline are rocky. Mountains run along the coast.



CHAPTER TWO

Questions and Answers in Ice

Other kinds of scientists also work at the poles. Some of them study Earth's climate. They want to learn about the climate long ago.

The ice at the North and South Poles tells a lot about the past. Scientists drill ice-core samples. Then the equipment is dismantled and the scientists take the ice cores to their laboratories. They carefully study them. They learn about the **atmosphere** and atmospheric conditions thousands of years ago.

An ice core is like a time line. The time line goes back 300,000 years. Each year a new layer of snow and ice builds on top of the old ice at the poles. Every layer contains information. The deeper ice has older material. So, scientists drill deep into the ice.

In 1883 a huge volcano erupted. Its name was Krakatoa. The volcanic eruption filled the skies with dust. Some dust settled at both poles. When scientists drill into the ice, they find dust from that eruption.

Inuit Art

The Arctic land is barren and not very colorful. But the Inuit of Canada and Alaska create beauty. They make bright sculptures and embroidery. The carvings shown in the photo are made of soft soapstone.



Diamond Jenness was an anthropologist who worked in the Arctic. He was born in 1886 in New Zealand. From 1913 to 1918, he traveled with a large expedition to the Arctic. He studied a group of people there called the Copper Inuit.

Jenness lived with the Copper Inuit for several years. He collected their clothing and hunting tools. He listened to their stories and songs. He recorded their voices. He used the simple recording equipment of that time. He became friends with many Inuit. They knew he respected their way of life. Jenness wrote books about the lives of the Inuit. People still read them today.

CHAPTER FOUR

Learning About People at the Poles

There are still other scientists at the poles. They are called social scientists. They study how different people live there. **Anthropologists** are one kind of social scientist. They study the Inuit (in-YOO-it) and other native people who live in the Arctic region. These people settled there thousands of years ago. The scientists want to learn about their way of life.

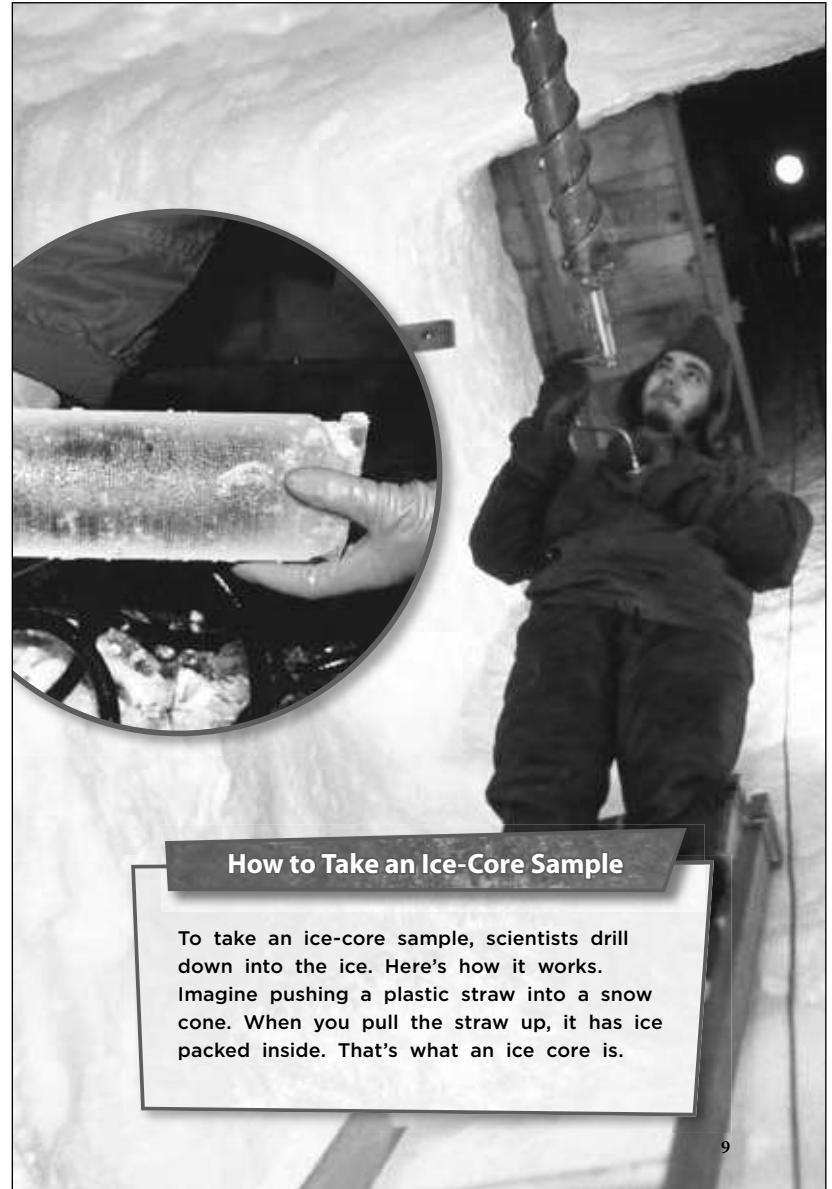
🔊 Traditional Inuit clothing is made from the fur of polar bears, arctic foxes, and seals.



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Science in the Snow



How to Take an Ice-Core Sample

To take an ice-core sample, scientists drill down into the ice. Here's how it works. Imagine pushing a plastic straw into a snow cone. When you pull the straw up, it has ice packed inside. That's what an ice core is.

9



❶ This is a slice of ice from an ice-core sample. It looks multi-colored when it is viewed with a special light.

The ice also told the story of a more recent disaster. In 1986, a nuclear power plant in Chernobyl (cher-NOH-buhl), Ukraine, blew up. The explosion carried radioactive dust into the atmosphere. Scientists found some of this dust in the ice at the South Pole.

Scientists who study the ice are like detectives. They study ancient mysteries as well as recent ones. They wanted to know what happened to Viking settlers who settled in Greenland during the 1300s. These settlements vanished long ago.

The scientists looked for clues in ice taken from Greenland. They found that snow from the 1300s got saltier. They think that the sea was stormier than usual.

Stormy weather is a hint that the climate then was colder. The island probably became too cold for the settlers. They had to abandon the island.

Warming causes the ice to melt earlier. When the ice melts, the bears have to come on shore. It's harder for them to hunt seals from land. If the ice melts early, they don't have enough time to catch seals. They can't store enough fat for the coming summer, fall, and winter.

What will happen if the climate continues to get warmer? If the ice melts in Hudson Bay, the polar bears there will disappear.



Fat Is Where It's At

Ian Stirling has studied polar bears for more than 30 years. He and his science team have labored to catch, tag, and examine about four-fifths of the polar bears in western Hudson Bay. They measure and weigh the bears. They check to see how fat they are. As one scientist says, "For a polar bear, fat is where it's at."

Hudson Bay is south of the Arctic Ocean. But it has a similar climate. Every winter it freezes over. The bears live on the ice. In the spring, seals and seal pups come out of hiding. The bears hunt the seals. The seals are fat-rich food for the polar bears.

The scientists studying the bears thought that the bears were not as fat as before. The scientists wondered why. Were warmer temperatures to blame?

🔊 An adult polar bear usually eats one seal every six or seven days.



The Case of the Disappearing Ice

Scientists are trying to solve another important polar mystery. Giant icebergs are breaking off the ice sheets in Antarctica. Are the ice sheets melting? Scientists are worried. If the ice sheets melt quickly, the ocean level will rise. That could flood coastal areas around the world.



🔊 Scientists use weather balloons to study the atmosphere above Antarctica.

Some scientists say that this has happened before. Others disagree. Ice cores may hold the answer. Scientists can study them to learn about Earth's climate in the past.

Try This!

Why will the oceans rise if the ice sheets melt? Here's an experiment to try. Put water and several ice cubes in a paper cup. Mark the water level. Look at the water level again after the ice melts. What happened? Why do you think that is?

CHAPTER THREE

Studying Polar Animals

Some scientists in Antarctica study tiny creatures called **krill**. Krill look like little shrimp. They live in the ocean surrounding the continent. Krill are very important to the Antarctic **ecosystem**. Whales, penguins, seals, fish, and birds all eat krill.

But scientists are concerned. Krill eat plant-like **algae** that grow under ice. Now the sea ice is shrinking. Will the algae disappear, too? Will the krill population shrink? If krill disappear, what will become of the animals that eat them?

Researching krill in Antarctica is not easy. Scientists have to travel across an ice-covered ocean. They must work in the bitter cold. They have to track tiny creatures under thick sheets of ice.

🕒 Scientists use the *Nathaniel B. Palmer* for many expeditions to Antarctica.



These scientists can work from special research ships like the *Nathaniel B. Palmer*. It's an icebreaker. It can travel through ice-covered waters. The ship carries equipment that works in the extreme cold. One example is an underwater vehicle. Its name is *SeaRover*. Scientists use *SeaRover* to look under the ice. *SeaRover* has a camera, too. Scientists use it to film krill.

🕒 Krill are about the size of your thumb.





Home-School Connection

Dear Family Member:

I'm reading *Ultimate Field Trip 5*. The main idea of this article is about how astronauts train. As I read, I'll find out the details that support the main idea. One detail is that the Space Academy has amazing machines that simulate living in reduced-gravity atmospheres. I'll discover more details as I keep reading.

This Week's Skill

Comprehension: main idea and details

Vocabulary: context clues—
descriptions or explanations

Spelling/Phonics: prefixes



Name _____

Word Workout

WORDS TO KNOW

adjusted	disasters	environment
function	zone	gravity
maze	mission	

Word Play Write a story using all the words from the list.

SPELLING WORDS

unusual	unfriendly	reunite	regain
dishonest	unaware	refreeze	rewrap
underwater	overwhelm	nonspecific	
unfinished	disconnect	discourage	
misguide	unimportant	rediscover	
repaired	submerge	replenish	

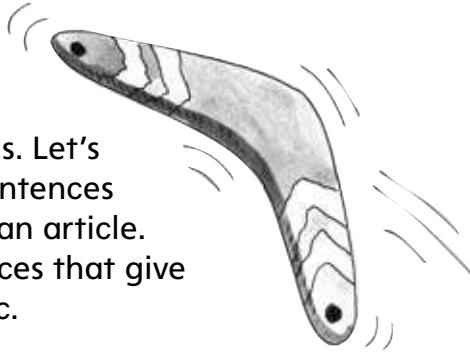
Using Prefixes I'll say one of the spelling words, but I'll leave off the prefix. You tell me what the prefix is and then spell the word.

(fold here)
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Get the Idea

Articles tell more than just a random list of facts. When I read I'm learning to recognize the big ideas and the details that back them up.

There are two topics on this page, but the big ideas are mixed in with the details. Let's see if we can spot which sentences could be the main idea for an article. We'll also find some sentences that give information about the topic.



Boomerangs

Most boomerangs are made of wood.

A boomerang is a curved device that will return to the person who throws it.

Australian Aborigines have used boomerangs for thousands of years.

Today, athletes compete in boomerang throwing contests.

In the world record throw, a boomerang zoomed 781 feet (238 meters) and then came back.

(possible main idea: A boomerang is a curved device that will return to the person who throws it.)

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Hot-Air Balloons

The first hot-air balloon took off in France in 1783.

In 1793 a hot-air balloon soared in the United States for the first time.

Hot-air balloons are the oldest successful human flight technology.

They were invented by the Montgolfier Brothers.

(possible main idea: Hot-air balloons are the oldest successful human flight technology.)



Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

adjusted	disasters	environment
function	zone	gravity
maze	mission	

Juego de palabras Escribe un cuento en el que uses todas las palabras de la lista.

PALABRAS DE ORTOGRAFÍA

unusual	unfriendly	reunite	regain
dishonest	unaware	refreeze	rewrap
underwater	overwhelm	nonspecific	
unfinished	disconnect	discourage	
misguide	unimportant	rediscover	
repaired	submerge	replenish	

Uso de prefijos Voy a decir una de las palabras de ortografía, pero no voy a incluir el prefijo. Tú me dirás cuál es el prefijo y entonces deletrearás la palabra.

Queridos familiares:

Estoy leyendo *Ultimate Field Trip 5*. La idea principal de este artículo es cómo se entrenan los astronautas. Mientras leo, voy a averiguar los detalles que apoyan esta idea principal. Un detalle es que la Academia Espacial tiene unas máquinas asombrosas que simulan cómo es la vida en atmósferas de gravedad reducida. Voy a descubrir más detalles conforme siga leyendo.

Destrezas de la semana

Comprensión: idea principal y detalles

Vocabulario: claves de contexto—descripciones o explicaciones

Ortografía/Fonética: prefijos



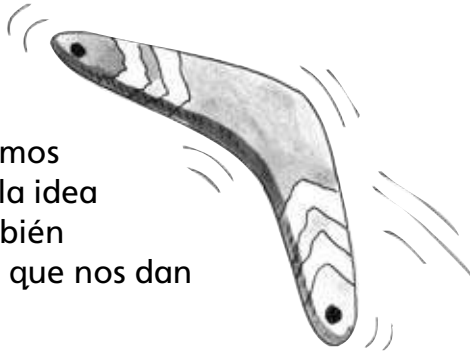
Nombre _____

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Ésa es la idea

Los artículos nos dan más que una lista casual de datos. Ahora estoy aprendiendo a reconocer las ideas importantes y los detalles que las soportan.

Aquí hay dos temas, pero las ideas importantes están mezcladas con los detalles. Vamos a ver si podemos distinguir qué oraciones son la idea principal de un artículo. También vamos a encontrar oraciones que nos dan información sobre el tema.



Boomerangs

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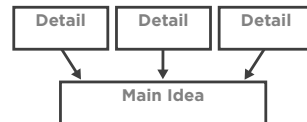
They were invented by the Montgolfier Brothers.

(possible main idea: Hot-air balloons are the oldest successful human flight technology.)

Comprehension Check

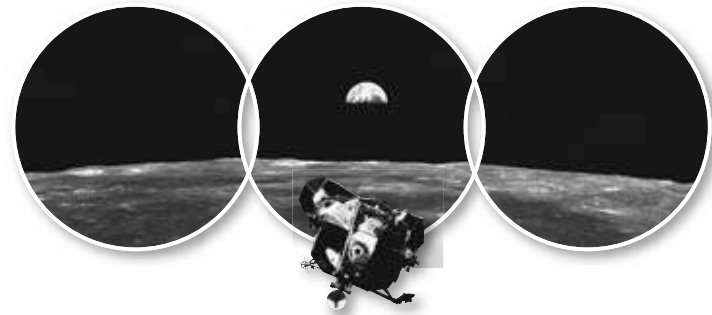
Summarize

Use the Main Idea Chart to help you summarize each chapter of the book.



Think and Compare

1. What is the main idea on page 10? What details help support the main idea? **(Main Idea and Details)**
2. The *Apollo* astronauts were very concerned with safety. What's an activity you've participated in that has the potential to be dangerous? What are some of the safety precautions you took? **(Evaluate)**
3. The spacesuit was designed to recreate conditions on Earth that our bodies are used to. Are there other places that humans go that require special suits? What do these suits have in common with spacesuits? How are they different? Can you explain some of the similarities and differences? **(Apply/Analyze)**



ON THE MOON

by Emily Wortman-Wunder

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INTRODUCTION

The date was July 20, 1969. Millions of people all over the world sat in front of their TV sets. They were waiting to see something that had never happened before. Two human beings were about to walk on the moon.

A spacecraft rested on the moon's surface. The world watched as the **hatch** opened. Neil Armstrong and Edwin "Buzz" Aldrin climbed out.

TV cameras sent back blurry pictures of Armstrong stepping onto the moon. His voice was heard across thousands of miles. The words he spoke would go down in history. "That's one small step for a man . . . one giant leap for mankind."

There were six successful moon landings between 1969 and 1972. Each landing increased our knowledge of Earth's closest neighbor.

Putting people on the moon took many years. It took the work of many scientists. How did people finally reach the moon? What did they do when they got there? Keep reading to find the answers to these questions about getting to the moon.

The astronauts struggled to secure the flag into the rocky surface of the moon. They were afraid the flag would fall over.

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Glossary

atmosphere (*AT-muhs-feer*) the layer of gases that surrounds Earth and other planets (**page 9**)

astronomer (*uh STRON uh muhr*) a person who studies the planets, stars, and other objects in space (**page 4**)

crater (*KRAY-tur*) a hollow area in a landscape that looks like the inside of a bowl (**page 7**)

crust (*KRUST*) the solid, outer portion of a planet (**page 16**)

gravity (*GRA-vuh-ee*) the force that pulls things towards Earth (**page 9**)

hatch (*HACH*) a door in the deck of a ship or spacecraft (**page 2**)

lunar (*LEW-nur*) having to do with the moon (**page 6**)

lunar dust (*LEW-nur dust*) the fine powdery dust found on the moon's surface (**page 7**)

orbit (*OR-bit*) a circular or elliptical path one object makes around another object (**page 4**)

phases (*FAYZ-ez*) the stages of the moon as it appears to change shape over time (**page 4**)

satellite (*SAT-uh-light*) an object that orbits, or travels around, another object. A satellite can be human made or naturally occurring. (**page 4**)



CHAPTER 1

THE RACE FOR THE MOON

Since ancient times people have been fascinated by the moon. Cultures have created myths, legends, poetry, and songs about it. Ancient **astronomers** studied the moon, carefully recording its different **phases**.

The moon is Earth's natural **satellite**. It is closer to Earth than any of the planets. Because of this, it is easily seen in the night sky. It appears much larger than the planets and stars. Perhaps this is why people have dreamed of going to the moon. But until the mid-20th century, that dream didn't seem possible.

Earth's Satellite

The moon makes a complete **orbit** around Earth every $27 \frac{1}{3}$ days. The same side of the moon is always facing Earth. We can only see the part of the moon that is reflecting light back from the sun.



Scientists learned a lot about the moon from the work the astronauts did. They were able to confirm that there was no life on the moon and that there is no evidence of life in the past. Scientists also found out about the moon's ancient origins. By studying the rocks, scientists understand how the moon formed. They also can see how the moon is similar to Earth and how it is different.

The moon landings showed that we could travel through space, land on a surface in space, and then return safely to Earth. Through the moon landings, a small number of space travelers learned what it is like to walk, work, and live on another world. Someday humans may put that knowledge to use in exploring other planets and moons in our solar system.

Astronauts on the moon saw something no one had ever seen before—Earth rising above the moon's horizon.



CONCLUSION

The *Apollo* Project ended in 1972, after landing 12 people on the moon. All in all, astronauts had spent more than 340 hours on the surface of the moon. They brought back more than 840 pounds of moon soil and rocks for scientists to study. NASA had planned at least three more moon landings, but unfortunately they were cancelled. The missions were extremely expensive, and over time, the public lost interest.

The *Apollo* missions to the moon gave us important new information about Earth's satellite. Astronauts were able to explore and describe the surface of the moon. They conducted experiments and brought back samples of rocks and dust.

In 1957, the Soviet Union launched *Sputnik*, the first artificial satellite to orbit Earth. A month later, *Sputnik 2* carried a dog into space. Then in 1961, the Soviet Union sent the first human being into space. The Soviet cosmonaut orbited Earth once before landing. Although the United States sent a man into space less than a month later, it had lost two chances to be first in space.



But there were still plenty of challenging goals to strive for. President John F. Kennedy declared that the United States would put a man on the moon and bring him safely back by 1970. The race with the Soviet Union was on.

President Kennedy launched the space race by declaring that the United States would put the first person on the moon.

Scientists at the National Aeronautic and Space Administration (NASA) had a lot of work to do before they could send a person to the moon. They had to design and build a spacecraft that could get people to the moon—and bring them safely back to Earth. And they had to work quickly if they were to do this before the Soviets.

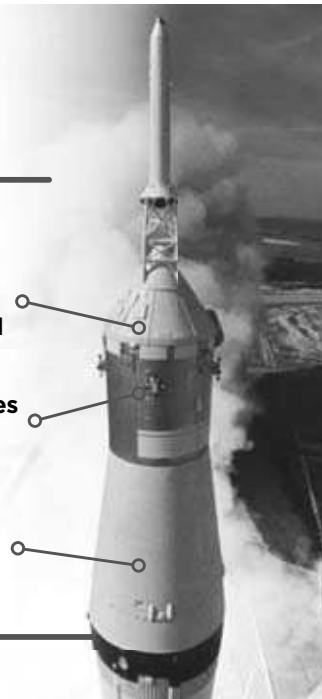
Scientists designed a new spacecraft called *Apollo 11* that would carry astronauts to the moon. Powerful rockets would blast the craft into space and send it into orbit around the moon. Then the spacecraft would divide into two parts. One crew member would circle the moon in the Command and Support Modules, while two crew members flew down to the moon's surface in the **Lunar** Module.

Apollo 11

The Command Module carried the crew during most of the flight, as well as the operations systems and the re-entry equipment.

The Support Module carried supplies such as water, oxygen, and fuel.

The Lunar Module carried crew to the moon's surface and also contained rockets to reconnect it to *Apollo 11*.



One important part of the astronauts' job was to describe the moon to people back home. People wanted to know everything the astronauts saw and experienced. "The surface is fine and powdery . . . like powdered charcoal," said Neil Armstrong as he walked on the moon.

Buzz Aldrin noted that the moon was so small that he had to lean forward to feel "upright." He described experimenting with different ways of moving to make up for the moon's reduced gravity. He found that putting one foot in front of the other gave him more control than jumping with two feet "in more of a kangaroo fashion."

Astronauts splashed down in the ocean when they returned to Earth. Here are Neil Armstrong, Buzz Aldrin, and Michael Collins landing on July 24, 1969 after their trip to the moon.





The rover carried two astronauts and all of their equipment over the surface of the moon.

Getting Around on the Moon

During the first three moon landings, the astronauts could only explore as far as they could safely walk from their lunar modules. But when the astronauts of *Apollo 15* got to the moon, they brought along a new tool for exploration. It was a battery-powered vehicle called the Lunar Rover. Though the rover only went about eight miles per hour, it helped the astronauts drive farther into the zones of the moon landscapes. The *Apollo 15* astronauts were able to drive more than 17 miles on the moon—much farther than they could have walked.

Early astronomers thought some of the dark spots on the moon were water and named them “seas.” There is actually no water on the moon. What observers thought were seas are usually flat, smooth surfaces.



Scientists also had to figure out where on the moon they could land such a craft. To help them make this important decision, scientists used photographs and other information they received from satellites and unmanned spacecraft. Scientists knew that the moon had many large **craters** and fields of boulders. Its surface was covered with a fine powder called **lunar dust**. For the first landing, they chose a flat, smooth-looking spot on the moon's surface called the Sea of Tranquility. However, the astronauts would be able to change the landing site if they felt it was necessary.

CHAPTER 2

BLASTOFF!

On July 16, 1969, everything was ready for *Apollo 11*'s first flight. The three *Apollo* crew members, Neil Armstrong, Buzz Aldrin, and Michael Collins, were strapped into their seats in the spacecraft. Mission Control began the countdown. Ten . . . nine . . . eight . . .

The Astronauts

Neil Armstrong (left), Michael Collins (center), and Buzz Aldrin (right) made up the *Apollo 11* crew. How were they selected for the mission? All three men had been pilots in the military. They were also scientists. Neil Armstrong, for example, was an engineer. All three men had trained for many years to become astronauts and each had been into space before.



All of the *Apollo* flights left equipment on the moon to collect information and send it back to Earth. Some of these instruments measured the Sun's rays. Some recorded movements of the moon's crust, or "moonquakes." Still other instruments helped scientists figure out exactly how far apart the moon and the Earth are.

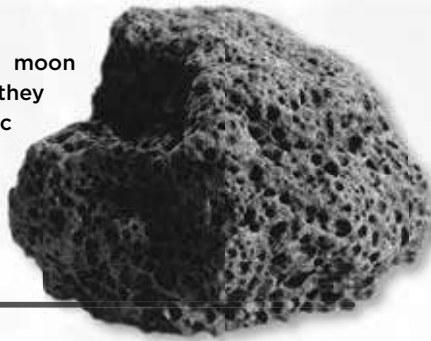
Later *Apollo* missions produced the greatest scientific results. *Apollo 17*, in particular, holds the records for most time spent on the moon's surface, longest distances driven, most samples collected, and so on.

The *Apollo* moon missions left an *Apollo Lunar Surface Experiments Package* spread out on the moon's surface to collect information.



Moon Rocks

Many of the rocks on the moon are **igneous**. That means they were formed from volcanic lava, probably long ago when the solar system was still red hot. Others were formed when meteors hit the moon.



Astronauts on every moon mission collected moon rocks and dust. Back on Earth, scientists studied the rocks and soil. They learned that moon soil is made up of bits of rock and glass. Some of the grains of soil are tiny glass balls. Nothing grows in this soil.

Scientists used these samples to learn many other things about the moon. We now know that the moon's surface has changed very little in the past three billion years.

We also know that the materials in the moon's **crust** are very similar to those in Earth's crust. Therefore, scientists now think that the moon formed when a huge body slammed into Earth while the solar system was still forming. According to this theory, the moon is a chunk of Earth that was thrown into space, where it now orbits Earth.



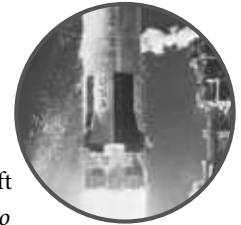
This footprint might remain undisturbed for a billion years.

To escape Earth's **gravity**, or the force that pulls objects toward the ground, *Apollo 11* was attached to a booster rocket. At the end of the countdown, the rocket fired into space. A huge cloud of smoke and exhaust swirled behind *Apollo 11* as it streaked into the sky.

Once *Apollo* was in space, stages of the rocket started to fall away. As soon as a stage used up its fuel, it fell off in order to make the spacecraft lighter. The discarded stages burned up in Earth's **atmosphere**.

The first two rocket stages brought the *Apollo 11* within Earth's orbit. As the spacecraft orbited Earth, the astronauts checked the *Apollo* and made sure it was ready for its trip to the moon. Then the third stage fired, allowing the spacecraft to escape Earth's orbit.

As *Apollo 11* traveled toward the moon, the three astronauts readied themselves for the big event ahead.



Launch Time

Many things had to be considered when deciding on the best time to launch the *Apollo 11*. The angle of the sun and the position of the moon when the spacecraft would arrive were two important factors.



Mission Control in Houston worked around the clock to keep in touch with the astronauts throughout the mission.

The astronauts were not exactly sure what would happen when they reached the moon, but they made certain their equipment was ready—and that they were, too.

Although the astronauts were in constant communication with Earth, they were thousands of miles away from help. If anything went wrong, it would be up to them to take care of it.

The *Apollo* spacecraft had many safety features. Most of its parts were fireproof, and it had a system of automatic controls that could be operated manually if necessary. It also had many backup systems that could be used in case of disaster.

Exploring the Moon

The astronauts of *Apollo 11*, and those on the next five missions to land on the moon, had many important tasks to perform. They had to take photographs, samples, and measurements, as well as set up equipment to take measurements after they were gone. And they had to describe this unknown world that only they would get to see.

The Lunar Module of *Apollo 11* had a television camera inside of it. This camera sent pictures back to Earth of the astronauts taking their first steps. The photos were very fuzzy but still exciting. Neil Armstrong also carried a camera. Because he was taking most of the photos, only one of the famous first pictures of the moon has Armstrong in it!



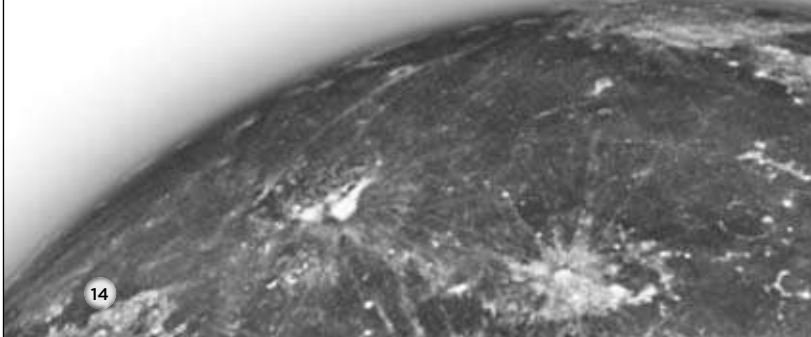
The camera was attached to the astronaut's chest.

CHAPTER 3

WORKING ON THE MOON

Neil Armstrong piloted the Lunar Module to the moon's surface. At the last minute he adjusted his course to avoid landing in a maze of boulders. Armstrong and Aldrin touched down with only 30 seconds of fuel remaining. Armstrong radioed a message back to Earth: "The *Eagle* has landed."

After landing, the crew checked all systems and ate their first meal on the moon. Then Armstrong and Aldrin put on backpacks containing oxygen and carefully opened the *Eagle's* hatch. They crawled backward out of the hatch and down the ladder. Their first "small step" went down in history. The astronauts spent the next 21 hours on the moon's surface.



In many ways, the moon is very different from Earth. It has no atmosphere, so it is impossible to breathe. Earth's atmosphere contains the oxygen that we need in order to live, but astronauts landing on the moon would need to carry air to breathe.

The moon has some gravity, but it is much less than that of Earth. By 1969, scientists knew that humans could survive in a low-gravity environment, but they were not sure how it would affect trying to walk on the moon. Would the astronauts be able to function there?

Another difference between Earth and the moon is temperature. The moon gets much hotter and colder than anywhere on Earth. The astronauts would need protection from extreme temperatures.



Astronauts had to learn how to work in a low-gravity environment. Astronaut Michael Collins prepared for his trip by practicing on a flight simulator.

Moon Cocoons

One of the astronauts' most important safety tools was the spacesuit. Without a spacesuit, the astronauts wouldn't have survived on the moon's surface more than a few seconds. The astronauts called the suits "moon cocoons" because they were so bulky.

The spacesuit had 22 layers of different kinds of materials. Although the moon cocoon was thick, it still allowed the astronauts to move about. The spacesuits astronauts wear today to work on the space station are similar to the *Apollo 11* moon suits.

The Spacesuits

- The spacesuits provided oxygen through a tank carried on the back.
- They protected the astronaut from the extreme heat and cold of space.
- They had a thick outer layer to protect astronauts from tiny meteors known as micrometeorites.



Another vital safety feature was the astronauts' communication equipment. The astronauts on the moon had to be able to talk to each other and to the astronaut orbiting in the Command Module. They also needed to communicate with Mission Control back on Earth.

Astronauts wore individual communications units inside their spacesuits. These units gathered information about the astronauts' health and the conditions they found on the moon.

All Ready

It took four days for the *Apollo* to reach the moon. On the afternoon of July 20, 1969, Neil Armstrong and Buzz Aldrin climbed into the Lunar Module, which they called *Eagle*.

Then Michael Collins, still in the Command Module, threw the switch that released the Lunar Module. There was no turning back now. The *Eagle* was headed for the moon's surface.

Michael Collins took this photo of the Lunar Module descending toward the moon's surface.





Home-School Connection

Dear Family Member:

We are learning more about fact and opinion as we read an article called “Heroes in Time of Need.” The article talks about how people helped families who lost their homes. It gives facts about how kids raised money for the victims of Hurricane Katrina that we can prove are true. The article also includes opinions that we can’t prove. That doesn’t mean that an opinion is a lie or untrue, though. An opinion is something that a person believes.



This Week’s Skills

Comprehension: fact and opinion

Vocabulary: word parts—Greek and Latin roots

Spelling/Phonics: words that are spelled the same but have different meanings

Name _____

Word Workout

WORDS TO KNOW

impact supplies survived
violent involved

You’re My Hero! How could we use these words to talk about a local hero? Let’s choose a topic and try.

SPELLING WORDS

excuse	content	refuse	protest
conduct	subject	extract	permits
insert	rebel	combat	conflict
research	compact	contract	present
minute	entrance	desert	contest

You Say, I Say Each spelling word can be pronounced in two different ways. I’ll pronounce the word one way. Then you pronounce the word another way and spell it for me.

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What's True?

What kind of media do you get information from? Do people tell you facts or give opinions? You probably get information from many sources. Think about facts and opinions. Can we write one of each for each picture? Let's try.

Telephone



A large rectangular area with a dotted border for writing.

Magazine or Newspaper



A large rectangular area with a dotted border for writing.

An Adult



A large rectangular area with a dotted border for writing.

Television News or Weather Report



A large rectangular area with a dotted border for writing.

Computer or Radio



A large rectangular area with a dotted border for writing.

Ejercicio de palabras

PALABRAS DE VOCABULARIO

impact supplies survived
violent involved

¡Tú eres mi héroe! ¿Cómo podemos usar estas palabras para decir algo sobre un héroe de nuestra ciudad? Escojamos un héroe e intentémoslo.

PALABRAS DE ORTOGRAFÍA

excuse	content	refuse	protest
conduct	subject	extract	permits
insert	rebel	combat	conflict
research	compact	contract	present
minute	entrance	desert	contest

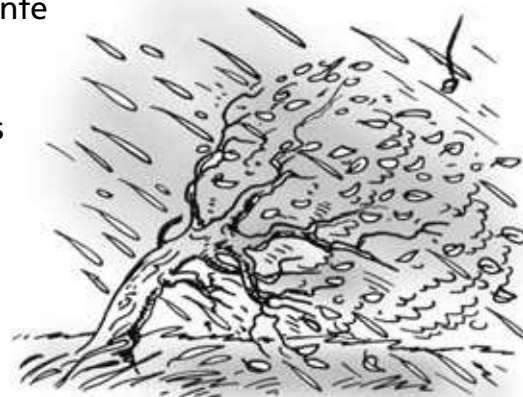
Tú dices, yo digo Cada palabra de ortografía puede ser pronunciada de dos maneras diferentes. Yo voy a pronunciar la palabra de una manera. Luego, tú la pronuncias de otra manera y me la deletreas.



Conexión con el hogar

Queridos familiares:

Estamos aprendiendo más acerca de lo que es un hecho y lo que es una opinión conforme leemos un artículo llamado *Heroes in Time of Need*. Este artículo habla acerca de cómo gente ayudó a familias que perdieron sus hogares. Nos da hechos acerca de niños que recolectaron dinero para las víctimas del huracán Katrina, hechos que podemos probar que son ciertos. El artículo también incluye opiniones que no podemos probar. Sin embargo, esto no significa que una opinión sea una mentira o sea falsa. Una opinión es algo que una persona cree.



Destrezas de la semana

Comprensión: hecho y opinión

Vocabulario: partes de una palabra—raíces griegas y latinas

Ortografía/Fonética: palabras que se escriben igual pero tienen diferentes significados

Nombre _____

(fold here)
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¿Qué es verdadero?

¿De qué tipo de medio de comunicación obtienes información? ¿La gente te cuenta hechos o te da sus opiniones? Probablemente obtengas información de varias fuentes. Piensa acerca de los hechos y las opiniones. ¿Podemos escribir un hecho y una opinión? Vamos a intentarlo.

Telephone



Dotted rectangular box for writing.

Magazine or Newspaper



Dotted rectangular box for writing.

An Adult



Dotted rectangular box for writing.

Television News or Weather Report



Dotted rectangular box for writing.

Computer or Radio



Dotted rectangular box for writing.

Comprehension Check

Summarize

Use a Fact and Opinion Chart to list the most important facts and opinions about clean energy sources that you read in this book.

Fact	Opinion

Think and Compare

1. On page 15 the author states that the interest in wind energy in Texas is "surprising." Find a fact that supports this. **(Fact and Opinion)**
2. List four things you do that use energy and give the energy source for each. Is the energy source renewable or inexhaustible? If not, write a renewable or inexhaustible energy source you could use instead. **(Apply/Synthesize)**
3. Why is it important to save natural resources such as coal or oil? **(Analyze/Evaluate)**

Environmental Heroes

Communities Making a Difference

by Rebecca Motil



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Introduction

In Denmark, farmers ride tractors that run on plant oil. In Texas, people build windmills to capture the wind's energy. In Iceland, people use the heat from hot springs to warm their homes.

These communities are going "green." They are helping to solve one of the world's biggest problems—how to save natural resources such as oil and coal.

Someday all tractors may run on plant oil made from crops such as corn or sugar cane.



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Glossary

biomass (*BAYR-oh-mas*) matter from plants or animals (but mainly from crops such as corn or sugar cane) that can be changed to fuel (*page 10*)

carbon footprint (*KAHR-bin FOOT-print*) the amount of carbon dioxide that a person or a community sends into the air (*page 11*)

fossil fuel (*FAHS-uhl FEWL*) an energy source—coal, oil, or natural gas—made underground from the remains of plants and animals (*page 4*)

geothermal (*jee-oh-THUR-muhl*) heat from within the Earth (*page 19*)

global warming (*GLOH-buhl WAWRM-ing*) a rise in average temperatures around the world (*page 6*)

inexhaustible (*in-ig-ZAW-stuh-buhl*) not able to be used up (*page 7*)

nonrenewable (*nahn-ri-NEW-uh-buhl*) not able to be replaced (*page 6*)

petroleum (*pi-TROH-lee-uhm*) oil from underground (*page 14*)

pollution (*puh-LOO-shuhn*) harmful substances in the air, water, or soil (*page 6*)

renewable (*ri-NEW-uh-buhl*) able to be replaced (*page 7*)

solar power (*SOH-lur*) energy from the sun (*page 9*)

wind turbine (*TUR-byn*) a machine with blades that turn when the wind blows, changing the energy in wind to electricity (*page 12*)

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Environmental Heroes



People are creating new kinds of fuels to power machines.

These communities are helping in another way, too. Burning oil or coal pollutes the air and causes other problems in the environment.

By finding new sources of energy, the people in these communities are environmental heroes. They are all making a difference in our world.



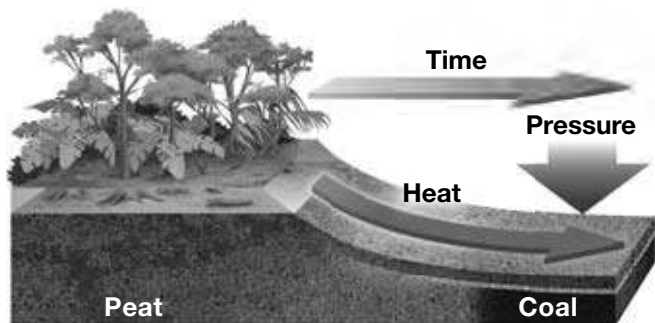
Chapter 1

Earth's Natural Resources

We use energy everyday. We use oil or natural gas to heat our homes. We need gasoline for our cars. Power plants burn coal to make electricity.

Coal, oil and natural gas are all **fossil fuels**. Fossil fuels formed many millions of years ago from the remains of plants and animals.

Coal formed from trees and plants that grew in ancient swamps. When the plants died, they fell to the bottom of swampy areas. The dead plants broke down into a soft material called peat. Layers of sand and mud covered the peat. The weight of the sediment pressed down on the peat. Over many millions of years, this pressure and heat changed the peat into coal.



Over millions of years, heat and pressure changed plants from swamps and forests into coal.

Conclusion

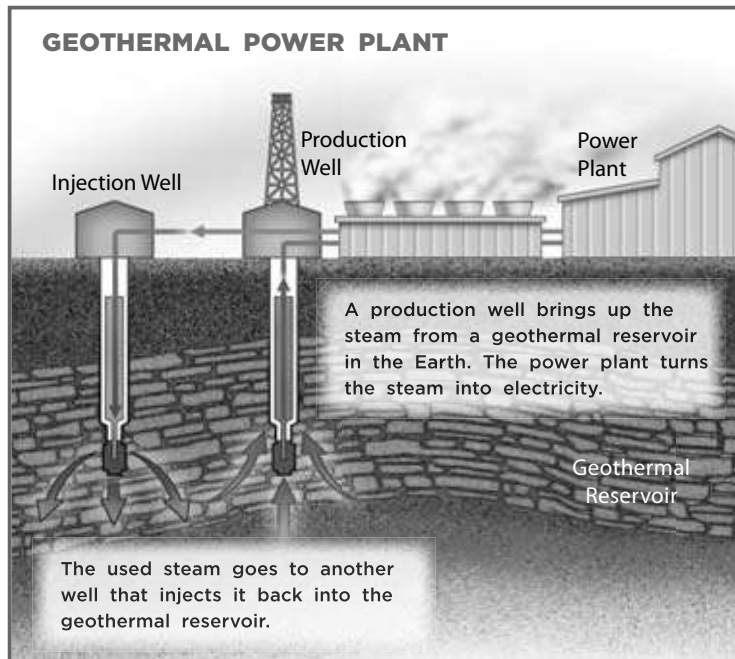
The three communities in this book took big steps to find new energy sources. But everyone can take steps to use more renewable forms of energy. Of course, changing from fossil fuels takes time and money. But it will pay us back with cleaner air. It will also save our natural resources.

Think about how you and your family use energy. What can you do to help? Even a small change can have a big impact. For example, in most homes, lighting counts for about one fifth of the electric bill. Changing to energy-saving CFL light bulbs can cut that up to 75%.

What other changes can you make? Can you be an environmental hero, too?

By riding a bike to a friend's house, you can save gas—and get exercise, too.





In 1990 Iceland built a special power plant. It uses underground heat to make electricity. The diagram shows how the power plant works.

Today Iceland is the largest user of renewable energy in the world. Nearly all of its electricity and heat comes from geothermal energy or water power.



Many power plants burn coal to make electricity.

Oil and natural gas formed from the decayed remains of plants and animals that lived in ancient oceans.

All plants store the sun's energy. When animals eat plants, that energy is transferred into their bodies. Because fossil fuels formed from the remains of plants and animals, they all contain stored energy from the sun. The energy from the sun has survived as coal, oil, and natural gas. When we burn fossil fuels we release the stored energy.



What other things in your home run on electricity?

Our Disappearing Resources

Fossil fuels have been used by people for many years. Since it takes millions of years for fossil fuels to form, they cannot be replaced. They are **nonrenewable resources**. Someday the supplies of these resources will be gone. People must start now to find other energy sources.

Using fossil fuels causes other problems, too. When you burn fuel, it releases harmful substances into the air. Air **pollution** is bad for people and other living things. Burning fossil fuels also releases carbon dioxide into the air. Scientists believe that too much carbon dioxide in the air is causing an increase in temperatures around the world. This is called **global warming**.

KINDS OF ENERGY RESOURCES		
Resource	Feature	Examples
Nonrenewable	Cannot be replaced	Coal, oil, natural gas, and uranium (an ore that is mined and changed to a fuel)
Renewable	Can be used and replaced	Trees and other plants, waste from garbage, ethanol (fuel made from crops like corn or sugar cane), and oils made from vegetables and animals fats
Inexhaustible	Cannot be used up	Sunlight, wind, water, and heat from underground

Ring of Fire

Most volcanoes are found in the Ring of Fire. As you might predict, this area is one of the best for tapping heat from underground.



This map shows the Ring of Fire.

In the United States, the best places are on the West Coast. California alone has 33 geothermal plants that produce almost 90% of this country's geothermal electricity. Nevada has 14 geothermal plants, and Hawaii and Utah each have 1 plant.

The people in Iceland have always used their hot springs. They bathed in them and washed their clothes in them.

About a hundred years ago, people in Iceland began to tap the hot water underground to generate **geothermal** energy. In 1930, wells were dug in Reykjavik (RAY-kyuh-vik) to find hot water. Reykjavik is the capital of Iceland and its largest city. The hot water from the wells was piped to a school and used to heat it.

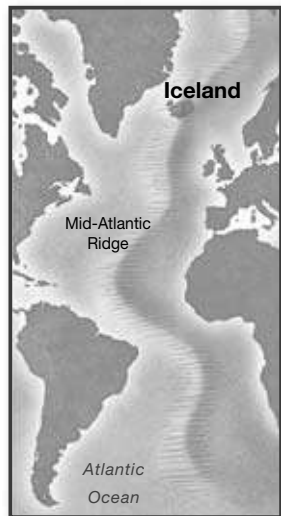
Soon other buildings started to use hot water for heat. Today nearly everyone in the city gets their heat from underground sources.

Chapter 4

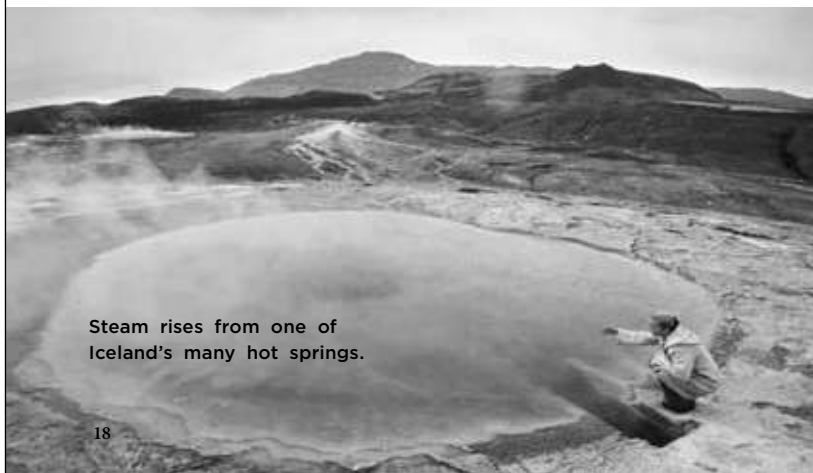
Iceland: It's Hot Down There!

Iceland is an island in the North Atlantic Ocean. It is on the Mid-Atlantic Ridge. Hot rock from deep inside the earth bubbles up along this ridge. In some places, this creates volcanoes that explode in violent eruptions.

In Iceland the layers of hot rock close to the surface heats water underground and creates hot springs.



The Mid-Atlantic Ridge runs along the middle of the Atlantic Ocean. It is a long crack in the earth's surface.



Steam rises from one of Iceland's many hot springs.

What can we use instead? We can use **renewable** energy sources. These are sources that can be replaced, such as trees, plants, or even garbage. For example, we can burn wood to heat homes. We can burn garbage to produce steam for making electricity. However, burning trees or garbage can also pollute the air.

We can also use **inexhaustible** energy sources such as the sun or wind. These sources will never run out. As long as the sun shines, we will receive its energy as heat and light.

Trees are a renewable resource. People can plant new trees to replace those they cut down.



Chapter 2

The Samso Solution

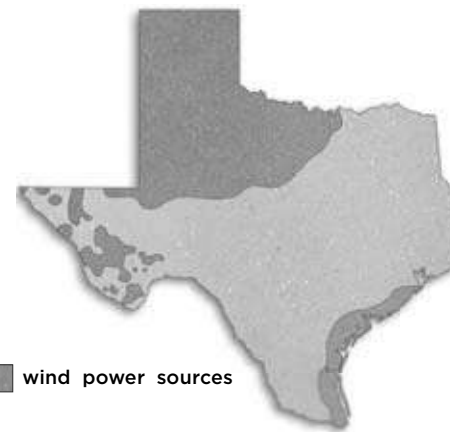
In 1997, the country of Denmark held a contest. Any community could enter. The challenge? The winning community would try to get all of their energy from renewable energy sources instead of fossil fuels.

The island of Samso won. This small island is about 16 miles long (26 km) and 4 miles (7 km) wide. About 4,100 people live there. Like most places, they used oil and gas to heat their homes, run their cars, and to make electricity. Samso has no oil or gas of its own.

In ten years, the people on the island found ways to get most of their energy from renewable sources. How did they do it?



Samso is a small island off the coast of Denmark. Many people on Samso are farmers.



Texas has strong winds in the Panhandle, along the southern Gulf Coast, and in the mountains of West Texas.

Now a company plans to build more than 600 wind turbines around his town. The company will pay money to use the land. Each landowner will earn up to \$15,000 per windmill each year.

So instead of hating the wind, the people will get cash from it. Cliff Etheredge couldn't be happier. In recent years, many young people have left Roscoe to find better jobs elsewhere. Now Etheredge and the other townspeople are hoping their young people will be able to find good jobs close to home.

And the wind farms help the Earth too. The new windmills will make enough power for 265,000 homes.

A New Kind of Farm

In recent years, one farmer has helped lead the way. Cliff Etheredge lives in Roscoe, a small town in West Texas. He always hated the constant winds that blow in his area. The wind dried out his land and killed his crops.

But one day, Etheredge noticed wind towers sprouting near his cotton farm. He wondered if Roscoe could get some wind turbines of its own. He read about wind energy. He got other people in his area excited about wind energy. He got other landowners involved in his plans.

Cliff Etheredge helped turn wind into a new cash crop in his hometown of Roscoe, Texas.



Solar panels capture energy from the sun. The energy can then be used to heat water.

First, they tapped a free, inexhaustible source of energy—the sun. Today, many homes on Samso are heated at least in part by **solar power**. In one town, special glass panels at a heating plant capture the sun's energy. They use it to heat water. The hot water is then pumped to nearby homes, where the people use it for heat. They also use the hot water for bathing and washing dishes and clothes.

But some families live too far from the heating plants. So, about 250 homes have their own solar panels. They use the sun's energy to heat their own water tanks.

Biomass: A Renewable Energy Resource

The sun is an important source of energy on Samso. But most of the island's heat comes from burning **biomass**. Biomass is any plant or animal material that can be burned as fuel.

Samso has four heating plants that burn biomass. Three of the plants burn straw to make heat. The straw comes from crops grown on the island. The fourth plant burns wood chips, which are also made on the island.

But some farming families are too far from the heating plants. They use wood burners, and biomass boilers to heat their homes.

Right now, about 75% of the island's heat comes from renewable sources. Only about 25% is still from fossil fuels.



This plant is used to make vegetable oil, cattle feed, and fuel.

The straw from crops such as wheat, rye, or barley is biomass that can heat homes.

Texas was once known as the oil capital of North America. After oil was discovered in Beaumont, Texas, in 1901, oil became a major industry in Texas. Today, the state is the biggest producer of oil in the United States.

But a surprising change is taking place. Texas is turning into a capital of wind power. In the United States, the use of wind power is growing fast. More than half of that growth is in Texas.

There are more than 20 wind farms like this one in Texas today.



Chapter 3

The Texas Story: From Oil to Wind

There are many kinds of oil. Some you put on salad, and some you use in cooking. But when we talk about oil, we often mean **petroleum**, or “rock oil.” This kind of oil comes from under the ground and is a fossil fuel. One of its main uses is to make the gasoline that runs most of our cars.

Oil is not a perfect energy source. For one thing, it costs a lot. And, since it’s a nonrenewable resource, we will run out of it one day. Drilling for oil on land and in the sea can harm nature. And burning oil creates air pollution. That’s why people are working to find ways to cut our oil use.

The discovery of oil in Texas attracted many people hoping to find more oil and become rich.



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Environmental Heroes



Someday the Samso Island ferries may run on a fuel made from biomass.

The people on Samso haven’t stopped there. They are experimenting with fuels made from biomass, too. On Samso, farmers are growing plants and then making oil from them. The fuel made from this plant oil burns very cleanly. It gives off little pollution. And there’s another benefit as well. Cows can eat the parts of the plant left after making the oil!

The farmers can’t make enough of the fuel to run the cars on the island. But they can make enough to run their tractors.

A Negative Carbon Footprint

Burning fossil fuels releases carbon dioxide into the air. Too much carbon dioxide in the air is bad for the environment. It acts like a blanket around Earth, trapping the Sun’s heat. It keeps our planet too warm.

A **carbon footprint** is the amount of carbon dioxide you or your community sends into the atmosphere. The larger your carbon footprint, the more harm you are causing Earth.

Because Samso produces and uses so much clean energy, it has a *negative* carbon footprint. That means it is helping the environment more than it is harming it.

Where There's a Wind, There's a Way

You have read how the people of Samsø found ways to use renewable resources to heat their homes. But they needed electricity, too. What did they do? They built **wind turbines**. As you can see from the photo, a wind turbine is a giant windmill. When the wind blows, the blades turn. The wind turbine changes the energy of the turning blades into electricity.

On Samsø, the wind blows strongly. So it is a good place for these turbines. Samsø's wind turbines on land make most of its electricity. Turbines in the ocean off its coast make extra electricity. Sometimes they produce so much energy that the island sells it back to the mainland!

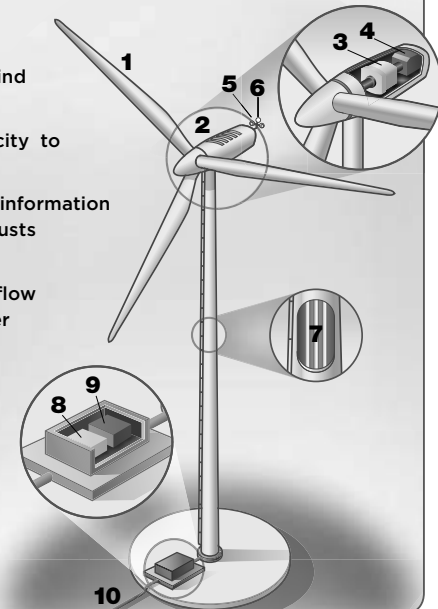
Samsø has wind turbines both on land and off its coast.



How Does a Wind Turbine Work?

This diagram shows the parts of a wind turbine. The wind turns the blades, which spin a steel shaft. The shaft connects to a generator and makes electricity.

- 1 Blade—turns in the wind
- 2 Steel shaft—supports blade and sends power to gearbox
- 3 The gearbox—speeds up the turning shaft
- 4 The generator—changes energy of the shaft into electricity
- 5 Anemometer—measures wind speed
- 6 Sensor—sends information about wind speed to computer
- 7 Cables—carry electricity to transformer
- 8 Computer—picks up information from sensor and adjusts position of blade
- 9 Transformer—makes flow of electricity stronger
- 10 Cables—carry stronger electricity current





Home-School Connection

Word Workout

WORDS TO KNOW

dangling defective meteor reversed
robot rotated staggered tokens

Word Clues Let's see if we can tell a story in six sentences, using all of the words.

SPELLING WORDS

future searcher feature fracture
gesture legislature mixture nature
pasture pleasure azure stretcher
treasure butcher lecture creature
measure moisture rancher pressure

What's the Ending? Each spelling word ends either in **ure** or in **cher**. I'll read a word, and you tell me whether it ends in **ure** or **cher**. Then you can spell the word for me.

Dear Family Member:

Zathura is a science fiction story about two brothers who find a board game in the park. When one of the brothers begins to play, amazing, frightening things begin to happen. It seems that the brothers are suddenly in outer space! I had to draw that conclusion because the author doesn't state where the brothers are. The events and what characters do and say are clues that help me draw my conclusions.



This Week's Skills

Comprehension: draw conclusions

Vocabulary: analogies

Spelling/Phonics: pronouncing end syllables

Name _____

(fold here)
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Clues to Conclusions

Let's read the riddles and use the clues to draw conclusions and answer the questions. The answers are upside-down on the opposite page, but we won't cheat and look at them until we're done.

It isn't a dog but it's alive.

It loves honey.

It likes to study the dictionary.

It loves words.

Its last name rhymes with see.

What is its full name?



You can hear them on the stairs.

You can see that you take them on the wet sand.

When you walk ahead you leave them behind.

What are they?

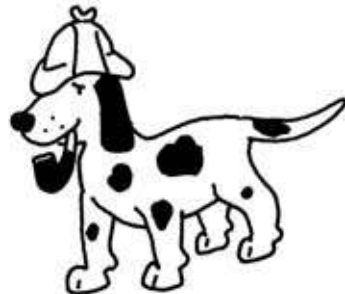
It's a dog.

It's a detective.

It likes to chew these.

Its first name is Sherlock.

What is its last name?



There are no cars or trucks on these roads.

There are forests, but no trees.

There are cities without people.

You can fold them up and put them away.

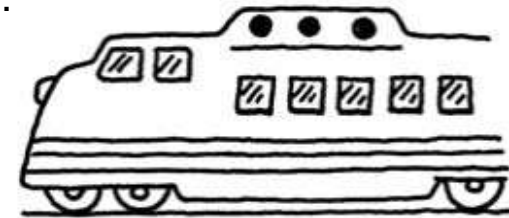
What is it?

There is an electric train.

The train is going south.

The wind is blowing west.

Which way will the smoke blow?



Answers: spelling bee; footprints; Sherlock Bones; a map; there is no smoke from an electric train

Ejercicio de palabras

PALABRAS DE VOCABULARIO

dangling defective meteor reversed
robot rotated staggered tokens

Pistas de palabras Vamos a ver si podemos contar un cuento con seis oraciones, usando todas las palabras.

PALABRAS DE ORTOGRAFÍA

future searcher feature fracture
gesture legislature mixture nature
pasture pleasure azure stretcher
treasure butcher lecture creature
measure moisture rancher pressure

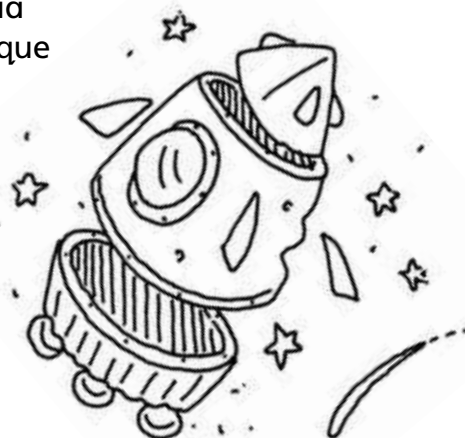
¿Cuál es la terminación? Cada palabra de ortografía termina ya sea en **ure** o en **cher**. Voy a leer una palabra y tú me dirás si termina en **ure** o en **cher**. Luego deletrea la palabra.



Conexión con el hogar

Queridos familiares:

Zathura es un relato de ciencia ficción acerca de dos hermanos que encuentran un tablero de juego en el parque. Cuando uno de los hermanos comienza a jugar, comienzan a ocurrir cosas increíbles y aterradoras. ¡De repente, parece que los hermanos están en el espacio exterior! Saqué esa conclusión porque el autor no dice dónde están los hermanos. Los sucesos, junto con lo que los personajes hacen y dicen, son pistas que me ayudan a sacar mis conclusiones.



Destrezas de la semana

Comprensión: sacar conclusiones

Vocabulario: analogías

Ortografía/Fonética: pronunciar las sílabas finales

Nombre _____

(fold here)
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Pistas para sacar conclusiones

Leamos las adivinanzas. Usemos las pistas para sacar conclusiones que respondan a las preguntas. Las respuestas están boca arriba al final de la página siguiente, pero no vamos a hacer trampa y a leerlas hasta que hayamos terminado.

It isn't a dog but it's alive.

It loves honey.

It likes to study the dictionary.

It loves words.

Its last name rhymes with see.

What is its full name?



You can hear them on the stairs.

You can see that you take them on the wet sand.

When you walk ahead you leave them behind.

What are they?

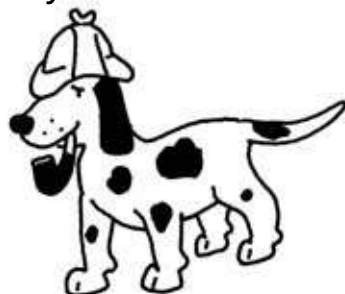
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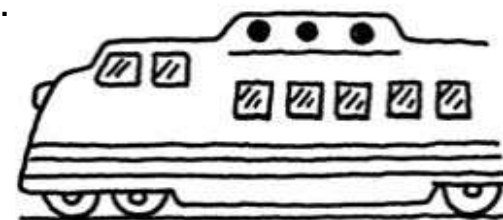
What is it?

There is an electric train.

The train is going south.

The wind is blowing west.

Which way will the smoke blow?

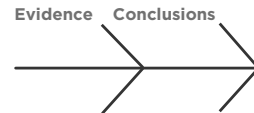


Answers: spelling bee; footprints; Sherlock Bones; a map; there is no smoke from an electric train

Comprehension Check

Summarize

Use a Conclusions Chart to help you summarize *Me, Robot?* Write down what Gregory says and does. Then use this information to draw conclusions about what he is like.



Think and Compare

1. Look back at page 5. What does Gregory decide to do? What can you conclude about him from his decision? **(Draw Conclusions)**
2. Think of a time you wanted to be good at something that was hard for you. What did you do? **(Analyze)**
3. Think about how Robot Gregory acted in this story. Do you think that using robots is always a good idea? Why or why not? **(Evaluate)**



Me, Robot?

by Jeffrey B. Fuerst
illustrated by Justin Gerard

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Captain Galaxy to the Rescue

"And then, for maximum power Captain Galaxy reversed the polarity on his rocket thrusters." Gregory Rollins, age 12, read aloud the science fiction story he was about to submit to the *Robomation* magazine contest. "He launched himself into the magnetic field that Dr. Catastrophe, the power-mad. . . ."

"Make him an evil genius," suggested Gregory's friend and fellow sci-fi buff, Anthony Lucas. Anthony was only half-listening to his friend while he blasted meteors falling from the sky in a video game.

"Yes, that's even more outrageous," said Gregory. "So when Captain G. saves the day, he's even more of a hero. Thanks."

"You stay here," Gregory said to Robot Gregory. "I'll deal with you—I mean you—whatever—later." He grabbed the stepladder from the kitchen and dragged it across the street as quickly as his nonathletic self could.

Gregory set down the ladder under the hoop. He climbed up, stumbling over a few steps. "What gives, Gregory?" asked Jordan. "I thought you were hanging with us."

"My mistake," said Gregory. "I'd much rather hang out with my real friends." Gregory reached up and grabbed on to the rim. "Forgive me, buddy," he said to Anthony. "Dr. Catastrophe must have taken over my mind for a minute. I promise that will never happen again."

Then June climbed the ladder and grabbed the rim. "Permission to come aboard, Captain? I'd like to hang out with you guys, too," she said.

Gregory looked at Anthony and then said to June jokingly, "Okay. I guess there's room for one more on Planet Nerd."



"Since you don't want to hang around with this alien from the Planet Nerd," Jordan said to Robot Gregory, "why don't you hang him from the rim and leave him there for a while?"

"Good idea!" cheered Jordan's buddies. "No!" screamed the real Gregory as Robot Gregory picked up Anthony and moved toward the basket. "No," cried June, softly. With one great heave-ho, Robot Gregory leaped above the rim. On his way down, he left Anthony there, dangling.

"Help!" cried Anthony. Gregory had to do something fast. He whistled loudly, and Robot Gregory immediately turned away from the kids and zipped back to Gregory's home.



"What are friends for?" said Anthony as he disintegrated the last of the falling meteors. "As long as you don't have any silly-looking girls hanging around him, you might win for a change."

Robomation was Gregory and Anthony's favorite magazine. It had articles about space exploration, science experiments kids could do at home, and stories about traveling to other planets. Plus, winners of the contests got out-of-this-world prizes. Or so Gregory heard. He had yet to win a single contest despite many, many tries.

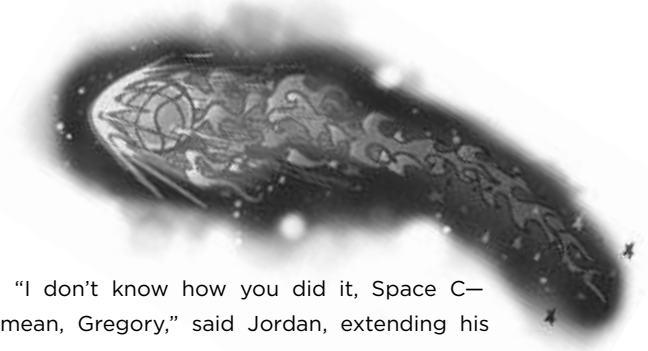
"Gregory! Anthony!" That was Gregory's mom calling them from the kitchen. From her tone, Gregory could tell there was something she wanted him to do, and he dreaded it.

"Yes, Mom," he answered right away.
"What is it?"

"Why don't you go outside," she called out. "It's such a beautiful day. Go get some fresh air and exercise. A bunch of kids are shooting baskets across the street."

Gregory knew his mother was talking about Jordan Veras and the "cool" gang. Gregory didn't fit in with their group, though he had tried often. Maybe, if he were someone else. . . .

"Okay, Mom," Gregory sighed. He knew his mom was right about the exercise. And though he wouldn't admit it to anyone, including Anthony, he really wanted to be liked by the cool kids. Gregory put the finishing touches on his story and e-mailed it to the editors at *Robomation*. Then he said, "Come on, Anthony."



"I don't know how you did it, Space C—I mean, Gregory," said Jordan, extending his hand for a truce. "But that was great. Really great. Let me buy you a milkshake."

Gregory couldn't believe what he was watching from the window. There he was, or there his robot double was anyway, shaking hands with the coolest kid from school. And look at how June was looking at him. Well, the robot him. He finally had what he'd always wanted. He was finally one of them. He was cool, too. Now all he had to do was give Robot Gregory the signal to come back, and he'd take his place.

"Milkshakes?" said Anthony. "I thought you said we'd celebrate at the arcades."

Robot Gregory looked at little Anthony pushing his glasses up his nose and then said, "Hey, who said I'd go anywhere with a space cadet like you?"

Yipes! thought Gregory, looking in on the action from behind a curtain. He was sure something would go wrong now. Jordan and his gang would discover the truth. How could his robot self be so sure of himself?

Swish! Robot Gregory's shot fell through the net. The kids roared, and Gregory nearly fell out of his bedroom window.

"Wow, it's like you're from another planet!" said June, smiling so widely the sun glinted off her braces.

"Planet Nerd," piped in Anthony, nudging Robot Gregory, who just ignored him.



"Come on where?" Anthony didn't even look up from his video game.

"We're going to shoot some hoops—if you can stop blasting everything in the galaxy for five minutes."

Anthony paused the game. "You're not serious, are you?" he asked. "If you don't mind, I'd rather sit here and blast meteors than get blasted by those guys. Remember, you're no Captain Galaxy on the basketball court."

"I know, I know, but come on." Gregory retied his sneakers, reversed the polarity on his facial muscles, and forced out a smile.





Space Cadets

"Well, well, well," said Jordan Veras as he sank a 20-foot jumper. "If it isn't the space cadets." That's what Jordan called Gregory and Anthony—if he bothered to talk to them at all.

"Mind if we join in?" asked Gregory.

"Since when do they play hoops on Planet Nerd?" chimed in June Wilkinson. She was in honors math class with Gregory and Anthony and was usually okay, except when she was around Jordan. June was another reason Gregory had agreed to brave the alien territory of Jordan and his gang. But he definitely wasn't going to tell Anthony that!

"I've been practicing," said Gregory.

"Really?" said Anthony. Jordan winked at June and snickered.



Gregory to the Rescue

"Way to be, Gregory!" screamed Anthony, not realizing the "Gregory" with the ball was a robot of his friend. Robot Gregory scored six baskets in a row, and Jordan, panting, looked more sick than shocked. "Why don't you take it easy on him and play with your eyes closed?"

All the kids laughed at Anthony's taunt, especially June.

"Eyes closed? I don't see why not," said Robot Gregory. "And I'll shoot it from half court. That seems sensible in that I'm playing against a half-wit."

The shot went up . . . up. . . .

By the time Gregory hung up, a group of kids, including some of Jordan's gang, had formed around Robot Gregory. They watched him with the same admiration that Gregory felt. Maybe they were even more amazed, he thought, because they didn't know the truth. They actually thought they were watching *him*. They thought that in one week's time, he had turned into an NBA star.

Gregory watched as two of Jordan's buddies left the court and ran down the street. Moments later they came running back with Jordan at their side. Robot Gregory and Jordan faced each other. "Now I'll show you," Gregory whispered to himself as if he were right there with them, too. "Now let's see who wins."



It's true Gregory had been practicing—a basketball video game, so it wasn't a total lie.

"Then let's play one-on-one to seven, hotshot," challenged Jordan. "And since I'm such a swell guy, I'll dribble only with my left hand."

"You could probably beat him with your eyes closed," said Mookie, one of Jordan's henchmen.

"And to make it fair," added Jordan, "I'll spot you five baskets. Do you need me to translate that into Klingon or whatever language you speak on Planet Nerd?"

"Uhm," said Gregory. If only Captain Galaxy were here. He'd have come up with a witty remark.





Robot Gregory took a basketball and zoomed across the street. Gregory watched, dumbfounded, as his double swished jumpers and put in triple-pump lay-ups. Most amazing of all, he slam-dunked!

A plan had already formed in Gregory's mind when Anthony called.

"Hey, buddy, what do you say to a day at the arcades? My step-dad gave me a bag of game tokens."

"Save them for later. We've got much bigger plans. Today we're going to do some serious celebrating."

"You're sounding very strange. What are we going to celebrate?" asked Anthony.

"My crushing victory over that big-mouth, feeble-brained Jordan. And just to show him that *I'm* a swell guy, I think I'll spot him six baskets."

"Are you feeling okay?"

"Just get over here, fast, and you'll see."



"Outrageous! So you're . . . good in sports?"

"Brilliant would be an understatement."

"Any sports?"

"Any and all. Care for a demonstration?"

"As a matter of fact, I would." He led his new robot to the window and pointed to the basketball courts across the street. "Go over there and show me your stuff, Robot Gregory. But make sure that when I blow this whistle, you come straight back here."

Gregory got the ball first. And that was the last time he touched it, not counting the time Jordan purposely bounced it off Gregory's chest. Jordan knocked it right out of his hands and dribbled it down the court to shoot the first basket. He didn't stop shooting them, either. He moved faster than a rocket in warp drive. Within five minutes he had won 7 to 0. "Had enough?" he asked.

Gregory had, and he was sure his face showed it. He couldn't think of anything to say to hide his humiliation. Jordan just kept laughing, and finally June announced, "Enough already!" She seemed pained by the trouncing, and Gregory was grateful for the sympathetic words.

Exhausted, Gregory staggered home. For the next week, he stayed in his room. He wouldn't play with Anthony. He didn't dare show himself to Jordan and his gang.

In math class on Friday June walked up to Gregory and said, "I think you were really brave to take on Jordan." Gregory hadn't expected her to say that. Then she added, "Brave—and a little foolish." But she was smiling, and he smiled, too. He suddenly felt a lot better, until she offered to give him some basketball pointers. Basketball lessons from a girl he liked? That would be totally embarrassing!

Gregory dragged himself home. He logged on to his computer and saw there was an e-mail from *Robomation* magazine. There on his computer screen appeared some much-needed good news. His story had won first prize in the magazine's contest!

First prize was a robot likeness of him. To claim the prize, Gregory needed to send in a current photo. He figured that meant he would get a battery-powered toy robot that rotated its head and said three monotone sentences. It would probably be defective and break after a week. On the sheet of how he wanted the robot "programmed," Gregory put down "a superstar athlete with a quick wit."



Me, Robot?

A week later the doorbell rang. When Gregory opened the door, he thought he had mistakenly entered a dressing room filled with mirrors. Standing in front of Gregory Rollins was an exact replica of Gregory Rollins!

"On behalf of *Robomation* magazine, let me congratulate you," said Robot Gregory. "I am your prize. Or, you may say that *you* are your prize."

Gregory pulled Robot Gregory inside. The robot looked just like him. He felt soft and fleshy like a real person, too. He even sounded like Gregory, if a bit more polite and distant.

"Are you really me?" asked Gregory.

"I look like you and sound like you," explained Robot Gregory, "but I act just as you programmed me."



Home-School Connection

Word Workout

WORDS TO KNOW

bundle coordination frustrated fused
ease guaranteed scenery supervise

What's the Word? For each word, I'll give you clues until you guess it. See how many clues it takes for you to guess the word.

SPELLING WORDS

ambulance	appearance	attendance
brilliance	assistance	balance
dependence	substance	disturbance
hesitance	ignorance	performance
persistence	radiance	importance
absence	resistance	reluctance
residence	distance	

Ance or Ence? Each word ends either in **ance** or **ence**. I'll read a word and you tell me which ending it has. Then spell the word for me.

Dear Family Member:

This week, we're reading *Skunk Scout*. It's about two boys from the city who go camping with their uncle. It seems like their uncle can't do anything right. The boy telling the story is annoyed when his uncle messes up yet another situation. I'm making sure to focus on the relationships between the characters and the natural setting. Will the boy telling the story learn to appreciate his uncle? I will continue reading to learn more about these characters and how they interact with the great outdoors.

This Week's Skills

Comprehension: character and setting

Vocabulary: dictionary—multiple-meaning words

Spelling/Phonics: words ending in **ance** and **ence**



Name _____

(fold here)
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Story Charts

We can use the charts to tell our own quick stories.

Directions:

- Choose a character, setting, and problem from each box.
- Then try to tell a story that tells what happens.
- Your story can be believable or ridiculous.

Character
fifth grader
singer
baseball player
movie director
veterinarian
politician

Setting
swimming pool
doctor's office
sports field
car stuck in traffic
rainy day in the woods
shopping mall

Problem
dangerous weather
something is lost
fight with a friend
caught lying
a promise is broken
afraid to do something

What happens in your story? What are the main events?

How will your character solve the problem?

Is your story realistic or ridiculous? Is it believable or outrageous?

Ejercicio de palabras

PALABRAS DE VOCABULARIO

bundle coordination frustrated fused
ease guaranteed scenery supervise

¿Cuál es la palabra? Para cada palabra, te voy a dar pistas hasta que la adivinas. Fíjate cuántas pistas necesitas para adivinar la palabra.

PALABRAS DE ORTOGRAFÍA

ambulance	appearance	attendance
brilliance	assistance	balance
dependence	substance	disturbance
hesitance	ignorance	performance
persistence	radiance	importance
absence	resistance	reluctance
residence	distance	

¿Ance o Ence? Cada palabra termina en **ance** o en **ence**. Voy a leer una palabra y tú me dirás qué terminación tiene. Luego, deletréame la palabra.



Conexión con el hogar

Queridos familiares:

Esta semana estamos leyendo *Skunk Scout*. El relato es acerca de dos niños de la ciudad que se van de campamento con su tío. Parece que su tío no puede hacer nada bien. El niño que cuenta la historia se siente molesto cuando su tío estropea una situación más. Voy a enfocarme en la relación entre los personajes y el escenario. ¿Va a poder el niño que cuenta la historia apreciar a su tío? Voy a seguir leyendo para aprender más sobre los personajes y cómo actúan en la naturaleza.

Destrezas de la semana

Comprensión: personaje y escenario

Vocabulario: diccionario—palabras con varios significados

Ortografía/Fonética:
palabras que terminan
en **ance** y **ence**



Nombre _____

(fold here)
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Tablas de cuentos

Podemos usar las tablas siguientes para crear nuestros propios cuentos.

- Escoge un personaje, un ambiente y un problema de cada tabla.
- Trata de contar un cuento para narrar qué pasa.
- Tu cuento puede ser creíble o totalmente absurdo.

Character
fifth grader
singer
baseball player
movie director
veterinarian
politician

Setting
swimming pool
doctor's office
sports field
car stuck in traffic
rainy day in the woods
shopping mall

Problem
dangerous weather
something is lost
fight with a friend
caught lying
a promise is broken
afraid to do something

What happens in your story? What are the main events?

How will your character solve the problem?

Is your story realistic or ridiculous? Is it believable or outrageous?

Comprehension Check

Summarize

Look back at this book. What do you think is the most important idea in each chapter? Use the Judgment Chart to help you summarize the four chapters to tell what you learned about the Grand Canyon.

Action	Judgment

Think About It

1. The author says the Grand Canyon is like no other place on Earth. Do you agree? List three facts from this book that help you make your judgment.

(Make Judgments)

2. In the last chapter, the author describes different ways to see the canyon. Which type of trip would you like best? Which type of trip would you like least? Explain your answer. **(Analyze)**

3. More visitors go to the Grand Canyon every year. This results in pollution and crowding in some areas. Should the number of visitors to the park be limited, or should everyone have the chance to see this wonderful canyon at any time? Explain your answer.

(Apply/Evaluate)

A Visit to Grand Canyon National Park

by Chris Martin

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Introduction

The Grand Canyon is a natural wonder of the world. It has mile-high walls and a raging, racing, rock-cutting river. And it's one of the greatest national parks in the United States or anywhere else.

The Grand Canyon is also a record of time, almost 2 billion years. The canyon tells a story about the earth in rock. In this tale, volcanoes, earthquakes, and long-ago oceans created rocks. Wind, rain, ice, and snow changed these rocks. Water sawed, sliced, and carved them to form the Grand Canyon. For all these reasons, Grand Canyon National Park is like no other place on Earth.

Fantastic Canyon	
Age of Oldest Rock in Grand Canyon	Almost 2 billion years old and counting
Length of Canyon	277 miles (433 kilometers)
Depth of Canyon	Average depth is one mile (1.6 km) Deepest point is 6,000 feet (1,828 meters)
Width of Canyon	18 miles (28 kilometers) at its widest Just 600 feet (180 meters) at its narrowest
Size of Park	1,217,403 acres—bigger than the whole state of Rhode Island
Layers of Rock	Almost 40 layers of rock in the canyon walls
Hidden Secret	About 1,000 caves!

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Glossary

basalt (*buh-SAWLT*) hard rock that is formed when lava cools
(page 15)

butte (*BEWT*) a high hill or ridge with a flat top and steep sides; a butte is smaller than a mesa (page 9)

cartographer (*kahr-TAWG-ruh-fur*) a mapmaker (page 6)

flash flood (*FLASH FLUD*) a sudden rushing wall of water.
Flash floods helped form the canyon. (page 14)

fossil (*FOS-uhl*) The remains of plants and animals that lived long ago (page 15)

geologist (*jee-OL-uh-jist*) a person who studies Earth and how it changes (page 9)

landform (*LAND-fawrm*) a feature on Earth's surface like a mountain, valley, or plateau (page 7)

mesa (*MAY-suh*) a hill or mountain with a flat top and steep sides; like a plateau but smaller (page 9)

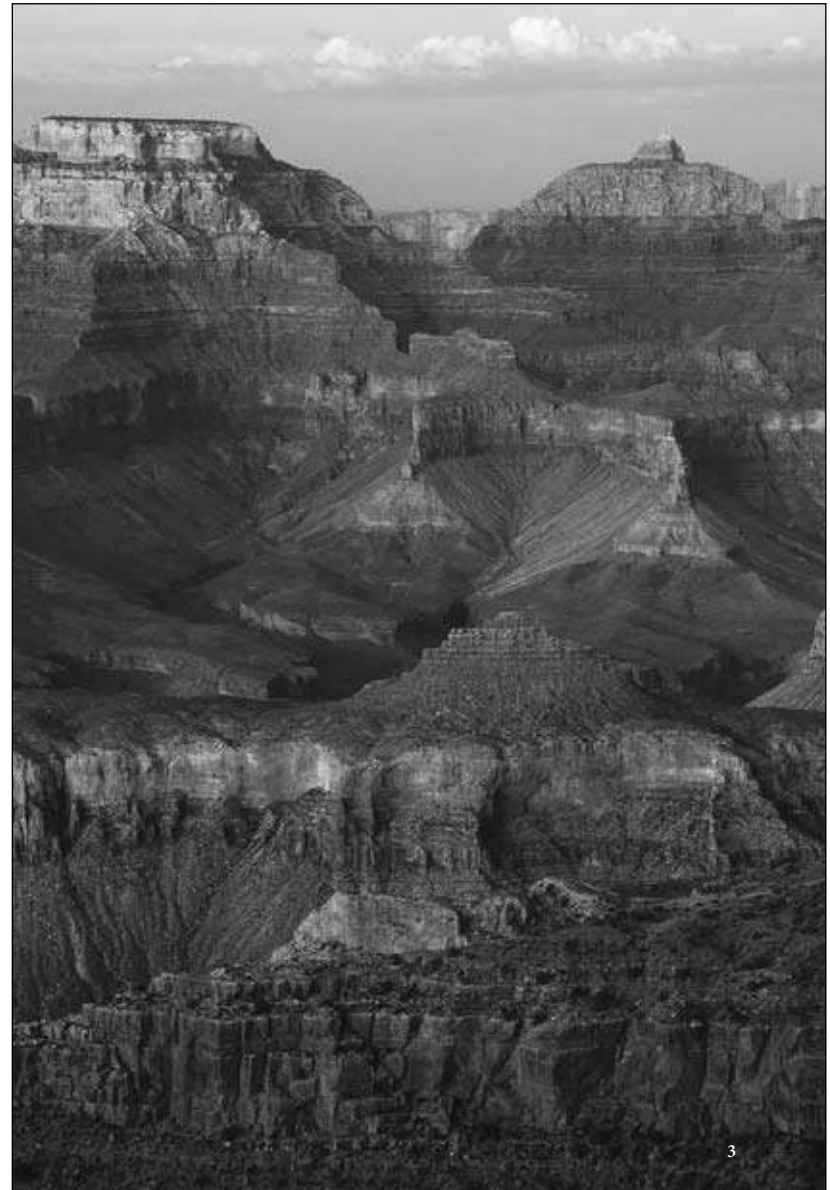
paleontologist (*pay-lee-uhn-TOL-uh-jist*) a person who searches for and identifies the remains of long-ago life (page 16)

plateau (*pla-TOH*) a very large area of flat land that rises steeply above the surrounding land (page 4)

rim (*RIM*) the outer edge (page 7)

sediment (*SED-uh-muhnt*) sand, broken bits of shell, and other materials that form layers and can turn to rock (page 13)

sedimentary rock (*sed-uh-MEN-tuh-ree ROK*) Rock that is formed from sediments. Examples of sedimentary rocks include limestone, sandstone, and shale. (page 13)



Chapter One

Taking It All In

Before you learn the story of the canyon, take a look at it. Your view begins at about 7,000 feet (2,133 meters). You are standing on top of a **plateau**, a large, high, flat land area.

Take that first look down. Far, far below, about one mile down, is a river that looks like a tiny, dark thread. It's the Colorado River. All around and above it are colorful and spectacular layers of rock.



Conclusion

You've seen what an amazing place the Grand Canyon is. And you've learned how its walls tell the story of what happened on Earth over millions of years.

Someday maybe you can visit the Grand Canyon in person. If you do, hike in. Ride the rapids. Read the story the rocks tell you. Feel the layers of rock change under your hand from chalky to hard and grainy to smooth. And have a rockin' good time!

**Leave it as it is;
you cannot improve
on it; not a bit.**

— President Theodore Roosevelt
about the Grand Canyon





Going backcountry can be the best way to get away from it all!

Camping

With so many exciting things to do in the Grand Canyon, you might want to stay longer. Would you like to wake up to the smell of fresh pine? Then camping might be the best way for you to stay. The Grand Canyon has campsites that are open all year long.

If you're willing to hike, you can try a true wilderness experience called backcountry. Going backcountry means hiking past the crowds and daytrippers. You load up a pack with supplies and prepare to sleep out on your own.

The rock layers come in all colors. You can see orange, deep red, green, tan, gray, and even pink and purple layers. Rising at so many different angles and heights, the rocks appear steep, mysterious, and beautiful.

The view seems to go on forever. The canyon is 277 miles (445 kilometers) long and 18 miles (28 kilometers) across at its widest point. That is quite a view to take in at first glance!

Next, you are probably wondering what else this amazing place holds.

Views of the Grand Canyon are guaranteed to be spectacular.



Locating the Grand Canyon

The Grand Canyon lies on the Colorado Plateau. It is in the southwestern United States in the state of Arizona.

First find the Colorado River, which begins far off this map in the Rocky Mountains. Start on the right side of the map to trace the river's course west through the park. After leaving the park, the Colorado River flows across the Mexican border and into the Gulf of California.



Cartographers: We'd Be Lost Without Them

Cartographers are mapmakers. They study the surface of the earth. Much of their work involves measurements and calculations. They put the information they gather into forms that people can understand, usually maps. People use the maps to find their way around.



For excitement, nothing beats a river rafting trip.

Run the Rapids

If hiking or riding a mule are not exciting enough for you, how about riding the rapids! You do this on a raft. These trips are long—from three days to three weeks. But you'll see the scenery of a lifetime. Sometimes you'll slide calmly through the canyon. Other times you'll hang on tight as your raft leaps and lurches through crashing water. Talk about thrills and chills!

If you're in good shape, you might decide to hike all the way to the bottom of the canyon. You'll need real hiking boots. And you'll need to bring plenty of water.

This hike will take you all day. Start early in the morning when it is cooler. Rest in the heat of the day. And return well before dark.

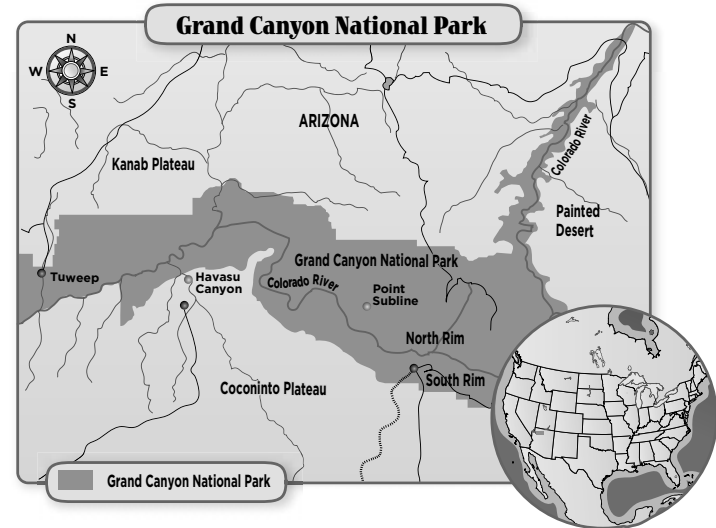
Saddle Up?

Does a mule ride sound great? Well, hold your horses for a minute. You need to:

- be at least 4 feet 7 inches tall.
- weigh less than 200 pounds (you **WILL** be weighed).
- be in good shape.

Some people explore the canyon from the back of a mule! These trips are long and hot, and they are not easy. But many people call them the best ride of their life.

A mule ride to the bottom of the canyon takes about five hours.



Now look at the map above to find the North Rim and the South Rim. The **rims** are the tops of the canyon. You'll learn more about them later. This map shows some of the most important **landforms** in the park, such as rivers, streams, and another canyon.

Chapter Two

Landforms and Climate

The park's many different bodies of water are important landforms. Of course, the Colorado River is the main river that flows through it, but the park also contains many major streams. The Little Colorado River is a major stream. Like many of the other streams, it feeds into the Colorado River. The river, streams, and springs create a water system in the park.

Most of these streams do not flow all year. In spring, the streams rush along, filled with melted snow. But in the hot summer months, they shrink to a trickle or even dry up.

Some of the streams form beautiful waterfalls as they flow down the steep sides of the canyon.



Chapter Four

Fun in the Canyon

Now that you've learned how the Grand Canyon was formed, it's time to pay it a serious visit. Most people drive, ride in tour buses, or take the national park shuttle buses along the South Rim. But your conscience is telling you that the best way to see the park is from inside the canyon.

For a great experience, lace up those hiking boots. You don't have to go far, and you don't have to have great physical coordination. If you're a frustrated photographer, now's your chance.

Don't just sit in a car! Take an active look.





Each layer in the Grand Canyon tells a story.

Paleontologists: They Dig Their Work

Paleontologists are fossil hunters. They search for and identify the remains of long-ago life. Some paleontologists look for the remains of dinosaurs. But dinosaurs are just one tiny part of the whole fossil record. There are many other fascinating things to find, including the remains of life in ancient seas.

In the middle layers, the fossils are about 400 million years old. These fossils are of fish, insects, and plants. Near the top of the canyon are fossils of more recent animals from the age of dinosaurs. Because the fossils go up the canyon from oldest to youngest, the Grand Canyon has been called a “ladder of life.”

People search for fossils in the Grand Canyon.



Why do you think a mesa is sometimes called a tableland?

As you begin to explore the Grand Canyon, you will see many other landforms, including mesas and buttes. A **mesa** is a flat-topped mountain, like a plateau but smaller. A **butte** is a flat-topped high hill or ridge with steep sides that is smaller than a mesa. Take a moment to admire how the different heights and angles of the various landforms give the park its striking beauty.

Geologists: Their Job Rocks

Geologists study how the earth formed and how it changes. They study rocks, mountains, oceans, volcanoes, and other parts of the planet. They often supervise exploring for sources of energy, such as oil. They look for metals we need, like copper. They also help us understand and prepare for earthquakes.



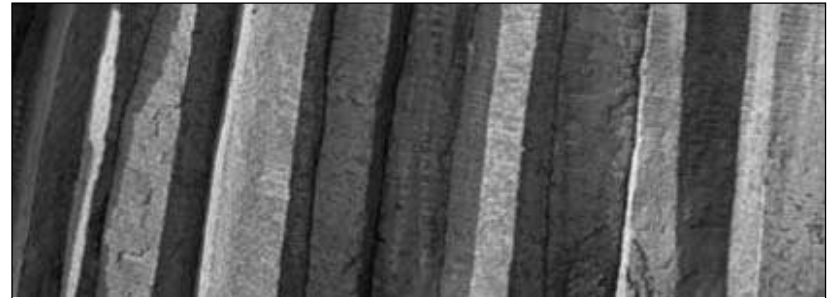
Winter can bring more than 100 inches of snow to the North Rim.



Summer is a time for thunderstorms on the South Rim.



The inner canyon is hot and dry. Near the river, summer temperatures often soar above 100°F (38°C).



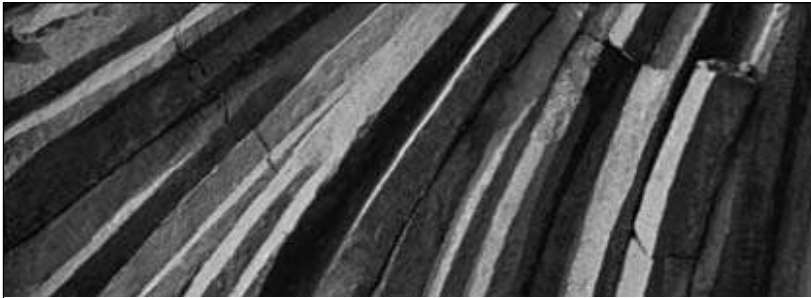
Basalt forms from liquid rock called lava.

Volcanoes and Earthquakes

Another force at work on the canyon was hot rock—really hot rock from volcanoes, that is. It flowed out of the ground to dam the canyon many times. Once cool, it formed a hard rock called **basalt**. You can see it on some of the walls of the canyon. Also, while the canyon formed, earthquakes pushed the land up. The canyon got deeper and higher.

Layers of Past Life

The story of life in the canyon is fused into its rocks. **Fossils**, the remains of plants or animals that lived long ago, tell this life story. Imagine that you are hiking up from the bottom of the canyon. In the lowest layers of the canyon walls are the oldest fossils in the park. They are of one-celled animals.



Fast-flowing Water

But the Colorado River was not the only force to form the Grand Canyon. Other forces were at work, too. **Flash floods** are sudden, powerful downpours that create walls of water. When water rushes over the land, plants can't hang on. The water washes them away with ease. It carries off loose rocks, fallen trees, sticks, and dusty soil, too. Everything washes down the canyon in a fast-flowing bundle, carving new walls as it goes along. So, flash floods helped create the canyon in the past, and they are still at work today.

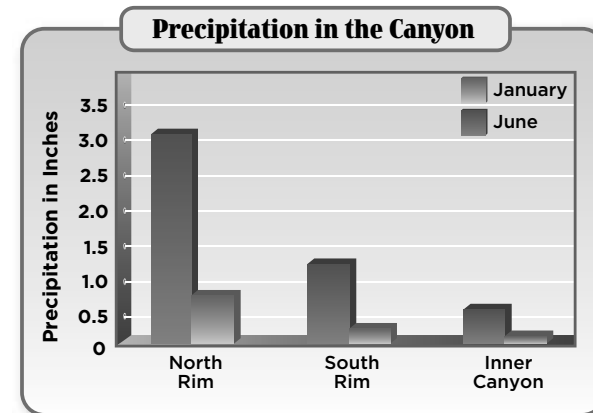
Ice

Water helped create the canyon in another way. It seeped into small cracks between the rocks and then froze. The ice expanded, making the cracks bigger, until pieces of rocks broke off and crashed down into the canyon. The freezing and melting of water is still carving the canyon today.

Climate

In the summer most of the land in the Grand Canyon is dry and dusty. But the climate does vary from place to place. On the North Rim, which is higher than the South Rim, the climate is cooler, rainier, and snowier than in other areas of the park. On the drier South Rim, rainfall is lower than on the North Rim. You'll see fewer trees, too.

People who make the trip down into the canyon itself must get ready to be very hot. If they stay overnight, they must be prepared for the cold. The canyon's desert climate means hot days and cold nights.



Chapter Three

How the Canyon Formed

Can you guess what main force created the Grand Canyon? It was the mighty Colorado River.

The Colorado is a huge, powerful river. In the spring melted snow fills the river and it becomes swift and wild. The river picks up rocks, huge boulders, sand, and pebbles and carries them along. Over millions of years, this gritty river water carved into layer after layer of rock. It carved the deepest canyon of all, the Grand Canyon.

Layers of Rock

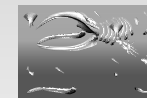
One reason the river could carve the rock is that the rock was soft. Soft for rock, that is! Back in time, before there was a Grand Canyon, oceans covered the land.

Over millions of years, broken seashells, sand, mud, and clay fell to the bottom of the sea.

These small bits of matter that settle on the sea bottom are called **sediment**. Over millions of years, the sediment turned into rock, called **sedimentary rock**. And this rock was soft enough for the river to be able to carve a deeper and deeper path through it.

How Sedimentary Rocks Form

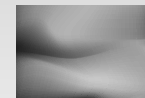
Sedimentary rocks form when bits of material are compacted, or pressed together, over a long period of time. Different kinds of rock form from different kinds of sediment.



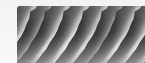
remains of
ocean life



limestone



mud
and clay



shale



sand
(on beaches)



sandstone



Home-School Connection

Dear Family Member:

Valley of the Moon is a story about María Rosalia, a servant girl, who rescues a diary from a fountain and then uses the diary to write about her life on the rancho. Throughout the story, we look for causes and effects—the things that cause situations to happen and the outcome of the situations. Events just keep tumbling on in the story, one causing the next. By paying attention to causes and effects, I can see how a writer takes you from one event to another.



This Week's Skills

Comprehension: cause and effect

Vocabulary: thesaurus—synonyms

Spelling/Phonics: suffixes

Name _____

Word Workout

WORDS TO KNOW

eldest	depicts	detested	ignored
refuge	projects	obvious	obedience

Say it With "So" I'll choose a word from the list. Try to put the word in a sentence that shows a cause and an effect by using the word so. For example, "I ignored my best friend, so he was mad at me."

SPELLING WORDS

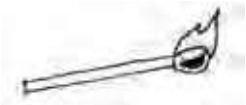
serious	comfortable	safety	forgetful
furious	finally	allergic	carefully
eruption	usually	scientific	
destruction	apparently	microscopic	
direction	completely	activity	
position	eventually	sickness	

Spelling Bee Let's write the words on index cards. Then we can split them in half. I'll read my words for you to spell, and you can read yours for me to spell.

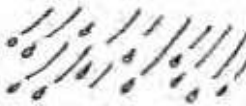
(fold here)
© Macmillan/McGraw-Hill

Guess What Happened?

Think about what happened (effect) and the reason it could have happened (cause). Then use the clues to find and circle the words in the Word Search.



lit in order to see in the dark



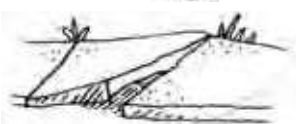
the result of rain, rain, and more rain



happened because of a missed bus



this forms when the temperature is below 32°F



effect of a crack in the sidewalk



this causes laughter



effect of carbon dioxide



because of an accident



Word Search

h	l	a	t	e	i	d	s	x	b
k	c	h	r	c	b	o	m	l	e
r	x	t	i	x	h	j	o	k	e
u	n	s	p	s	j	l	g	i	s
m	q	b	p	m	f	l	o	o	d
a	w	r	e	w	d	j	j	u	y
t	c	h	d	x	p	x	o	i	d
c	r	a	s	h	h	x	v	c	q
h	v	d	e	p	p	i	r	e	e

Ejercicio de palabras

PALABRAS DE VOCABULARIO

eldest	depicts	detested	ignored
refuge	projects	obvious	obedience

Dilo con la palabra so Voy a escoger una palabra de la lista. Intenta usar la palabra en una oración que describa una causa y un efecto usando la palabra so. Por ejemplo: *I ignored my best friend, so he was mad at me.*

PALABRAS DE ORTOGRAFÍA

serious	comfortable	safety	forgetful
furious	finally	allergic	carefully
eruption	usually	scientific	
destruction	apparently	microscopic	
direction	completely	activity	
position	eventually	sickness	

Concurso de ortografía Escribamos las palabras en tarjetas. Tú tomas una mitad y yo la otra. Voy a leer mis palabras para que las deletrees y tú harás lo mismo.



Conexión con el hogar

Queridos familiares:

Valley of the Moon es un cuento sobre María Rosalia, una niña sirvienta que rescata un diario de una fuente y lo usa para escribir acerca de su vida en el rancho. A través de la historia podemos ver causas y efectos, es decir, cosas que causan que pasen ciertas situaciones, y el resultado de esas situaciones. Los eventos ocurren uno tras otro, cada uno a causa del anterior. Al poner atención en las causas y los efectos puedo ver cómo un escritor te lleva de un evento a otro.



Destrezas de la semana

Compresión: causa y efecto

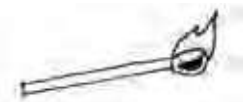
Vocabulario: tesoros—sinónimos

Ortografía/Fonética: sufijos

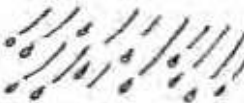
Nombre _____

Adivina qué ha ocurrido

Piensa en lo que ha ocurrido (efecto) y el motivo por el que podría haber ocurrido (causa). Luego, usa las pistas para encontrar y encerrar en un círculo las palabras en el juego de búsqueda de palabras.



lit in order to see in the dark



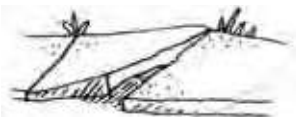
the result of rain, rain, and more rain



happened because of a missed bus



this forms when the temperature is below 32°F



effect of a crack in the sidewalk



this causes laughter



effect of carbon dioxide



because of an accident



Word Search

h	l	a	t	e	i	d	s	x	b
k	c	h	r	c	b	o	m	l	e
r	x	t	i	x	h	j	o	k	e
u	n	s	p	s	j	l	g	i	s
m	q	b	p	m	f	l	o	o	d
a	w	r	e	w	d	j	j	u	y
t	c	h	d	x	p	x	o	i	d
c	r	a	s	h	h	x	v	c	q
h	v	d	e	p	p	i	r	e	e

Comprehension Check

Summarize

Use the Cause-and-Effect Chart to help you summarize *The Oregon Trail*.

Cause → Effect
→
→
→
→

Think and Compare

1. Look back at page 7. What happened in 1848? What was the effect of this event? **(Cause and Effect)**
2. Would you like to travel the 2,000 miles of the Oregon Trail today? Explain your reasons. **(Apply)**
3. Many places along the Oregon Trail are now national parks. Do you think it's good to preserve these landmarks? Name other places you think should be protected. Give reasons for your answer. **(Evaluate)**

THE OREGON TRAIL WESTWARD HO!

BY LOUISE ORLANDO



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INTRODUCTION

Imagine that you are ten years old. You have just returned home from school. Your parents have some important news. Your family is moving to a place called Oregon. Within a few days, almost all of the family belongings are packed into a large wagon. You are about to begin the longest journey of your life.

During the 1840s, thousands of people left their homes in the eastern states. They headed west to places such as Oregon and California. These brave people wanted larger pieces of land for farms and ranches. Some had dreams of discovering gold. They all wanted to improve the lives of their families.

Between 1840 and 1860, about 300,000 people traveled west on the Oregon Trail.



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Glossary

cholera (*KOL-ur-uh*) an illness that can cause death (*page 11*)

Gold Rush (*gohld rush*) the rush of people moving to California after gold was discovered (*page 7*)

interests (*IN-trists*) shares in a business or property (*page 6*)

landmark (*LAND-mahrk*) an object or structure that can serve as a guide (*page 15*)

pass (*PAS*) a gap or passage in a mountain range (*page 5*)

pioneer (*pigh-uh-neer*) a person who is among the first to explore and settle a region (*page 3*)

shelter (*SHEL-ter*) something that gives cover or protection (*page 13*)

territory (*TER-l-tawr-ee*) an area of land that was controlled by the United States government but not yet a state (*page 7*)

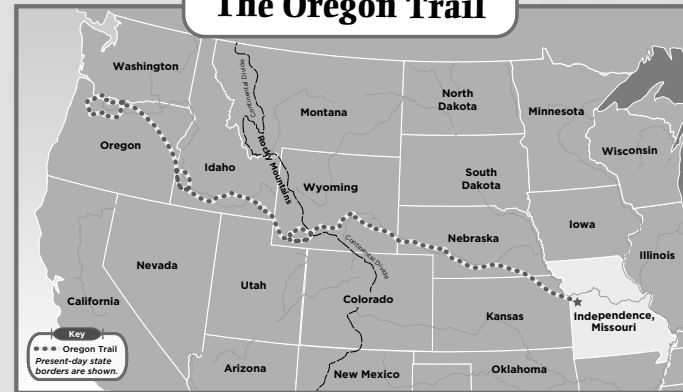
trading post (*TRAY-ding pohst*) a store in an unsettled area where people trade goods (*page 5*)

transcontinental railroad (*TRANZ-kon-tuh-NEN-tuhl RAYL rohd*) a railroad that crosses the continent (*page 14*)

trek (*TREK*) a long and difficult journey (*page 3*)

wagon train (*WAG-uhn trayn*) a group of wagons traveling together for safety (*page 9*)

The Oregon Trail



The Oregon Trail began in Independence, Missouri and ended in Oregon City. The trip took four to six months.

To get to the West, most people followed a route called the Oregon Trail. The settlers made the difficult **trek** over 2,000 miles of harsh land following the famous trail. Settlers who took the Oregon Trail became an important part of history. Today, the Oregon Trail is popular with tourists who visit the trail to follow the paths of the **pioneers**.

CHAPTER 1

EXPLORING THE WEST

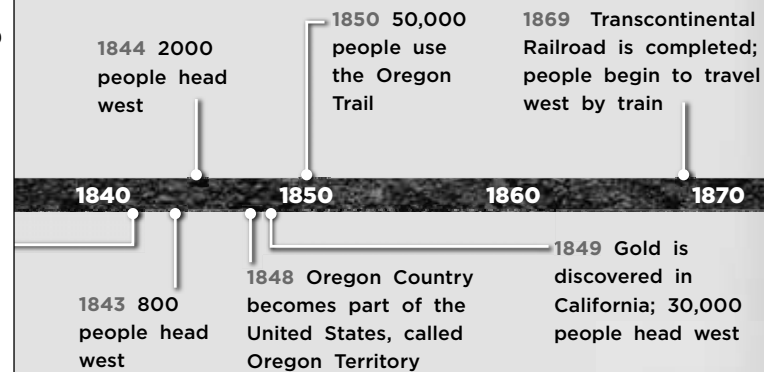
Before the Oregon Trail, settlers had to travel by boat around South America to reach the West Coast. This journey was very expensive. It could take up to a full year to complete. Explorers and pioneers had been looking for an easier, shorter route west for many years.

In 1804, President Thomas Jefferson had a project for Meriwether Lewis and William Clark. Jefferson wanted them to explore the land west of the Mississippi River. Part of the land had just become part of the United States. The President wanted Lewis and Clark to find a route across the continent to the Pacific Ocean. Lewis and Clark accepted the challenge.

A Native American guide named Sacagawea traveled with Lewis and Clark.



Tourists visit exhibits about the Oregon Trail here.

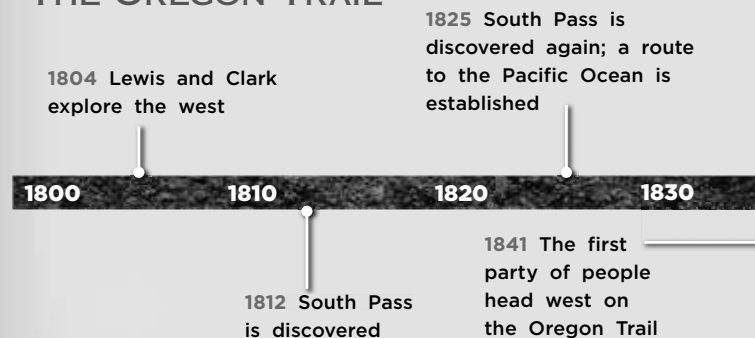


CONCLUSION

Traveling the 2,000-mile-long Oregon Trail was a very difficult trip in the 1800s. Even today, it wouldn't be an easy journey. The pioneers who traveled it went in search of new lives. They left everything they had behind. Those who finally reached the West found opportunities and created new lives. As more people arrived in the West, new communities and towns were built. If not for all of the pioneers, Oregon, California, Washington, Nevada, Idaho, and Utah might not be part of the United States today.

We can still experience some parts of the Oregon Trail. Many of the landmarks that dotted its path still exist today. While it is impossible to travel the Oregon Trail like the pioneers did, we can take the time to consider the hardships many of them faced.

THE OREGON TRAIL



This is what South Pass looks like today.

Lewis and Clark spent two years exploring the rough land of the West. Crossing the Rocky Mountains proved to be a slow, dangerous process. They did make it to the Pacific Ocean, but they did not find an easy route. It would be impossible for settlers with wagons to reach the West Coast.

John Jacob Astor, a rich fur trader, was inspired by Lewis and Clark's trip. He saw the West as a good opportunity. He wanted to expand his business and set up **trading posts** along rivers. Astor was hoping to find a water route to cross the West and reach the Pacific Ocean. He secretly paid a group of explorers to find the way.

In 1812, the group paid by Astor found a 20-mile gap in the Rocky Mountains. Pioneers and their wagons would be able to cross the mountains through this gap. The gap was later named **South Pass**. It would be many decades before settlers would take advantage of this important discovery.

To protect his business **interests**, John Jacob Astor kept the South Pass a secret for years. His fur-trading empire continued to expand into the West. He even built a fur trading post called Fort Astor.

Astor was not alone in his excitement for the West. More groups of explorers were heading west, too. Better maps were being created. Trails were being made. Some explorers even wrote about the beauty and promise of the land.

In 1825, South Pass was rediscovered. Pioneers finally had an easier way to reach the West.



Fur trappers traveled into unknown lands and survived on their own. They were men who followed no rules and showed no obedience to anyone.

WHITMAN MISSION, WASHINGTON

Marcus and Narcissa Whitman were the first people to bring families on the Oregon Trail using a wagon. They played an important role in opening up the West to more people. Parts of the mission built by Marcus and Narcissa Whitman still stand here.

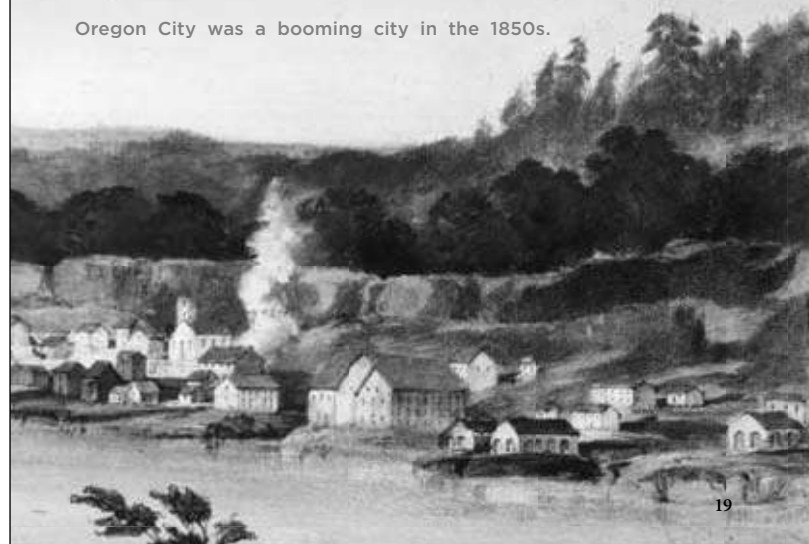


OREGON CITY, OREGON

Oregon City marked the end of the trail for most pioneers. Upon their arrival, settlers were relieved to find a civilized town with shops and mills. After reaching Oregon City, people went different ways to start their new lives.



Oregon City was a booming city in the 1850s.



SOUTH PASS, WYOMING

South Pass might have been the most important landmark on the trail. It was the best way through the Rocky Mountains. There was no other way for wagon trains to get past the mountains. Without South Pass, heading west would have been impossible for pioneers.

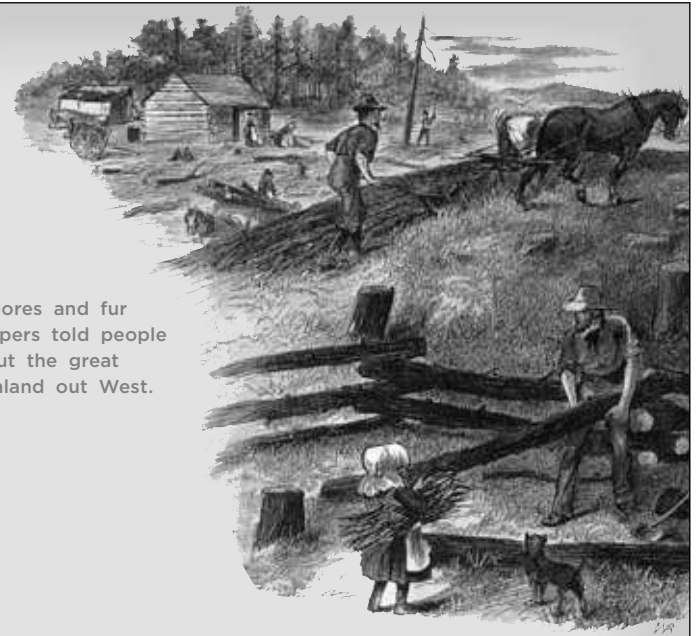


THREE ISLAND CROSSING, IDAHO

These three islands in Idaho were “stepping stones” for pioneers crossing the Snake River. Getting wagons across the river was a difficult task. But traveling on the north side of the river was much easier. Once a year, people depict a pioneer crossing. They drive wagons, horses, and oxen across the river.



Explores and fur trappers told people about the great farmland out West.



To many people, the West seemed like the land of opportunity. Farms in the East were small. The West had plenty of open space. Beginning in 1840, thousands of new settlers, or pioneers, would begin following the Oregon Trail out west. In 1848, Oregon Country became a **territory** of the United States.

That same year a discovery made the route even more important. Gold had been found in California. Gold fever spread very quickly. As many as 30,000 people moved west in 1849. It marked the beginning of the **Gold Rush**.

CHAPTER 2

WESTWARD HO!

Independence, Missouri, was the most popular starting point for pioneers from the East. Lewis and Clark even visited at the beginning of their famous trip.

The pioneers prepared for their journey in Independence. Families carefully packed their wagons with basic goods. The trip west would take between four and six months. Families usually packed between 1,600 and 1,800 pounds of supplies into the wagon.

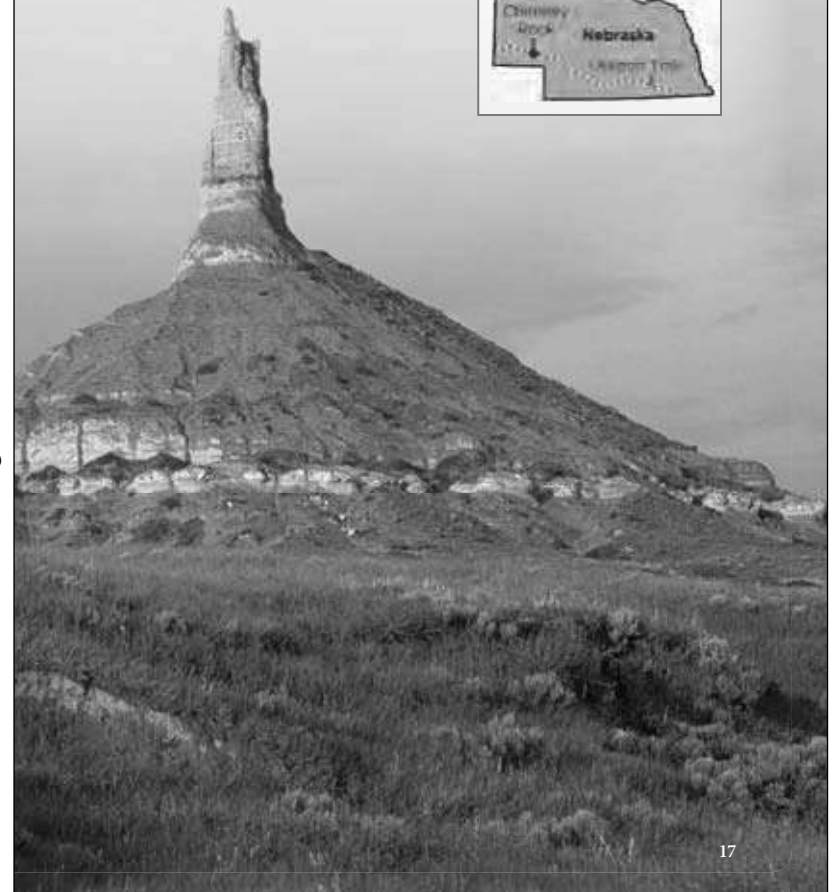
Food was the most important cargo. Pioneers packed flour, sugar, bacon, coffee beans, rice, and lard. They also brought pots, pans, silverware and a kettle to boil water. Other important items included candles, tools, medical supplies, soap, and blankets.

Many pioneers ended up leaving their belongings behind because their wagons were too heavy.



CHIMNEY ROCK, NEBRASKA

Chimney Rock is one of the most famous natural landmarks on the Oregon Trail. The reason for its name is obvious. To many, Chimney Rock is a primary symbol of the Oregon Trail.



LANDMARKS ALONG THE OREGON TRAIL

As they made their way along the Oregon Trail, pioneers used landmarks to guide their route. Forts were among the most important landmarks along the way. As pioneers traveled west, they rested at the forts and stocked up on supplies. They also left messages for travelers who were coming behind them.

Other landmarks were the small towns that dotted the path of the Oregon Trail and sites where people had discovered gold or silver in the past.

These different landmarks made the trip easier for the tired travelers. Today, you can still see ruts that wagon wheels wore into the trail.

As they began their trips, pioneers formed **wagon trains**. Wagon trains were groups of wagons that traveled together for safety. Up to 100 wagons might travel together in a wagon train.

Because of the weather, most of the wagon trains started their trip west in April or May. They had to wait until spring so there would be enough grass for the animals to eat. However, they had to make it over the mountains before winter. If they started too late, they risked getting stuck in the snow for months.

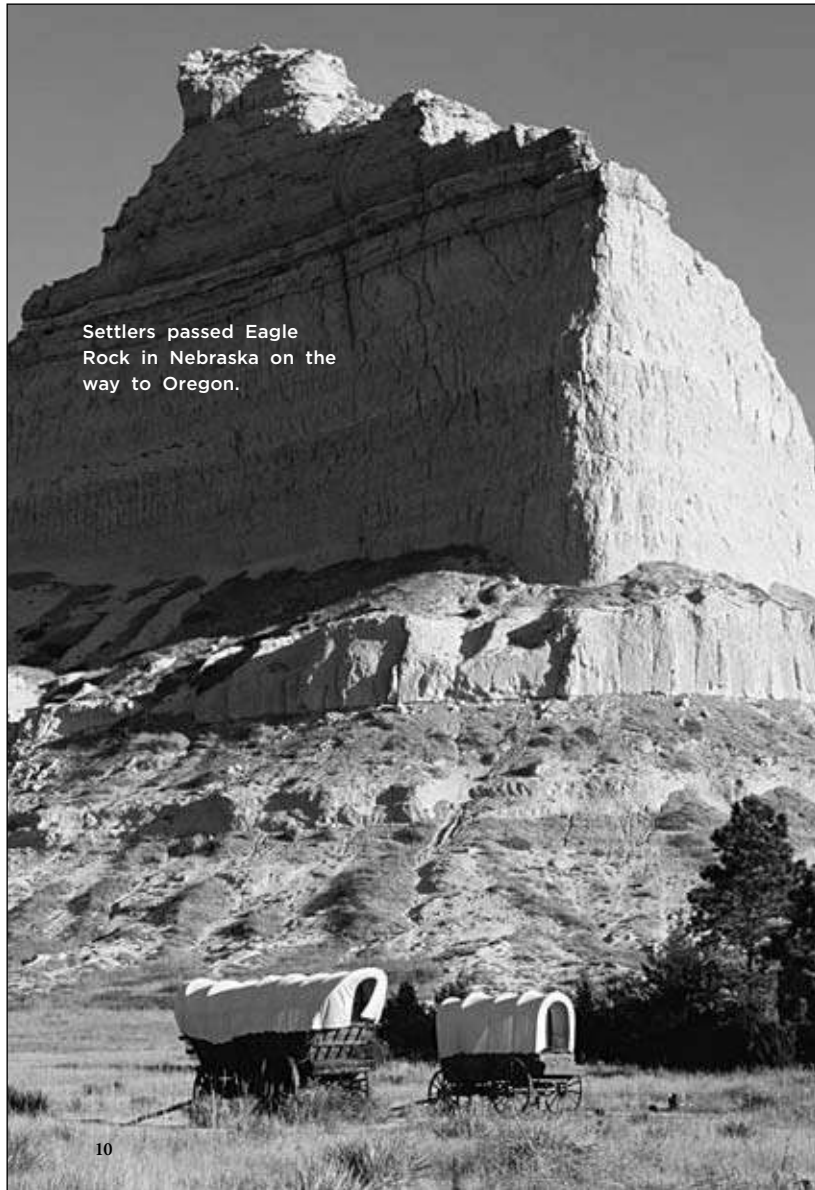


William (John) Livingston was one of the pioneers who traveled west on the Oregon Trail.

The First Pioneers

Narcissa Whitman and Eliza Spaulding were the first white women to complete the Oregon Trail. They opened the way for thousands of other women who hoped to find more equality and freedom in the west.



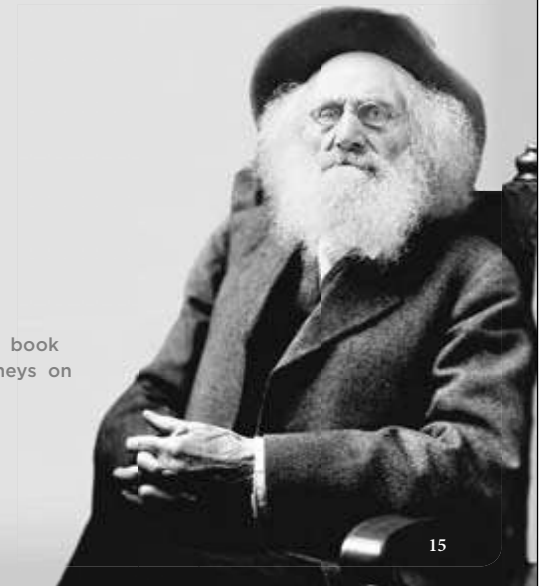


One man vividly remembered the Oregon Trail. His name was Ezra Meeker.

In 1852, Ezra Meeker, his wife, and his eldest son had traveled on the Oregon Trail. He and his family settled in Washington Territory. He lived a quiet life for the next 50 years, but his memories of the trail remained strong.

Meeker wanted to share his interest for the Oregon Trail. In 1906, he headed east and traveled the trail again in a wagon. He made the trip several more times using different forms of transportation. Meeker traveled the trail by wagon, car, train, and finally by airplane. Ezra Meeker worked hard to bring attention back to the trail. Thanks to him, many of the **landmarks** and artifacts of the Oregon Trail have been saved.

Ezra Meeker wrote a book about his many journeys on the Oregon Trail.



CHAPTER 3

THE END OF THE TRAIL

Between 1840 and 1868, more than 300,000 people traveled the Oregon Trail. With so many people moving, there was a demand for a faster way to travel and ship goods across the country.

In 1869, the **transcontinental railroad** was completed. It was the first railroad to join the eastern and western parts of the country. People began to travel west by train and stopped using the Oregon Trail. The Oregon Trail was almost forgotten.

Workers cheer the first train over the Sierra Nevada Mountains.



Once the pioneers left Independence they faced a 2,000-mile trip to the West Coast. To pull their heavy wagons, most pioneers used oxen. They were the strongest and best choice for the journey. Oxen could live off the prairie grass. They were also cheaper. The only problem with oxen was that they were very slow. Pioneers who couldn't afford wagons or oxen had to push or pull carts for the entire journey.

Families would travel all day. Most pioneers walked the entire way because their wagons were packed full of food, tools, and other supplies. At night, they slept on the ground. They were exposed to severe weather. They also had to deal with river crossings. Getting a wagon filled with supplies over a rushing river was not easy. Some people drowned trying to cross these rivers.

The trip on the Oregon Trail was a difficult one. Not everyone made it to the West. A detested illness called **cholera** killed many people. Cholera had no cure. Some people died within hours of becoming ill. Cholera was one of the biggest killers on the journey.

"We are creeping along, slowly, one wagon after another, the same old gait; and the same thing over, out of one mud into another, all day."

—Diary of Amelia Stewart Knight 1853



Today, cars travel on the path that the Donners and the Reeds took. It is now a paved road that is open all year round.

The winter also presented a big danger. Some settlers waited too long to start their journey. By the time they made it to the mountains, winter had set in. In some cases, it overtook them.

One such group was the Donner Party. In 1846, the Donner and Reed families joined a wagon train in Independence, Missouri. The wagon train was headed to California. Along the way, the Donner and Reed families decided to take a shortcut instead of staying with the group.



The other members of the wagon train warned them not to take the shortcut. However, the Donners and the Reeds ignored the warnings. They stuck to their decision and left the wagon train. They continued their journey using the shortcut.

Sadly, the Donners and the Reeds had made a terrible mistake. The path they had chosen was actually much longer. Due to the weather, the families had to spend the winter in the Sierra Nevada Mountains. There was no **shelter** for them to take refuge in. They had not packed enough supplies to last them through the winter. Out of the 87 people who took the shortcut, only 47 lived.



Home-School Connection

Dear Family Member:

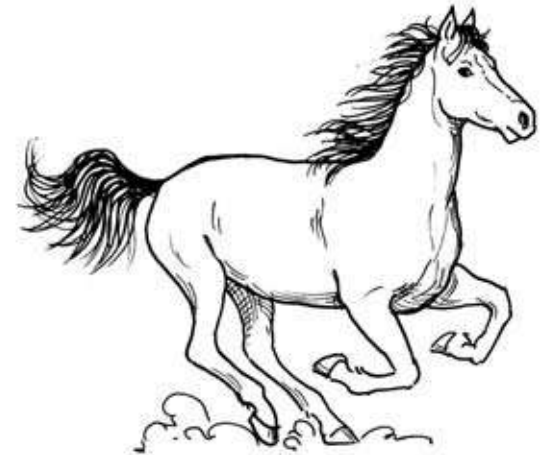
Bob Lemmons was an African American who had once been a slave. He had never learned to read or write, but he knew horses. In *Black Cowboy, Wild Horses*, we're reading the adventure of Lemmons taming a herd of stallions. Throughout the story, the author tells us things without writing them down. When Lemmons first sees the herd, he moves carefully, and only a little bit closer day by day. That tells me he is a patient man, respectful of the animals he sees. I'm looking forward to knowing this man better as we read through the book.

This Week's Skills

Comprehension: make inferences

Vocabulary: analogies

Spelling/Phonics: homophones



Name _____

Word Workout

WORDS TO KNOW

enthusiasm distinct horizon presence
ravine suspended swerved vastness

Out on the Range Imagine sitting around a campfire with cattle nearby. Let's use the words to talk about the scene.

SPELLING WORDS

suite	sweet	pier	peer
currants	current	manner	manor
pole	poll	stationary	stationery
waist	waste	prey	pray
presents	presence	council	counsel

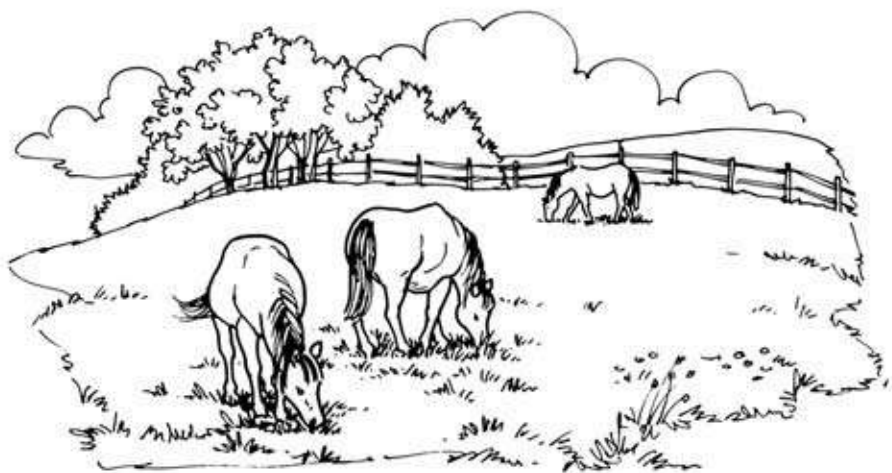
Can You Hear What's Here? I'll give you two words that are spelled differently but sound the same. Spell each one and use it in a sentence.

(fold here)
© Macmillan/McGraw-Hill

You Be the Detective

Help Marty match the horses to their correct homes and give them the food they like. Put an **N** in a square to show *No*, and a **Y** in a square to show *Yes*. Keep looking across the columns and rows. Where there are two **N**s, the blank square is **Y**. When there is a **Y**, the other two squares are **N**.

- Bluff does not like the stable.
- Magnolia dislikes the stable.
- Magnolia will not go in the meadow.
- The horse that likes the corral will not eat apples.
- The horse that likes the meadow won't eat apples.
- The horse that likes the corral won't eat hay.



	Bluff	Thunder	Magnolia
Meadow			
Stable			
Corral			

Carrots			
Apples			
Hay			

The Solution

Bluff eats _____ and likes being in the _____.

Thunder eats _____ and likes being in the _____.

Magnolia eats _____ and likes being in the _____.

Ejercicio de palabras

PALABRAS DE VOCABULARIO

enthusiasm distinct horizon presence
ravine suspended swerved vastness

En el campo Imagina que estás sentado junto a una fogata y el ganado está cerca. Usemos las palabras para hablar de esto.

PALABRAS DE ORTOGRAFIA

suite	sweet	pier	peer
currants	current	manner	manor
pole	poll	stationary	stationery
waist	waste	prey	pray
presents	presence	council	counsel

¿Escuchas lo que hay aquí? Te voy a dar dos palabras que se deletrean en forma diferente pero suenan igual. Deletrea cada una y usa cada palabra en una oración.



Conexión con el hogar

Queridos familiares:

Bob Lemmons fue un afroamericano que una vez fue esclavo. Nunca aprendió a leer ni a escribir, pero sabía sobre caballos. En el relato *Black Cowboy, Wild Horses*, estamos leyendo la aventura de Lemmons domando una manada de caballos salvajes. Cuando Lemmons ve por primera vez la manada, se mueve con cuidado y sólo se acerca un poquito más cada día. Esto me dice que es un hombre paciente que respeta a los animales. Estoy ansioso por conocer mejor a este hombre a medida que leemos el libro.

Destrezas de la semana

Comprensión: hacer inferencias

Vocabulario: analogías

Ortografía/Fonética:
homófonos



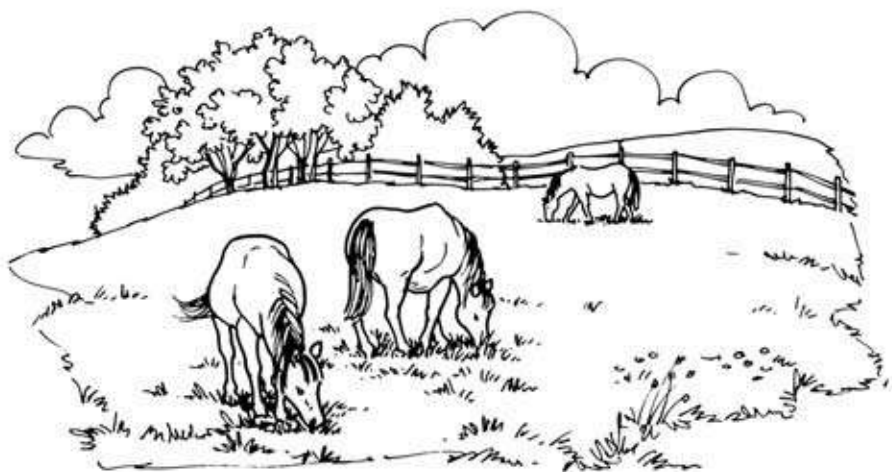
Nombre _____

(fold here)
© Macmillan/McGraw-Hill

Tú eres el detective

Ayuda a Marty a unir los caballos con sus casas y con la comida que les gusta. Pon una **N** en un recuadro para indicar **No**, y pon una **S** para indicar **Sí**. Mira las columnas y las hileras. Cuando haya dos **N** el otro recuadro será **S**. Cuando haya una **S** los otros dos recuadros serán **N**.

- Bluff does not like the stable.
- Magnolia dislikes the stable.
- Magnolia will not go in the meadow.
- The horse that likes the corral will not eat apples.
- The horse that likes the meadow won't eat apples.
- The horse that likes the corral won't eat hay.



	Bluff	Thunder	Magnolia
Meadow			
Stable			
Corral			

Carrots			
Apples			
Hay			

The Solution

Bluff eats _____ and likes being in the _____.

Thunder eats _____ and likes being in the _____.

Magnolia eats _____ and likes being in the _____.

Comprehension Check

Summarize

Summarize Alice's life. Tell why and how she became a famous cowgirl. Explain how her early life helped her prepare for her career as a rodeo star. Use an Inference Chart to help you combine text clues with what you know.

Text Clues	What You Know	Inferences

Think and Compare

1. Turn to page 4 in this book. What words show that Alice was skilled with horses at a very young age?
(**Make Inferences**)
2. If you could perform in one of the rodeo events mentioned in this book, which would you choose? Why? (**Apply**)
3. Western movies and television shows are still popular today. Why do you think that people still enjoy seeing shows about the Wild West? (**Evaluate**)

Alice Greenough

A New Woman of the Old West

by Elizabeth West



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Introduction

Most people know a lot about cowboys but little about **cowgirls**. The reason is simple. **Cowboys** have often been featured in films and television shows. Most cowgirls, though, led private lives on farms and ranches. In many cases, they did the same work that cowboys did, but they seldom got paid.

However, a few cowgirls became famous. Alice Greenough (GREEN-oh) was one of them. She grew up at a time when the West was changing.

When Alice was a girl, life was much harder than it is now. People made many of their own clothes. They had to wash them by hand. There were no frozen or fast foods. Ranchers grew much of their own food and raised chickens, milk cows, and beef cattle for eggs, milk, and meat.



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Glossary

bridle (*BRIGH-duhl*) the straps, bit, and reins worn on a horse's head and used to guide it (**page 16**)

bronco (*BRONG-koh*) a wild horse (**page 9**)

bulldogging (*BUL-dog-ing*) wrestling an animal to the ground (**page 17**)

cowboy (*KOW-boy*) a boy or man who works with cattle and horses (**page 2**)

cowgirl (*KOW-gurl*) a girl or woman who works with cattle and horses (**page 2**)

Great Depression (*GRAYT di-PRESH-uhn*) a time of economic hardship in the United States that began in 1929 (**page 16**)

Madison Square Garden (*MAD-i-suhn SKWAYR GAHR-duhn*) a building in New York City used for large events, such as circuses and rodeos (**page 13**)

orphan (*AWR-fuhn*) a child with no parents (**page 6**)

rodeo (*ROH-dee-oh*) a contest in which cowboys and cowgirls use their skills (**page 9**)

roping (*ROHP-ing*) using a rope to catch an animal (**page 4**)

rural (*RUR-uhl*) in or relating to the country (**page 3**)

sharpshooter (*SHAHRP-shew-tur*) a person who is very skilled with a gun (**page 11**)

traveling show (*TRAV-uhl-ing SHOH*) a group of performers who travel from place to place (**page 12**)

Changes Between 1904-2004

The United States changed a lot during the 1900s. Compare the country in 1904 when Alice was young and 2004.

	1904	2004
People in U.S.	82,165,000	293,655,404
People in Montana	243,300	926,900
Families with phones	8%	98%
Cars in U.S.	8,000	200,000,000
U.S. Homes with TVs	0	98%

Ranches were often very large and far apart. The nearest town might be 40 miles away. People didn't drive there, because most families didn't own cars. They went by horse. They had no phones, electric lights, or running water. Most **rural** people cooked on wood stoves and lit their homes with oil lamps.

Alice Greenough was a famous rodeo star.



Chapter 1

Life in Red Lodge

Alice was born in 1902 on a ranch near Red Lodge, Montana. Because they traveled on horses, the Greenough family kept dozens of them to ride. Alice also fed cattle, roped them, and rounded them up. She developed the riding and **roping** skills that would later bring her fame.

Alice had seven brothers and sisters, five of whom would one day work in rodeos. They became known as the "Riding Greenoughs." Alice later said, "We learned to ride before we could walk."



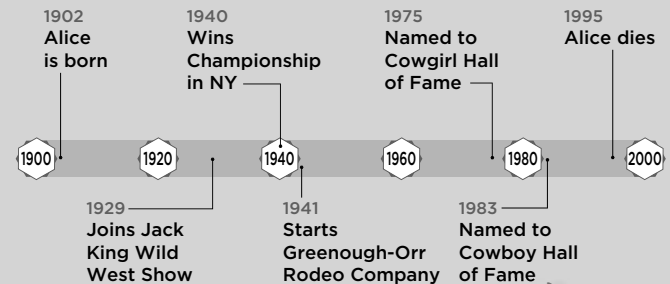
Both miners and ranchers lived in Red Lodge, Montana.

Conclusion

Alice Greenough lived through many changes. She started a museum called the Carbon County Museum. It holds an amazing collection of papers and photographs of her rodeo family.

Today, women rodeo riders are viewed as athletes and not curiosities. Alice was one of the first professional women athletes. She helped expand the horizon for women everywhere. She helped to change attitudes about what women could do.

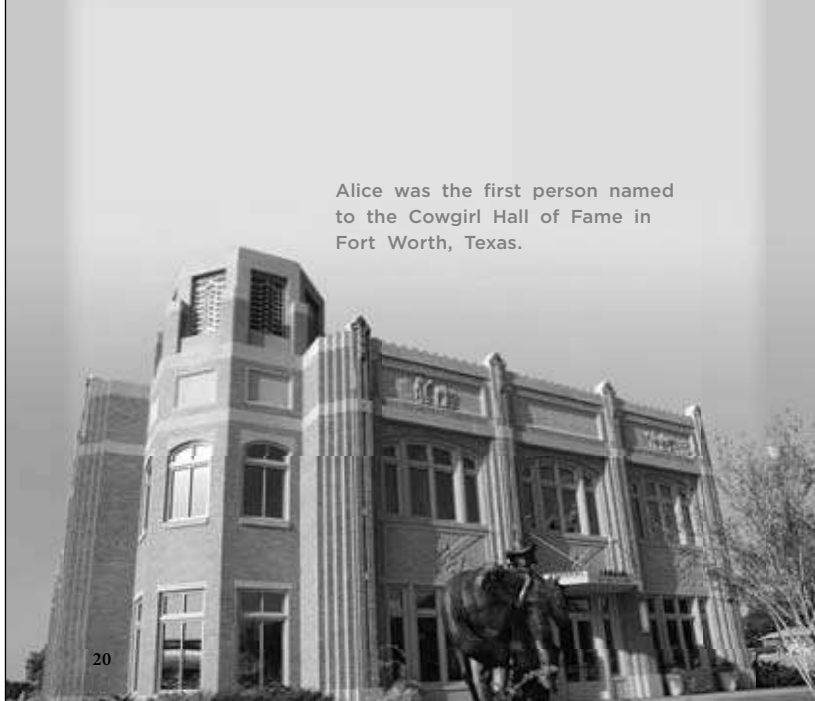
A Cowgirl's Life



When Alice was 39 years old, she and a good friend, Joe Orr, started the Greenough-Orr Rodeo Company. They produced rodeos for more than a decade.

In 1975, Alice was the first person named to the Cowgirl Hall of Fame. In 1983, she was named to the Cowboy Hall of Fame. When she was in her 70s, she told an interviewer, "That rodeo life was a good old life."

Alice was the first person named to the Cowgirl Hall of Fame in Fort Worth, Texas.



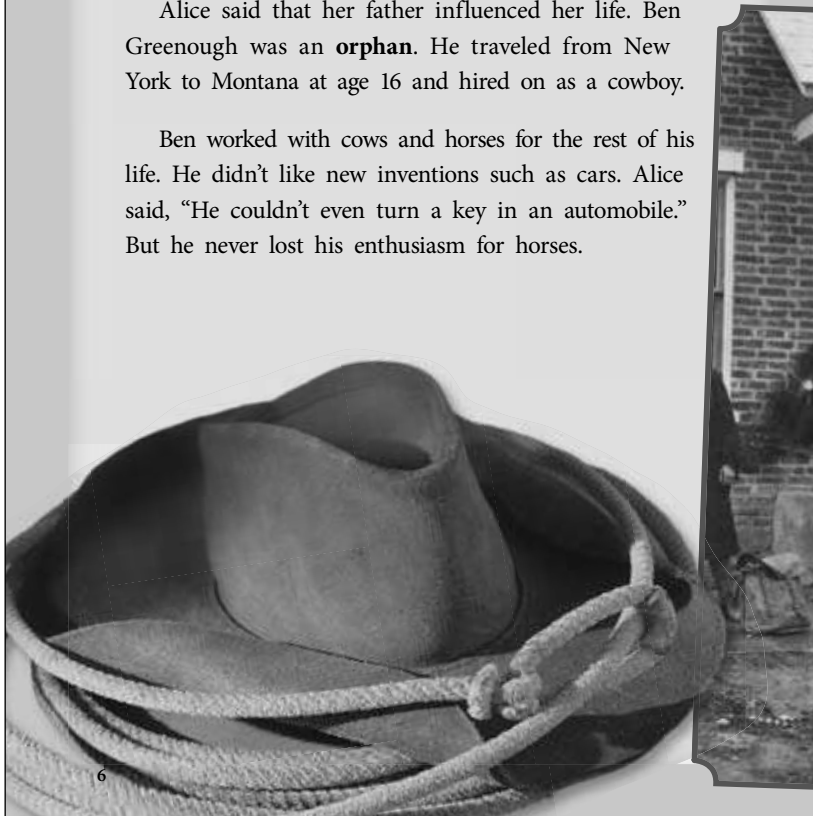
On a ranch everyone—even the children—had to pitch in and help.

Ranch life was busy. The family planted, grew, and harvested crops. Cattle had to be rounded up and fed. Someone had to tame the horses and teach them to carry a rider or pull a wagon. In addition, the fences needed fixing, and the buildings and machines needed repairs. Men, women, and children sewed clothes, chopped wood, and cooked food. Days started early, often before the sun rose above the horizon. In busy seasons, Alice would start work as early as 4 A.M.

In those days, rural people had their mail delivered by mail carriers who drove horse-drawn wagons. Alice's father, Ben, was a mail carrier. Alice helped him deliver the mail. Sometimes Alice would take over the route herself. Alice learned a lot on that route. She learned about horses and about working for others.

Alice said that her father influenced her life. Ben Greenough was an **orphan**. He traveled from New York to Montana at age 16 and hired on as a cowboy.

Ben worked with cows and horses for the rest of his life. He didn't like new inventions such as cars. Alice said, "He couldn't even turn a key in an automobile." But he never lost his enthusiasm for horses.



By 1941, however, most rodeos no longer had women's bronco riding. Fewer rodeos were held. Years later, Alice suggested there were fewer rodeos because there weren't as many "ranch-raised girls."

But western movies and TV shows were growing popular. Alice taught the actress Dale Evans how to ride. Evans and her husband Roy Rogers starred in movies and in a television series. Dale Evans became a famous "cowgirl."



Television shows about the Old West were very popular. Cowboys were usually the heroes. In most shows, cowgirls did little but look pretty.



Cowgirls line up on their horses during a rodeo in London in 1924.

Alice also went to France and later to Australia, where she won an international contest in 1934 and again in 1939.

Alice won contests in the United States, too. Over the years, she lost track of all the shows that she had won. She said that she and her sister Marge worked in every state except for Maine, Vermont, and New Jersey.

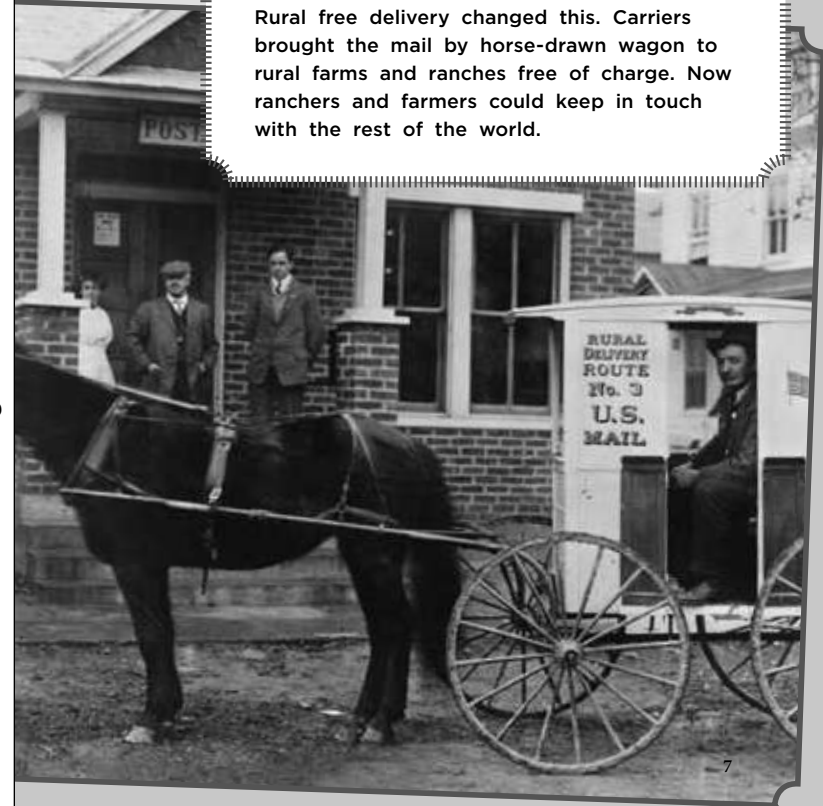
By this time, all the riding Greenoughs were well known. "We had a lot of fans," said Alice. "Little kids in school would pretend to be us when they'd ride their stick horses. . . ." Alice met many famous people. She even had dinner with the mayor of New York City.

Rural Free Delivery

Mail was important to people with no telephones. Mail kept them in touch with the world.

However, getting the mail could be difficult. Before 1896, people had to collect their mail at a post office. People on ranches often lived far from town. It might take all day to get to town and back.

Rural free delivery changed this. Carriers brought the mail by horse-drawn wagon to rural farms and ranches free of charge. Now ranchers and farmers could keep in touch with the rest of the world.





Alice's family stopped in camps like this one.

Alice enjoyed her childhood. She loved riding, hunting, fishing, and her freedom. During the summer, the family would leave the ranch in the care of ranch hands and stay in a camp at a mountain lake. "I can't think of a day in those mountains that we didn't have fun," Alice said later.

The children held contests to see who could catch the most fish. They had races up a mountainside or down a ravine. They owned fewer clothes and toys than most children have today, but they had far more freedom. The open land of the West was their playground.



Alice rode bucking broncos. She earned prize money if she won.

The nighttime stars had flickered over Alice's head in Montana. Now, the lights of Europe shone above her.

Alice found that Spain was very different from the United States. At that time, Spanish women seldom went outside alone. One day Alice went out in her rodeo costume. A group of schoolgirls passed her on the street. Their teacher made the girls turn away. She didn't want them to see a woman in pants.

Famous Cowgirls

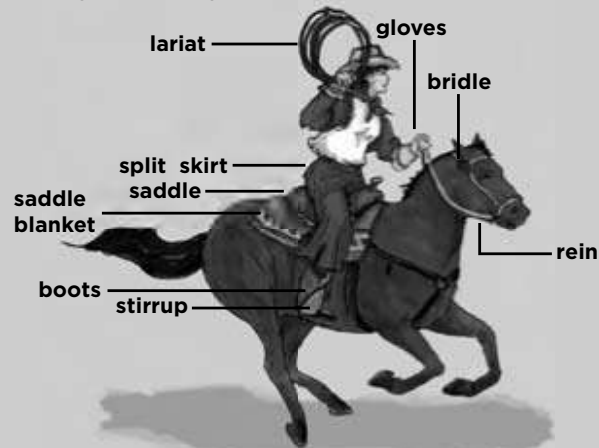
- **Prairie Rose Henderson** was known for her bronco riding and for her fancy costumes.
- **Lucille Mulhall**, called "America's first cowgirl," was famous as a roper.
- **Eloise "Fox" Hastings** was best known for her **bulldogging**. She could wrestle a steer to the ground.

In 1929 the country entered the **Great Depression**. Huge numbers of people were out of work. Running a rodeo was very expensive, and money was scarce. Many owners had to shut their rodeos down.

Luckily, Alice met a rodeo producer from Spain. He was putting together a new show that would open in Spain and France. Alice decided to go.

A Cowgirl's Gear

From **bridles** to stirrups, cowgirls had a lot of gear. They wore split skirts or pants. Their boots had tall heels that kept their feet from slipping through the stirrups.



When Alice was a teenager, she got her first job. A rancher came to the Greenoughs' house looking for help. "Take Alice," said her father. "She'll work just like a man." Alice was the only girl on the crew. She worked hard to fit in and keep the job.

She also started riding in local **rodeos**. These weren't formal shows but chances for local people to show off their riding and roping skills. Alice and her sister Marge both took part.

Alice mostly rode in races. A few times, she rode bucking **broncos**. When some cowboys brought over a wild horse, she simply climbed on. The horse tried to buck her off, but she stayed on.

Like Alice, Fox Hastings, a famous rodeo cowgirl, rode bucking broncos.



Chapter 2

Wild West Shows

One day Alice and her sister Marge saw an ad. The Jack King Wild West Show wanted bronco and trick riders. Wild West shows were a popular form of entertainment.



William F. Cody, called "Buffalo Bill," made Wild West shows popular.



Roman races were thrilling to watch.

In the early rodeos, men and women took part in the same contests. Performers were often hurt or even killed.

Alice herself had a bad accident. She broke her ankle at a Texas rodeo and almost lost her leg.

Rodeos started to change. Many closed or became smaller, and they dropped the most dangerous women's events.

Rodeo Events

- **Barrel racing:** Riders race around three or four barrels, circling each in turn.
- **Bronco riding:** A rider tries to stay on a bucking horse for 8 seconds.
- **Calf roping:** A rider chases a calf, ropes it, and ties it up.
- **Roman races:** Riders gallop around a racetrack standing on two horses at once.

Chapter 3

Ride 'Em, Cowgirl!

The West was changing. The vastness of open, unfenced land was disappearing. Cowboys and cowgirls were becoming a thing of the past. Rodeos and Wild West shows were a way of bringing back that glorious past.

Rodeos showed off the skills of cowboys and cowgirls. Audiences watched people ride, rope, and tie up cattle. The best riders, including Alice, won many prizes and became big stars. Strangers would approach Alice on the street. Some of them had odd ideas about cowgirls. "Where's your pistol?" they would ask. They thought every cowgirl carried a gun.



Many people think that rodeos began with the Mexican vaqueros (vah-KER-ohs). These were the first cowboys in North America.

Most Wild West shows had rodeos, trick riders, and **sharpshooters**. They also had singers, wild animals, and displays about Native American life. The most famous shows had hundreds of performers.



Wild West shows were popular for years in the beginning of the 1900s.

Alice and Marge answered the ad. Soon they received a telegram saying they were hired. The young women told their parents that they were leaving the ranch. Their parents were upset at first. However, Alice never swerved from her goal of seeing the world and working outside the ranch.

Alice and Marge had not seen much of the world. Now they were off to Ohio to join a **traveling show**. They sewed their own costumes on a hand-driven sewing machine. There weren't really motels back then, so they often slept in tents. But Alice loved her new job. She became a distinct presence in the shows.



Alice and her sister Marge perform in a Wild West show in 1935.

Another cowgirl, Tad Lucas, tips her hat before the World Championship Rodeo of 1936.



Alice and Marge only earned \$15 a week, but Alice said they lived a good life. The cowboys and cowgirls were like a big family.

Alice's favorite shows were in New York City's **Madison Square Garden**. At the start of the bucking bronco event, Alice would climb on a horse's back. It would start to buck, often seeming suspended in the air. She tried to hang on for eight seconds, when a buzzer would ring. The crowd loved Alice.

People in New York found such shows thrilling. "They appreciated everything we did," said Alice.



Home-School Connection

Word Workout

WORDS TO KNOW

combined diverse instill naturalist vacant

Cause? Effect? Let's use the words to describe cause-and-effect events.

SPELLING WORDS

disapprove	discomfort	dishonest
dismount	disobey	mistaken
mistrust	misunderstand	incorrect
preview	preheats	inexpensive
injustice	indefinite	disable
discolor	disconnect	misjudge
prejudice	prewash	

Prefix Match Let's list the prefixes in the spelling words, **dis**, **mis**, **in**, and **pre**. I'll choose a spelling word and say its base part. For example, I'll say *obey* instead of **disobey**. You choose the prefix that goes with the word part and spell the word.

Dear Family Member:

The article "A Historic Journey" is about the journey of Lewis and Clark in 1803. They were the first people to cross the Mississippi River and explore the land west to the Pacific Ocean. Lewis and Clark drew maps of their journey so that the people who later traveled across the Mississippi knew how to get where they were going.

Following the causes and effects in an article helps me to keep track about what happens and why it happens.



This Week's Skills

Comprehension:
cause and effect

Vocabulary: thesaurus—antonyms

Spelling/Phonics: prefixes

Name _____

(fold here)
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What Happened?

Let's read each paragraph. How many effects do you think might happen as a result of the events given? Let's try to name at least three for each paragraph.

Rue went to the beach on a hot summer day. She brought a towel and a bathing suit, but forgot her sunblock. She swam and swam until she couldn't swim any more. In late afternoon, she bought two hot dogs, one bag of popcorn, and an ice cream cone. At home, her mother cried out, "Dinner's ready!"



Mark played a computer game and then had dinner. He didn't like the fact that he had not finished the game. Back in his room, a homework assignment went undone. Mark played other games until way past his bedtime.

Why Did It Happen?

Now we can think about why things happen. We can use the clues in the sentences to help us find the cause. Once we decide on a cause, let's see if we can add to the effects shown here.



We rowed down the street to look for people who needed help.

I bought corn, hot dogs, and cherry pie. We've got enough for our family and relatives.





Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

combined diverse instill naturalist vacant

¿Causa? ¿Efecto? Usemos las palabras para describir sucesos de causa y efecto.

PALABRAS DE ORTOGRAFÍA

disapprove	discomfort	dishonest
dismount	disobey	mistaken
mistrust	misunderstand	incorrect
preview	preheats	inexpensive
injustice	indefinite	disable
discolor	disconnect	misjudge
prejudice	prewash	

Emparejar el prefijo Hagamos una lista de los prefijos **dis**, **mis**, **in** y **pre** que están en las palabras. Voy a escoger una palabra de ortografía y a decir su base. Por ejemplo, voy a decir *obey* en vez de **disobey**. Tú escoges el prefijo que va con la parte de esa palabra y deletreas la palabra completa.

Queridos familiares:

El artículo *A Historic Journey* trata acerca del viaje de Lewis y Clark en 1803. Ellos fueron los primeros en cruzar el río Mississippi y explorar los territorios al oeste del río hasta el océano Pacífico. Lewis y Clark trazaron mapas de su viaje para que la gente que viajara más allá del Mississippi supiera cómo llegar a su destino.

Seguir las causas y los efectos de un artículo me ayuda a mantener registro de lo que ocurre y por qué ocurre.



Destrezas de la semana

Comprensión: causa y efecto

Vocabulario: tesoro—antónimos

Ortografía/Fonética: prefijos

Nombre _____

¿Qué ocurrió?

Vamos a leer cada párrafo. ¿Cuántos efectos crees que podrían ocurrir como resultado de las causas que se dan? Intentemos dar por lo menos tres efectos por cada párrafo.

Rue went to the beach on a hot summer day. She brought a towel and a bathing suit, but forgot her sunblock. She swam and swam until she couldn't swim any more. In late afternoon, she bought two hot dogs, one bag of popcorn, and an ice cream cone. At home, her mother cried out, "Dinner's ready!"



Mark played a computer game and then had dinner. He hated the fact that he had not finished the game. Back in his room, a homework assignment went undone. Mark played other games until way past his bedtime.

¿Por qué ocurrió?

Ahora podemos pensar por qué ocurren las cosas. Podemos usar las pistas en las oraciones para ayudarnos a encontrar la causa. Una vez que determinamos una causa, vamos a ver si la podemos agregar a los efectos que se muestran aquí.



We rowed down the street to look for people who needed help.

I bought corn, hot dogs, and cherry pie. We've got enough for our family and relatives.



Comprehension Check

Summarize

Copy the Cause and Effect Chart. Summarize the main points of the selection by writing a cause-and-effect pairing for each animal observer.

Cause → Effect
→
→
→
→

Think and Compare

1. What events made Dian Fossey decide to combine her work as a scientist with the fight against poachers? (*Identify Cause and Effect*)
2. Aristotle also taught students. Do you think he tried to instill in them the importance of observing nature? Would you have preferred him or Plato as a teacher? Explain your answer. (*Evaluate*)
3. Naturalists tell us many things about nature that also help us learn about ourselves. Why do you think that their work is important? (*Apply/Evaluate*)



ANIMAL OBSERVERS

by Adam McClellan

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Introduction

Nature is amazingly complex. Every day many different things happen in nature. Look around and **observe**. What do you see happening?

Living things grow and die as the seasons change. Even the quietest place is not vacant. Insects fill the air. Animals search for food and build their homes. Fish and frogs splash in the water. Nature is diverse, too. There are millions of kinds of plants and animals to study.

But learning from nature takes time and patience. And that's especially true of animals.



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Glossary

aggressive (*uh-GRES-iv*) threatening and ready to fight (**page 18**)

binoculars (*buh-NOK-yuh-lurz*) two small telescopes joined together to make distant objects look larger and close (**page 13**)

classify (*KLAS-uh-figh*) to arrange in groups (**page 7**)

habitat (*HAB-i-tat*) the place where an animal naturally lives (**page 10**)

mammal (*MAM-uhl*) a kind of animal that is warm-blooded and has a backbone. Female mammals produce milk to feed their young. (**page 5**)

observe (*uhb-ZURV*) to watch and study carefully (**page 2**)

poacher (*POACH-ur*) someone who hunts illegally (**page 19**)

protective (*pruh-TEK-tiv*) wanting to keep safe from danger (**page 16**)

submissive (*suhb-MIS-iv*) giving in to the authority of someone else (**page 18**)

taxonomy (*tak-SON-uh-mee*) the science of classifying animals (**page 7**)

trait (*TRAYT*) a quality or behavior (**page 6**)

You can't just press a button on a hawk and have it tell you how fast it can fly. And chimps don't wear signs telling you how they take care of their young. To learn these things, you have to observe the animals.

The people you'll read about each observed animals in a different way. And each gave the world something special through their observations. Some helped us make sense of the natural world. Others helped us see the importance of protecting it. As you read, think about what else we can learn by observing animals.

🔍 People learn about animals like this gray whale by observing them.



CHAPTER I



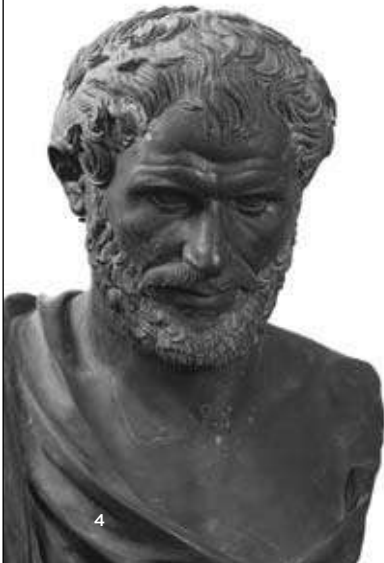
Aristotle

Aristotle was born in Greece in 384 B.C. He was one of the first known animal observers.

At age 17, Aristotle was sent to Athens to study. The best school there was run by a man named Plato. The school taught that the best way to understand the world was to sit and think. Plato did not see much worth in studying the world he lived in.

But Aristotle did not agree. He was very interested in nature. He definitely thought we could learn a lot by studying it. So, he paid close attention to nature.

© Aristotle was interested in everything, including nature.



Conclusion

There's a lot we can learn from observing animals. Like Aristotle, we can find out how they are alike and different. Like John James Audubon, we can appreciate them for their beauty and complexity. Like Jane Goodall and Dian Fossey, we can discover how they act. And we can learn how to protect them.

There's even more to be learned by observing animals. But you won't know what that is until you see for yourself. It's easier than you may think. Just find a quiet place. Then sit and watch.



Mountain Gorillas

Dian Fossey studied a kind of gorilla known as the mountain gorilla. By some estimates, when she began fighting against the poachers, there were fewer than 300 alive in the world. In the years since, the mountain gorillas' numbers have grown to over 700. Part of what protects the gorillas is tourism. Thousands of people travel to Africa every year to see them in their natural setting.



The poachers would hunt gorillas and take their hands or heads as trophies. Or, they would capture babies and sell them to zoos. Many gorillas died trying to protect their families. One of them was Digit.

Fossey decided she had had enough. She organized a campaign to fight back against the poachers. But in 1985, she was found dead at her cabin, most likely a victim of poachers herself.

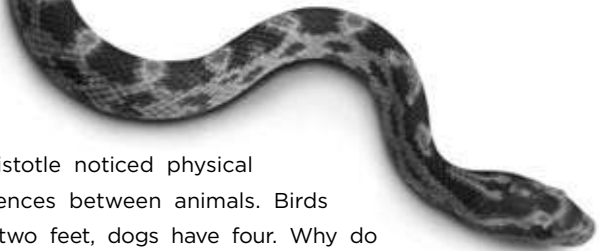
Mountain gorillas are still threatened. But thanks to Dian Fossey's dedication to observing and protecting them, millions of people around the world know about their plight.

In his notes, Aristotle wrote down some of the things he noticed about animals. He saw that dolphins are different from fish because dolphins nurse their babies. He also noticed differences in how birds sit on their eggs. The female crow sits on her eggs, while the male brings her food. Pigeons take turns sitting. The female sits on the eggs from afternoon to morning. Then the male warms them during the day.

Aristotle also described how animals behaved. He thought that dogs were "affectionate." He called the fox "wicked."



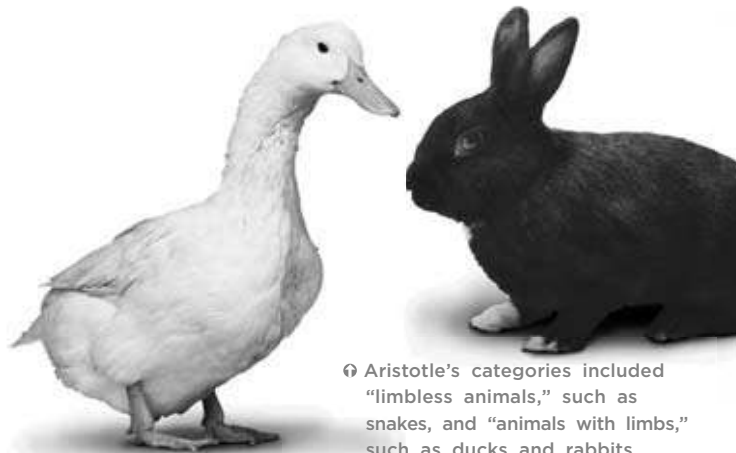
🔍 Aristotle noticed that dolphins and whales were different from fish but didn't understand that they were **mammals**.



Aristotle noticed physical differences between animals. Birds have two feet, dogs have four. Why do birds and humans bend their legs differently? And why are animals born in different ways?

Aristotle thought that these differences could tell us a lot about how the world worked. So he worked out a system to describe them.

His method divided animals into groups based on their **traits**. The first split was between animals that have blood and those that (Aristotle thought) didn't. Insects and shellfish were examples of bloodless animals.

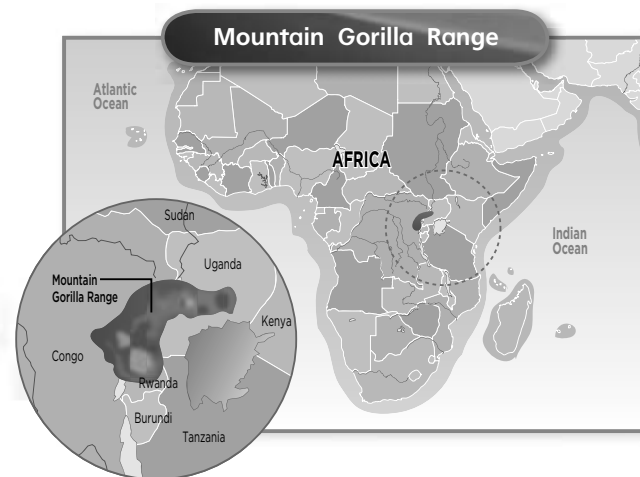


➦ Aristotle's categories included "limbless animals," such as snakes, and "animals with limbs," such as ducks and rabbits.

Through her observations, Fossey learned that gorillas lived in small groups. One adult male was the leader. Often, the group would include another grown male. The rest of the group was made up of female gorillas and their children.

The gorillas were very protective of their children and fought hard against anything they saw as a threat. This made them especially vulnerable to **poachers**.

The gorillas that Fossey studied lived in a national park. According to the law, they were not supposed to be hunted. But the poachers didn't care about the law.



They weren't all wrong about that. The gorillas feared Fossey at first. That meant that they would sometimes be **aggressive** with her.

Once when Fossey tried to get close to a group of gorillas, five of them charged at her. For about half an hour, the gorillas stood just feet away and screamed at her. She acted as **submissive** as she could. That way, they wouldn't think of her as a threat. At last, they left.

But Fossey observed that the gorillas could be gentle. As they got to know her, they began to accept her. One gorilla, whom Fossey named Digit, would even touch her hair. Or, in play, he would pick up leaves and whack her lightly with them.

Gorillas will beat on their chests. This makes a loud sound to scare off any threats.



A New System

The science of classifying animals is known as **taxonomy**. The taxonomic system that scientists use today is based on the work of Carl Linnaeus, who lived in the 1700s. Linnaeus had his students travel throughout the world finding and naming different plants and animals. He published his classifications in a book called *Systema Naturae*, which is Latin for "System of Nature."

He split the blooded animals into smaller groups. Two things helped guide him. One was how many legs each animal had. The other was if the animal hatched from an egg. Aristotle wound up with five groups.

- Four-legged hatchers, known today as reptiles and amphibians
- Four-legged non-hatchers, known today as mammals
- Birds, or two-legged hatchers
- Fishes
- Whales

For more than 2,000 years, people used Aristotle's system to **classify** animals. His observations helped them make order of the world around us.



CHAPTER 2



John James Audubon

In 1826, a strange figure caused a stir in London, England. Tall and thin, he wore a fringed leather jacket. His long hair was slicked down with bear grease. And he carried hundreds of life-sized paintings of North American birds.



🔗 Audubon was nicknamed the “American Woodsman.”

The man’s name was John James Audubon. He was a naturalist. For the past six years, he had been on a quest to paint every type of bird in North America. So far, he had made over 400 bird paintings.

The paintings amazed those who saw them. At that time, nature art was not very realistic. Animals looked flat on the pages, and photography had not yet been invented.

CHAPTER 4



Dian Fossey

Like Jane Goodall, Dian Fossey set out to study apes in Africa. But her life followed a very different path.

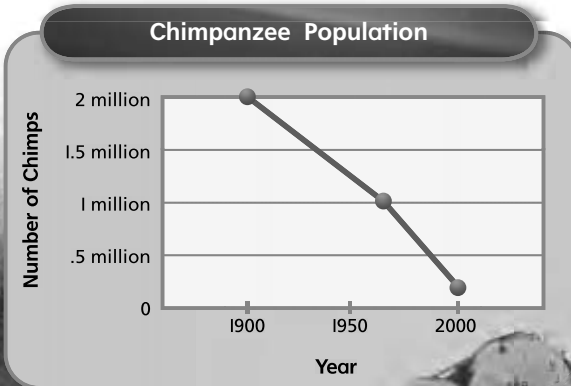
Fossey began studying gorillas in the mountains of the Congo and Rwanda in 1966. People knew even less about gorillas than they did about chimps. Many thought gorillas were fierce and dangerous.



🔗 Over time, Fossey was able to build close relationships with gorillas.

Observing the chimps made Goodall feel **protective** of them. And she had good reason. Chimps are threatened in a number of different ways. Human beings hunt and kill chimps for food. And many of their habitats are being destroyed.

Today Jane Goodall spends much of her time making people aware of the dangers chimps face. She also tries to instill in people the importance of treating our world with care and respect.



One of the biggest threats to chimpanzees today is the destruction of their African forest habitat.



Audubon painted this portrait of a bald eagle and its prey.

But Audubon knew how to make his art come to life. He had a knack for painting animals as they looked in the real world. He published his paintings in four books. They were a sensation.

Audubon put the money he earned to good use. He returned to North America. There, he went back out into nature, in search of more birds.





© Audubon was known for his dramatic paintings. Here, a flock of mockingbirds tries to drive a rattlesnake away from a nest.

Audubon was a skilled painter. There are two other factors that combined to make his work so realistic.

First, he observed birds in their **habitats**. He spent more than 20 years wandering through North America. His travels took him up and down the East Coast, along the Ohio and Mississippi rivers, and as far west as the Rocky Mountains. This let him see birds in the places they actually lived. He was able to see what they ate and what their nests looked like.

People thought of the chimps as peaceful. But Goodall learned that this was not always the case. They were meat eaters. The chimps would hunt and eat other animals.

The chimps also fought each other. Goodall observed something that looked very much like a war. In 1974, the group that Goodall had observed split into two. For the next four years, the two groups fought and killed each other. The fighting only stopped when one group had almost destroyed the other.

Working in the Wild

When Jane Goodall began observing chimps, she lived alone in the forest. She was far from any city or town. Here are some of the things Jane brought with her.

- Tent
- Lantern and fuel (no electricity)
- Journals, pens, and pencils
- Small tape recorder
- Binoculars
- First aid kit
- Lots of green and brown clothing (to blend into the forest)





Goodall was fascinated by the personalities of the different chimps. She named the chimps she watched.

As Goodall observed the chimpanzees over the years, she saw some things that surprised her.

For one thing, they used tools. At the time, people thought that human beings were the only toolmakers. But Goodall watched chimps use long stems of grass to dig in termite mounds. Termites would cling to the grass. The chimps would then pull out the grass stem and eat the termites.

Goodall also saw that the chimps had emotions. She watched them show affection to each other through hugs and pats on the back. The chimps would also mourn when one of the group died.

Audubon also used stuffed birds as models. This way, he could look at the birds up close. It let him study the small details of birds. Audubon used wires to put the birds in lifelike positions. This kept his artwork from looking stiff.

Audubon sometimes created scenes that couldn't really happen. For example, one painting shows a group of 10 woodpeckers together. In real life, woodpeckers are not this social.

But the details of the birds in his art are accurate. And it's these details, gained through careful observation, that make his paintings look alive even today.

Audubon paved the way for scientists who would live with animals to observe and study their behavior.

Protecting Birds

John James Audubon's work inspired the creation of the Audubon Society. The group was created to protect birds. When the National Audubon Society was formed in 1905, millions of egrets and herons were being killed for their feathers, which were used for women's hats. The group worked to make it illegal. Today the Audubon Society continues to fight to protect birds and their habitats.

CHAPTER 3



Jane Goodall

Jane Goodall learned the power of observation at a young age. When she was four years old, she wanted to know how an egg comes out of a hen. No grown-up answered her questions. So, she sneaked into a hen house. There she waited and watched for hours. Finally one of the hens laid an egg, and Jane saw the answer for herself.

This curiosity and patience paid off when Goodall grew up. On a trip to Africa, she met a scientist who was interested in learning more about apes. He offered Goodall a job observing chimpanzees.

Animals caught Jane Goodall's eye from the time she was young.



The hills around Goodall's camp gave her a good view of the chimps' habitat.

In 1960, she moved to Gombe National Park. The park sat near a large lake in the East African country of Tanzania. There she began the demanding work of getting to know the chimps.

As it turned out, the chimps needed to get to know her, too! At first they would run away when they saw her. Goodall had to spend much of her time watching them through **binoculars**. Then, as the chimps got used to her, she moved closer.



Home-School Connection

Word Workout

WORDS TO KNOW

advertisement	elected	impress
commenced	posed	wring
sauntered	original	

Larger Than Life I'll give you a word, and you can use it in a sentence. Make sure the sentences use the words correctly and tell about a "larger than life" character!

SPELLING WORDS

bottomless	sadness	ceaseless	darkness
effortless	emptiness	fearless	fierceness
fondness	foolishness	forgiveness	fullness
hopeless	gladness	meaningless	harmless
motionless	needless	stillness	weakness

Speed Spell I'll give you the spelling words to spell. Let's see how many of the words you can spell correctly in two minutes. It won't be easy, because these words are fairly long! Want to try again and see how many words you can spell the second time around?

Dear Family Member:

People have talked about Davy Crockett for years and years. All sorts of tall tales have been told about him. We're reading *Davy Crockett Saves the World*. In the very first paragraph, we're told that Davy Crockett once saved the world. He is a larger than life character, full of energy and humor. I'm sure there will be other impossible tasks that he takes on before the story ends.



This Week's Skills

Comprehension: plot and setting

Vocabulary: word parts—compound words

Spelling/Phonics: suffixes *less* and *ness*

Name _____

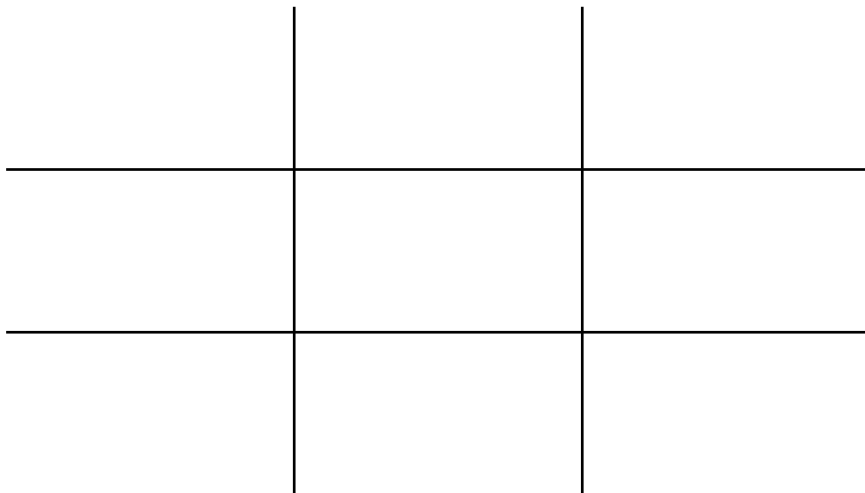
Tic-Tac-Tall Tale

A tall tale is a story about a person who does things that are impossible, or that are humorous to readers. For example, Davy Crockett combed his hair with a rake. We can play a Tic-Tac-Tall Tale game.

- Flip a coin. If it lands on *Heads*, choose a square and write in something impossible that only *Superboy* can do. Use blue ink.
- If the coin lands on *Tails*, write something that *Superboy* might do in *two* different squares.
- We'll take turns. I'll use a red pen.
- The first of us to have three in a row wins the game.

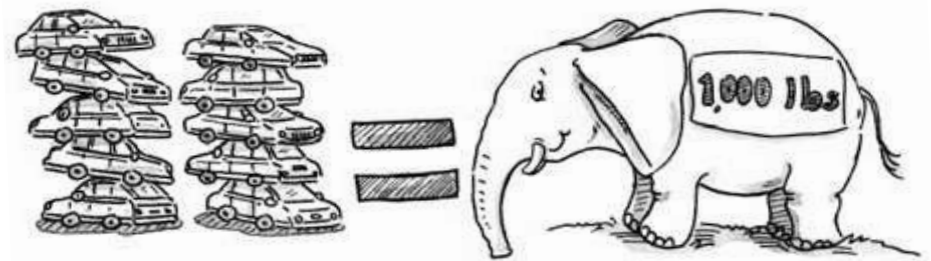
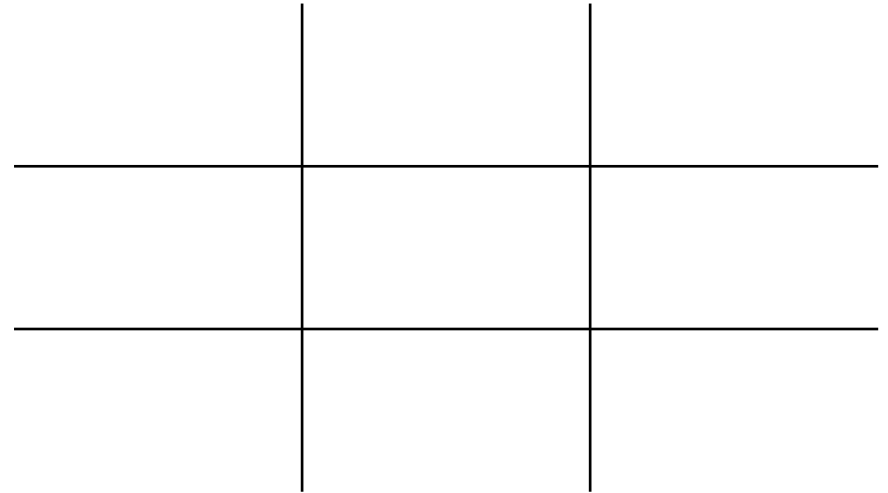


SUPERBOY



Together we can make up another Tic-Tac-Tall Tale game.

Our character: _____





Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

advertisement	elected	impress
commenced	posed	wring
sauntered	original	

Personajes extraordinarios Te voy a dar una palabra y la usarás en una oración. Asegúrate de que las oraciones usen las palabras correctamente y hablen de un personaje extraordinario, como un superhéroe.

PALABRAS DE ORTOGRAFÍA

bottomless	sadness	ceaseless	darkness
effortless	emptiness	fearless	fierceness
fondness	foolishness	forgiveness	fullness
hopeless	gladness	meaningless	harmless
motionless	needless	stillness	weakness

Ortografía veloz Vamos a ver cuántas palabras de ortografía deletreas bien en dos minutos. ¡No va a ser fácil porque son bastante largas! ¿Quieres intentarlo de nuevo y ver cuántas deletreas bien la segunda vez?

Queridos familiares:

La gente ha hablado acerca de Davy Crockett por muchos años. Se han contado todo tipo de relatos heroicos acerca de él. Estamos leyendo en clase *Davy Crockett Saves the World*. ¡El primer párrafo del libro nos cuenta que Davy Crockett una vez salvó al mundo! Él es un personaje extraordinario, lleno de energía y humor. Seguramente van a haber otras misiones imposibles que él va a llevar a cabo antes de que termine el libro.



Destrezas de la semana

Comprensión: argumento y ambiente

Vocabulario: partes de una palabra—palabras compuestas

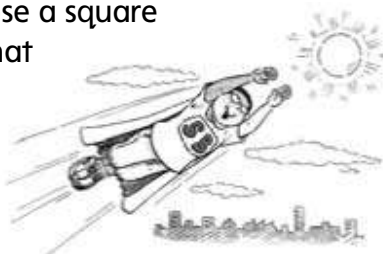
Ortografía/Fonética: los sufijos *less* y *ness*

Nombre _____

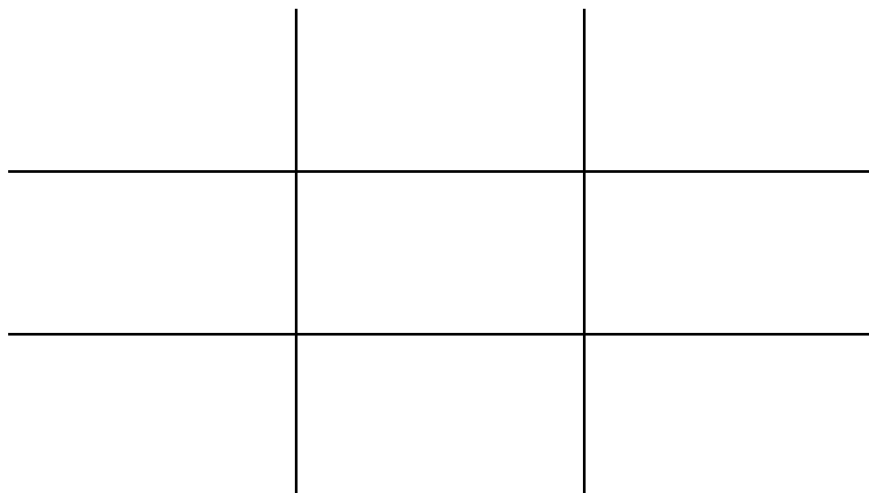
Juego de superhéroes

Una historia de superhéroes es un relato acerca de una persona que hace cosas que son imposibles o divertidas para los lectores. Por ejemplo, Davy Crockett cepilló sus cabellos con un rastrillo. Vamos a jugar un juego de tres en raya de superhéroes.

- Flip a coin. If it lands on *Heads*, choose a square and write in something impossible that only *Superboy* can do. Use blue ink.
- If the coin lands on *Tails*, write something that *Superboy* might do in *two* different squares.
- We'll take turns. I'll use a red pen.
- The first of us to have three in a row wins the game.

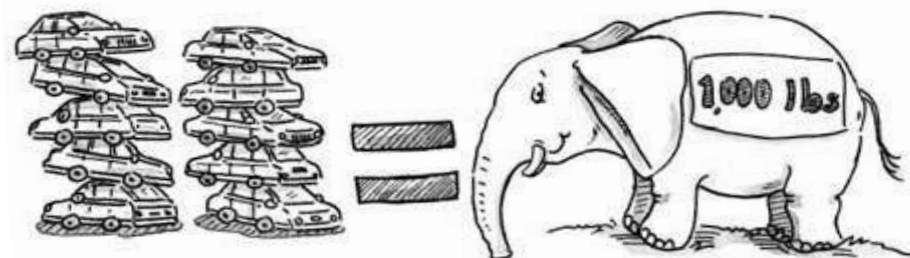
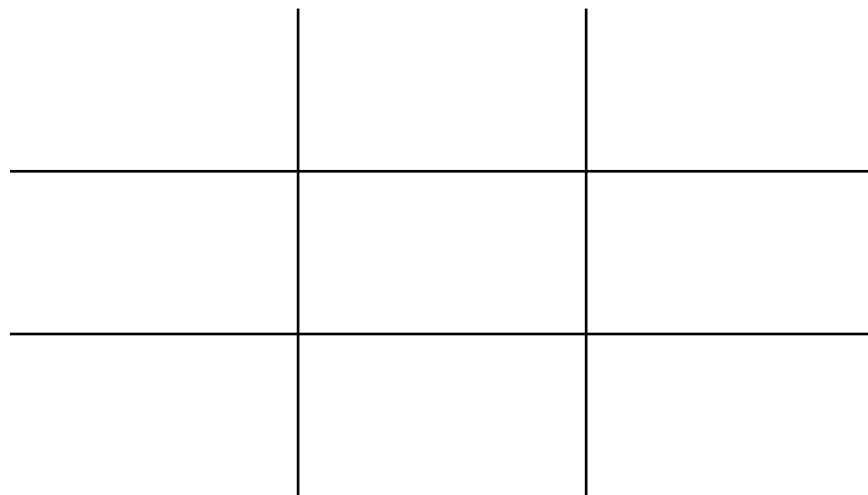


SUPERBOY



Together we can make up another Tic-Tac-Tall Tale game.

Our character: _____



Comprehension Check

Summarize

Use a Plot and Setting Chart to list the different places that Johnny visited. Then use the chart to help you summarize the story.

Plot	Setting

Think and Compare

1. What were some of the character traits that made Johnny successful? Name two examples.
(*Analyze Plot and Setting*)
2. Think of people you know who have a passion for just one thing. Do you enjoy being with such people or not? Why? (*Analyze*)
3. The original John Chapman is remembered because he spent his life helping other people and his country. Who else do you think should be remembered for this reason? Mention how that person helped others.
(*Synthesize*)

Johnny Appleseed

An American Legend

by Liz West
illustrated by Brad Teare

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Introduction

John Chapman was an actual person. He lived in the 1700s. He was born in Leominster, Massachusetts. At that time there were many fewer people living in the United States. Forests covered the land.

Most people in the 1700s worked as farmers. Often settlers moved west because the land was cheap there. John Chapman helped them. He helped them plant apple trees.

Few facts are known about John Chapman. However, many people invented stories about him. Over the years the stories became so exaggerated that John became an American legend, called Johnny Appleseed. Here is his tale.



The real John Chapman came from the Northeast, a region of farms and orchards. He was born September 26, 1774. John really did come from a large family. He planted orchards along streams and roads and in the forest.

John Chapman spent 37 years in Ohio, and then moved to Indiana. He died there when he was 70 years old. His grave, which is near Fort Wayne, Indiana, has a simple stone. It reads, "Johnny Appleseed: He lived for others. 1774-1845." Today Johnny's legend lives on.



The Legend and the Man

Some characters from tall tales never really lived. These characters were invented because they showed qualities that people admired. However, many other tall tales are based on real people. They too had qualities that others admired. Usually their skills reflected a certain region of the country.

Stories about them were told and retold. At each retelling, the characters' good qualities would get just a little better. After a while those characters had superhuman abilities.



© The legend of Johnny Appleseed is celebrated every summer at the Johnny Appleseed Outdoor Historical Drama in Ashland, Ohio.



Johnny Appleseed as a Boy

On the day that Johnny was born, the sun shone bright red like an apple. It was like the world was announcing that apples would be part of Johnny's life. But Johnny did not seem special. He was the last of twelve children.

Johnny's family lived in a tiny house and this presented the family with a few problems. See, the house was so crowded that if they all breathed at the same time, the walls might burst. What could they do? Well, they learned to all breathe one right after the other so that it was like a long, continuous breath.

Back then it wasn't easy to feed a large family. Luckily Johnny possessed a green thumb. From the time that he was two years old, it seemed as if Johnny could just look at a seed and a plant commenced to grow. So Johnny and his green thumb fed his large family.

There was plenty of food, but dinnertime was extremely noisy in Johnny's house. Why, it was as if a volcano was exploding at dinnertime! As soon as the food hit the table, the children shouted and complained.

"Tommy's apple pie is bigger than mine!"

"Why are we having apple juice again?"

All that noise gave Johnny a headache, so he would take his dinner outside and escape to his favorite spot, the apple orchard. There, Johnny felt at home.

Young Johnny grew all kinds of plants in the apple orchard. He grew so many plants that he often had to give them away. After all, who needed three hundred zucchinis?

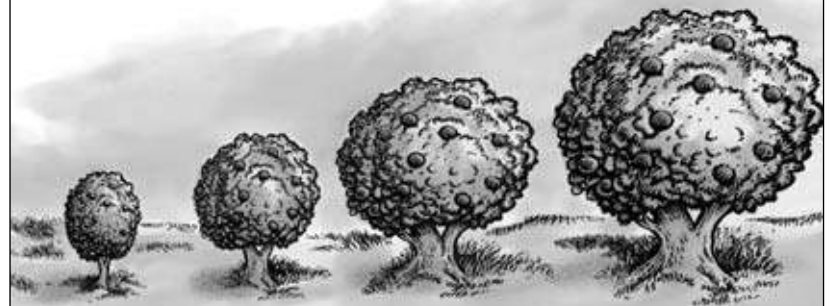
But the settlers had a problem. Their land was rocky and the soil was dry. They could not grow crops like Johnny. What could they do? Johnny taught them that plants needed only three main ingredients: sunshine, good soil, and water. He showed them how to water their plants and to make their soil richer.

Johnny settled in Indiana. He was getting older. His hair under his cooking pot was white. And now, it took him days to walk across the state instead of hours. Then one night Johnny was sleeping



outside and it began to rain. Johnny caught a bad cold. He sneezed so hard the blossoms fell off his apple trees. But friends took care of Johnny and he got better.

Johnny was never elected president or anything. But he sure did a lot for this country. He planted orchards in every state he lived in, and his trees and apple seeds crossed the Great Plains in covered wagons. Today, apples grow in all 50 states. One kind is called the Jonathan.





A Better Place

Johnny slowed down a bit as he got older, but he never stopped planting his beloved apple trees. By now everyone called him Johnny Appleseed. After spending years in Ohio, Johnny decided to move farther west.

So he said farewell to Ohio and headed for Indiana. It was wintertime, so the walk was long and hard. One night Johnny got so cold that he crawled into a hollow log. A bear was already in there with her cub. She sniffed at this newcomer and decided that he was just a harmless wild creature. So she invited him in. She probably saved his life, since it got very cold that night. It got so cold that the clouds froze. The ice grew so thick that it didn't melt until August. But Johnny stayed warm. Later, the bear moved away. Johnny gave her and the cub a big going-away party, complete with apple pies and apple juice. He knew he'd miss them.



The Young Apple Man

As he grew older, Johnny loved apples more and more. It seemed that all Johnny talked about was apples. And if he wasn't talking about them, he was dreaming about them. Now some people might say that Johnny was obsessed by apples, but we think he just plain loved them. But apples were not the only thing Johnny loved. He also loved to travel, but as he was dirt poor, how could Johnny travel?

Well, he just began walking. At first he sauntered around town, but then he took long, long walks. Soon Johnny walked hundreds of miles without even getting tired. And everywhere he walked, Johnny took his apples with him.

On the road, Johnny saw many poor farmers and their families moving west for a better life. Johnny, being a generous and kind soul, wanted to give them something. But what? As he munched on a delicious apple and sipped cold apple cider, it hit him. Why, he'd give them appleseeds, then they'd have food to eat all year long!

So Johnny raced to one of the big cider presses. (See, a cider press can wring every drop of juice from an apple. Then it spits out the peel, pulp, and seeds.) There Johnny found hundreds of appleseeds.

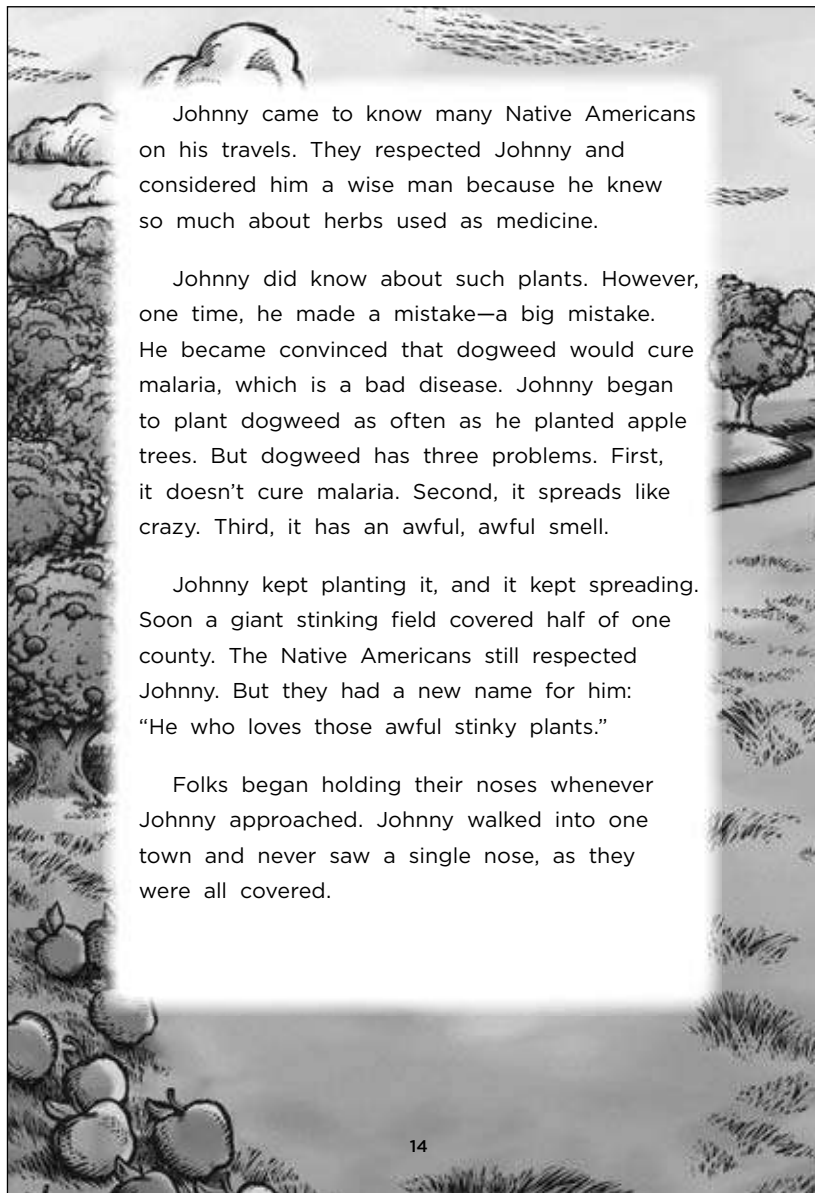
As quick as lightning, Johnny crammed hundreds of seeds into an old flour sack, but it burst. That didn't stop Johnny. He quickly sewed 60 giant leather sacks and filled them with seeds. Johnny tossed them on his back like they were lighter than air and headed west.

Johnny walked to the Ohio Valley in only two hours. But soon the raging Ohio River stopped Johnny in his tracks. Now, he couldn't walk across it because his precious seeds might get wet.



Johnny wanted people to like him, not avoid him. So he focused on his apples. Luckily a storm destroyed the dogweed crop. (Good thing, too, or else you'd be reading a book about Smelly Johnny Dogweed.)

People liked Johnny for his stories and trees. Kids loved him because he played games with them. He invented Tic-Tac-Apple. He'd make apple-headed dolls and applewood whistles. He'd carve apples into fancy shapes, like snowflakes, or even a herd of elephants. (That was a very big apple.) Although he still lived outside most of the time he slept on people's floor now and then.



Johnny came to know many Native Americans on his travels. They respected Johnny and considered him a wise man because he knew so much about herbs used as medicine.

Johnny did know about such plants. However, one time, he made a mistake—a big mistake. He became convinced that dogweed would cure malaria, which is a bad disease. Johnny began to plant dogweed as often as he planted apple trees. But dogweed has three problems. First, it doesn't cure malaria. Second, it spreads like crazy. Third, it has an awful, awful smell.

Johnny kept planting it, and it kept spreading. Soon a giant stinking field covered half of one county. The Native Americans still respected Johnny. But they had a new name for him: "He who loves those awful stinky plants."

Folks began holding their noses whenever Johnny approached. Johnny walked into one town and never saw a single nose, as they were all covered.

Johnny had a brainstorm when he saw a canoe go by. He raced to town and traded some seeds for 10 canoes. Then, using some rope and some nearby branches, he lashed the canoes together. Before you could say "applesauce," Johnny had his seeds dry and safe on the other side of the river.

Johnny began to stop along the river to plant trees. Now, Johnny was not a big man, but he sure was wiry. And he was stronger than a dozen men were, and faster too! In the time it takes to sneeze, he could clear a forest, plow the land, plant six rows of trees, and haul in a pond to water them. People exclaimed and thought Johnny was a fireball of energy.

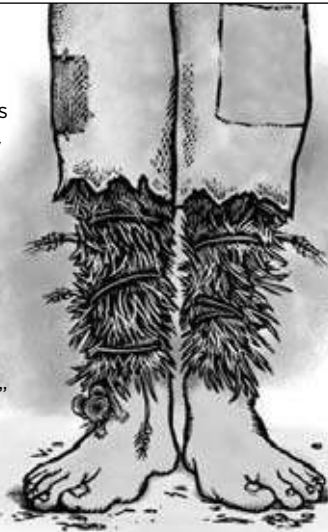
Some people gave him the nickname "Apple Man." In fact most people thought his real name was Applesed.



Johnny also grew his own trees. Now Johnny did not like to own things, so what to do with his trees? Well, one day Johnny put up an advertisement that said "Settlers, Get Your Apple Trees Here!"

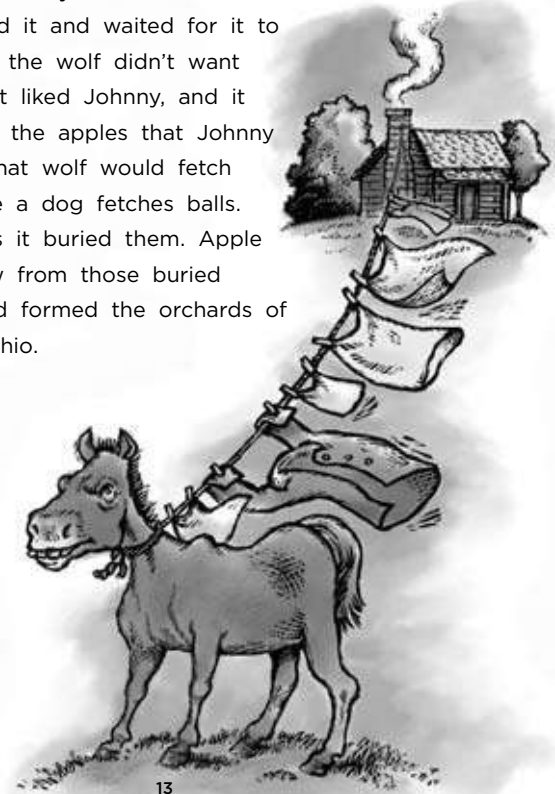
He'd give his trees to settlers. Then he'd wipe away a tear and wave a fond farewell to his little apple saplings. Wherever Johnny went people seemed to flock around him like bees do to honey.

But some people did shy away from Johnny, as he did look a bit peculiar. He wore old clothes that other people threw out. To top it off, Johnny wrapped grass around his legs for warmth. Well, that made him look like a walking scarecrow. If that wasn't bad enough, Johnny even let a family of poor mice live in his grass leggings!



Johnny loved wild animals too, but he wouldn't give them to anyone else. Johnny thought that they ought to live in the wild. After all, that's why they were called wild animals.

Johnny spent some time outside a forest. One day Johnny found a wolf with a hurt foot. Johnny fed it and waited for it to leave. But the wolf didn't want to leave. It liked Johnny, and it even liked the apples that Johnny gave it. That wolf would fetch apples like a dog fetches balls. Sometimes it buried them. Apple trees grew from those buried apples and formed the orchards of western Ohio.



Johnny loved animals as much as plants. However, he noticed that some folks didn't. In fact, some people didn't seem to love animals at all.

Sometimes Johnny would see a dog that was way too thin. At other times, he might see a horse pulling a load that was too heavy.

Of course, Johnny, didn't raise a fuss or fight. That wasn't his way. Instead he'd buy the animal right on the spot. Johnny would pay whatever the original owner asked. Then Johnny would find a new owner who would care for the animal and give it a good home.

Other times, Johnny would trade apple trees for animals. One time poor Johnny made a bad trade. He traded a tree for an ancient mule. That mule was so stubborn and ornery that it refused to pull or push. It just stood still, like it was posed for a picture. The mule plum tuckered Johnny out so that he had to give it to a farmer. It wouldn't work for the farmer, either, but the farmer used it to hold a clothesline.

In winter Johnny wore an old coffee sack as a coat. It had holes cut out for his head and arms. He wore his cooking pot as a hat. It kept his head warm, but it sure sounded loud in hailstorms. People proclaimed that during a hailstorm you could hear Johnny coming miles away.

But no matter how strange he looked, people loved him because Johnny was kind and generous. One snowy day a man gave Johnny a pair of nice new boots. Soon other people did, too. They didn't want Johnny's feet to freeze. But the next time they saw him, Johnny was barefoot again. Turns out he gave all the boots away to a poor family.

All kinds of creatures loved Johnny. Well, there was one creature that didn't like him too much. That creature was a long, slithery snake. Sometimes snakes lived in the fields that Johnny walked through. Johnny pondered this problem. Then he hit on a solution. He simply put his cooking pot on his head and pounded it with a stick. The noise scared away the snakes.

CHAPTER

3

Moving West

Johnny kept moving farther west in the Ohio Valley, carrying his appleseeds. He carried so many sacks of seeds that he looked like a moving mountain. Although he'd give away anything he owned, he guarded those seeds like gold.

Johnny was welcome wherever he went. He brought news and stories from other places. Life on the frontier could be lonely and Johnny was a great storyteller. He'd tell folks about floods, and fires, and festivals. He'd bring news of neighbors and nieces and Native Americans. And, of course, he'd talk about apple trees.

Johnny would describe the beauty of apple trees. His descriptions were so vivid that people smelled blossoms in their living rooms. They'd have to open their window to let out the bees. He impressed listeners so much that they would start chewing imaginary apples.

After Johnny finished telling a story about apple trees, folks would plead with him to help them grow some. And Johnny would just smile. You know, a big smile as bright as the sun on a summer day. Then he'd nod and say, "I could help you grow some." So, Johnny stayed in the Ohio Valley and helped the farmers grow apples.

Now, people wanted to buy the seeds and trees from Johnny, but he knew that they did not have much money. So he traded seeds for clothes, meals, and a hay bed. And when he left a farm, you could already see the beginning of a huge apple orchard springing to life.





Home-School Connection

Word Workout

WORDS TO KNOW

attorney colonel postpone qualify
representative satisfactory submit notion

Pairing Up Let's talk about the meaning of each word. Then we can pair two words and use them in one sentence. If we paired words such as *judge* and *apple pie*, we could make a sentence such as, "The **judge** ate a big piece of **apple pie**."

SPELLING WORDS

concentrate	concentration	confuse
confusion	correct	correction
decorate	decoration	elect
election	estimate	estimation
exhaust	exhaustion	impress
impression	locate	location
discuss	discussion	

Spell for Points For each word you spell correctly, you get two points. For each word you misspell, you deduct one point. How many points can you earn?

Dear Family Member:

When Esther Morris Headed West tells about a woman who moved out West in the 1860s. Mrs. Morris lived in Wyoming and fought for women's right to vote. There are many facts in this story because Mrs. Morris was a real person. The author has opinions, however. Statements such as "Mrs. Morris had no hankering for power or highfalutin titles" are the author's opinions.



This Week's Skills

Comprehension: fact and opinion

Vocabulary: dictionary—word origins

Spelling/Phonics: adding ion

Name _____

(fold here)
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Can I Quote You?

Let's read "Breakfast Club." We can decide what are facts and what are opinions in the passage.

Breakfast Club

"I hate oatmeal," Derek yelled. Derek was only three years old, so he yelled a lot.

"It doesn't matter to me," his brother Jake said. "But oatmeal is healthy; it's good for you. If you don't want to eat it, just be quiet, okay?"

Caroline, who was the boys' sister, and knew everything, interrupted: "I guess it doesn't matter, Derek. But if you don't eat your oatmeal, you won't grow. You'll stay three feet tall for the rest of your life."

Of course, that made Derek cry. The whole point of being three was to get bigger—as big as Jake.

Derek whispered to Jake, "Tell her I ate my oatmeal, okay?"



"I think you're mean," Jake glared at Caroline.

"No, I'm not," said Caroline. "I just happen to know that eating food helps kids grow."

"Wow, look at the time," said Jake. "It's already seven-thirty. We better run or the bus driver will have a fit." Jake yelled at Caroline as he ran for his books.

"I go to school, too," Derek wailed.

"Don't worry. Nursery school doesn't start until nine o'clock," Caroline said. "Mom's coming down the stairs right now."

Derek whispered, "Tell her I ate my oatmeal, okay?"



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Conexión con el hogar

Ejercicio de palabras

PALABRAS DE VOCABULARIO

attorney colonel postpone qualify
representative satisfactory submit notion

Emparejar Hablemos acerca del significado de cada palabra. Emparejemos dos palabras y usémoslas en una oración. Si emparejamos dos palabras como *judge* y *apple pie*, podríamos escribir esta oración: *The judge ate a big piece of apple pie.*

PALABRAS DE ORTOGRAFÍA

concentrate	concentration	confuse
confusion	correct	correction
decorate	decoration	elect
election	estimate	estimation
exhaust	exhaustion	impress
impression	locate	location
discuss	discussion	

Deletrear por puntos Por cada palabra que deleetrees bien ganarás 2 puntos. Por cada palabra que deleetrees mal, perderás 1 punto. ¿Cuántos puntos puedes ganar?

Queridos familiares:

When Esther Morris Headed West narra acerca de una mujer que se mudó al Oeste en la década de 1860. La señora Morris vivía en Wyoming y luchaba por el derecho al voto de la mujer. En este relato hay muchos hechos porque la señora Morris era una persona de la vida real. Sin embargo, el autor tiene sus opiniones. Una afirmación como la siguiente es una opinión del autor: *Mrs. Morris had no hankering for power or highfalutin titles.*



Destrezas de la semana

Comprensión: hechos y opiniones

Vocabulario: diccionario—orígenes de las palabras

Ortografía/Fonética: añadir ion

Nombre _____

¿Puedo citar tu frase?

Leamos "Breakfast Club." Podemos decidir cuáles son los hechos y cuáles son las opiniones en este fragmento.

Breakfast Club

"I hate oatmeal," Derek yelled. Derek was only three years old, so he yelled a lot.

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Comprehension Check

Summarize

How did African Americans first get the right to vote? How did they lose it in the South? How did they win it back again? Use the Fact and Opinion Chart to show some of the main events in the story of African American voting rights. For every fact you list, write two different opinions about it.

Fact	Opinion

Think About It

1. In some ways the story of gaining civil rights is a story about changing opinions. Look at Chapter 3. Name one opinion that changed as a result of an effort the chapter describes. Then name one fact that describes the effort. **(Fact and Opinion)**
2. If you could meet someone from the South who lived there right after the Civil War, what questions would you ask about African American rights then? List two questions. **(Analyze)**
3. This book tells part of the story of how the states make some laws and the national government makes others. What do you think is good about this system? Why? **(Analyze/Evaluate)**

The Story of African American Voting Rights

by Carol Dombrowski



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Introduction

The Civil War ended in 1865. When it was over, African Americans who had been enslaved were free at last. Soon after, they got the right to vote. But that right didn't last long. The laws had changed. But many people kept their old notions about rights for African Americans.

Some states passed new laws to keep black people separate from white people. They called these "separate but equal" laws. The laws did make many things separate, but they did not make anything equal. Some states also passed laws to keep African Americans from voting.

A long struggle followed. African Americans had to defend their rights. They had to find strong leaders and follow them. They also had to be very determined.

Over the years African Americans changed people's ideas. They also changed the laws. In 1965 African Americans truly got the right to vote. This change came exactly 100 years after the end of the Civil War.

This newspaper illustration is from 1867. ☞
It shows a polling place in Washington, D.C.

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Glossary

amendment (*uh-MEND-muhnt*) a change; often used to mean a change to the Constitution (**page 4**)

civil rights (*SIV-il RIGHTS*) the rights of every citizen of a country, including the right to vote (**page 16**)

Fifteenth Amendment (*FIFteenth uh-MEND-muhnt*) the official change to the Constitution that gave the vote to African American men (**page 4**)

Fourteenth Amendment (*FAWRteenth uh-MEND-muhnt*) the official change to the Constitution that gave rights to African Americans (**page 4**)

grandfather clause (*GRAND-fah-thur CLAWZ*) a southern ruling that allowed people to vote whose grandfathers had voted (**page 10**)

Ku Klux Klan (*KOO KLUKS KLAN*) a group that believed in the superiority of the white race and committed violent acts against African Americans (**page 9**)

legislature (*LEJ-is-lay-chur*) a lawmaking body. In the United States the legislature is the Congress. (**page 6**)

literacy test (*LIT-ur-uh-see TEST*) a test used to determine a basic level of knowledge. In the South these were used to deny the right to vote to African Americans. (**page 10**)

poll tax (*POHL TAKS*) a sum of money that people in some states had to pay in order to vote (**page 10**)

primary (*PRIGH-mer-ee*) an election in which members of the same political party run against one another. The winners from each party will later run for office. (**page 11**)

segregation (*seg-ri-GAY-shuhn*) practice of keeping races separate (**page 8**)

Thirteenth Amendment (*THURteenth uh-MEND-muhnt*) the official change to the Constitution that freed African American slaves (**page 4**)

*“We must have our freedom now.
We must have the right to vote.”*

—Martin Luther King, Jr.
1965



Chapter 1

Hope and Change

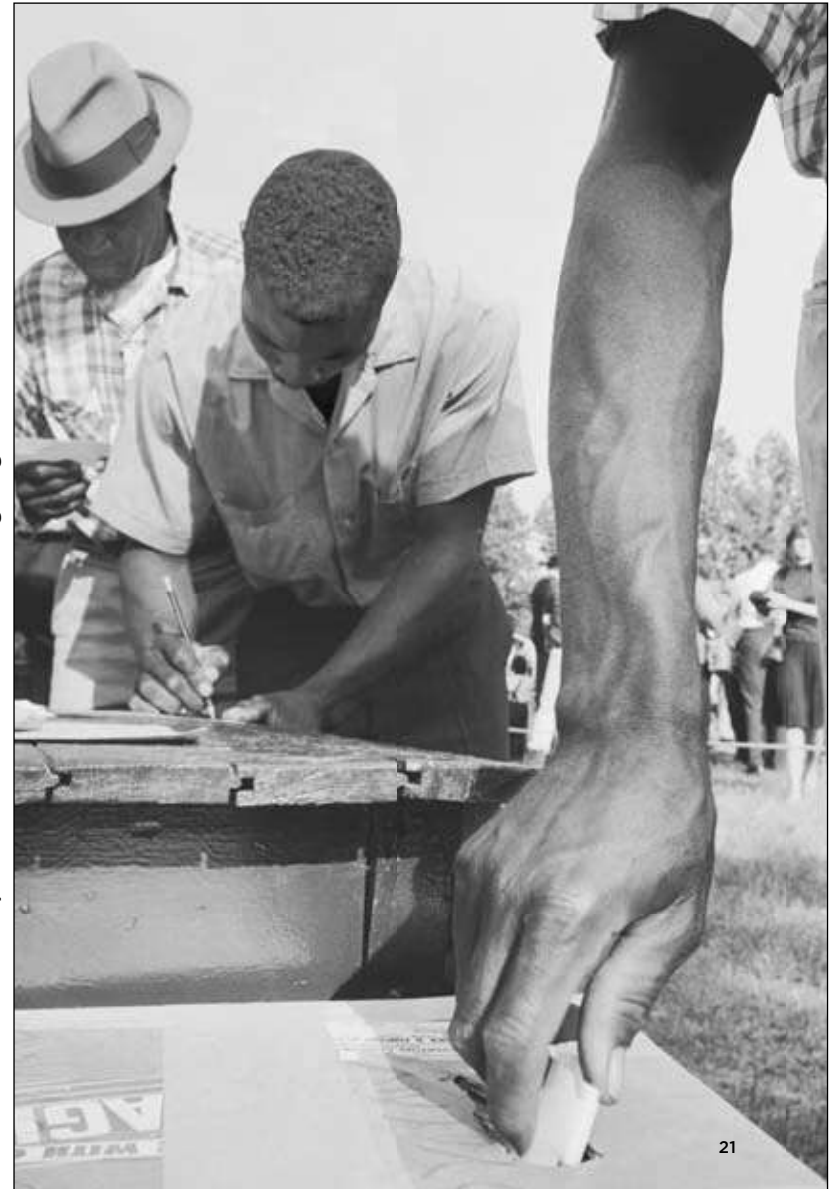
"Free at last!" African Americans shouted after the Civil War. They no longer had to submit to slavery. They could live in new places. They could make some choices.

In Washington, D.C., lawmakers were busy. They made changes to the Constitution, called **amendments**. The **Thirteenth Amendment** ended slavery. The **Fourteenth Amendment** made African Americans citizens. The **Fifteenth Amendment** gave African American men the right to vote.



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The Story of African American Voting Rights



Conclusion

The Fifteenth Amendment gave African Americans the right to vote. But for almost 100 years they were stopped from using this right. These are some of the important events in the struggle to win equal rights.

1863

Emancipation Proclamation frees all enslaved people.

1867

Military rule in the South begins.

1870

Fifteenth Amendment promises the right to vote.

1877

Military rule ends.

1896–1954

“Separate but equal” laws passed. African Americans get education, serve their country, show their skills, and become leaders.

1954

Segregation is made illegal in schools.

1955

Montgomery Bus Boycott begins.

1964

Freedom Summer focuses on voter registration.

1965

The Voting Rights Act of 1965 passes.

These men in Alabama could finally vote after the Voting Rights Act was passed.

“The right of citizens of the United States shall not be denied . . . on account of race, color, or previous condition of servitude.”

—from the Fifteenth Amendment

But this was not an easy time for our nation. The North and South still disagreed. Northerners had won the war. They wanted changes to begin immediately. Some even believed the South should be punished for supporting slavery and fighting the other states.

The South argued that the North wanted too much change too soon. Some northerners were already coming south to make money. Many southerners thought such people were taking advantage of their hard times. They wanted to postpone change.

🕒 In 1866, residents of Washington, D.C., celebrated the end of slavery.

Black Codes

Soon after the Civil War, southern states passed new laws called black codes. These laws took away the new freedoms of African Americans. The national government said this was not right. It sent soldiers to the South.

The soldiers kept order. They made sure that African Americans had their rights. For a few years African American men voted. They helped elect their leaders. Some African Americans were elected to the **legislature**, or Congress. Progress was in the air!

Hiram Revels (1822–1901)

Hiram Revels was the first African American senator. He was born in North Carolina. He was educated in Illinois. In 1870, he was elected to Congress. He represented the state of Mississippi.

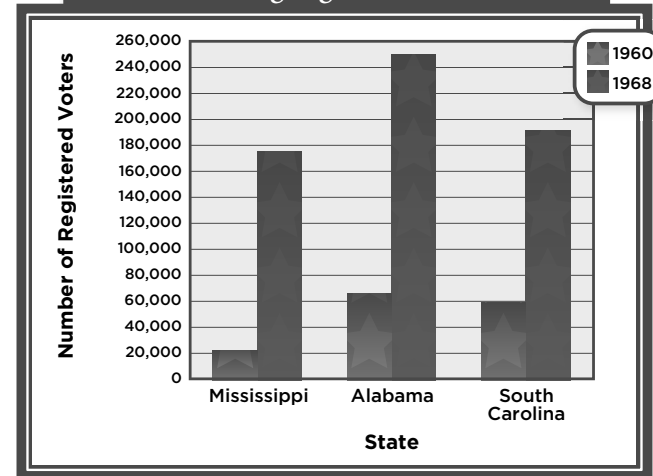


Victory!

A few days after Bloody Sunday, President Lyndon Johnson acted. He asked Congress to pass the Voting Rights Act of 1965. It said there would be no more tests for voting. States could not make up new laws to qualify voters. Local officials could not register new voters. The national government would do that job.

Now African Americans had a real say in their government. Years without equal voting rights were coming to an end at last.

Registration Before and After the Voting Rights Act of 1965



Dr. Martin Luther King, Jr.

Dr. Martin Luther King, Jr. was the greatest leader of the Civil Rights Movement. He was a powerful speaker who urged peaceful protest. Dr. King helped plan the Montgomery Bus Boycott and the march from Selma to Montgomery.



The Fight in Selma, Alabama

On March 7th, 1965, protest marchers gathered in Selma. They were going to the state capital, Montgomery. When they crossed the bridge over the Alabama River, a large force of state troopers on the other side yelled, "Go back!"

The protesters kept marching. So the troopers attacked. Some were on horses. Many used clubs. People were hurt. The day became known as Bloody Sunday.

TV cameras filmed the awful scene. When the American public saw what happened, they asked why peaceful protesters had been beaten. Many opinions changed. People called out for justice. Finally the government heard them.



After the Civil War, many African Americans worked as sharecroppers. They rented land. They paid for the land with a part of the crops they grew.

Then in 1877 everything changed. The soldiers left the South. The southern states went back to making their own laws. These laws took away the African Americans' new rights. By the late 1800s, African American people were suffering again. Still, the people who had been enslaved were able to build new lives for themselves. They made their own decisions. They raised their families. They worked to form new communities.

Chapter 2

Separate but Not Equal

Southern states passed laws to keep blacks separate from whites. For example, black people and white people had to ride in separate train cars. White and black children went to separate schools. Keeping people separate is called **segregation**.

The laws said black people were “separate but equal.” Yet their rights were not the same as those of white Americans. Many rights that whites took for granted did not exist for blacks.

🔊 Black people and white people were kept separate in many public places.



🔊 This voters' rights march took place in Mississippi.

Voting Rights

Year by year, city by city, African Americans were winning the fight against segregation. But more battles were to come. The next had to do with voting rights.

In 1964 a big effort called Freedom Summer began. Civil rights workers visited African Americans in Mississippi. Their goal was to sign people up to vote.

The workers traveled throughout the South to register new voters. But things did not go well in Selma, Alabama. Local officials tried to stop them. They would not register African Americans. So African American leaders planned a protest march.

The Montgomery Bus Boycott

In spite of the new court rulings, many cities and states kept doing what they had always done. For example, in southern states whites still sat in the front of buses. When buses were full, blacks had to give up their seats and stand. But one day in 1955, in Montgomery, Alabama, Rosa Parks would not give her seat to a white man. She was arrested.

Parks' arrest started the Montgomery Bus Boycott. For about a year, the African Americans of that city stopped riding the buses. Their protest worked. The boycott ended in success. Now blacks could sit anywhere they liked on the buses in Montgomery.

Rosa Parks

Rosa Parks held an opinion that was important during the **Civil Rights Movement**. It was that nonviolent protest was best. She would not push, hit, or hurt anyone. Instead, she would protest peacefully. Refusing to give up a seat didn't hurt anyone. But it sent a powerful message.



Spreading Fear and Violence

After the South lost the Civil War, many white people in the South were angry. Some formed hate groups. One was called the **Ku Klux Klan**, or KKK. Members of the KKK tried to stop African Americans and others from fighting for equal rights. They used threats and violence to scare people who disagreed with them. Some African Americans were murdered by members of the KKK.



The End of Voting Rights

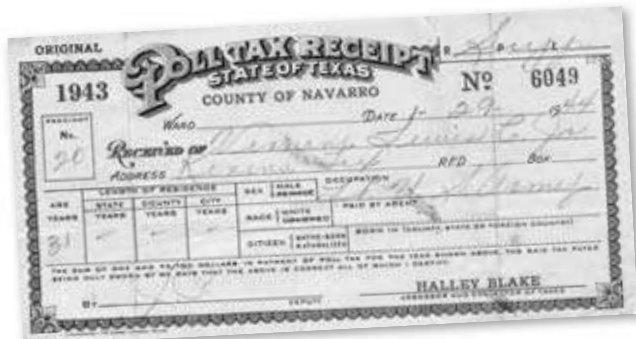
In the late 1880s, new laws were passed to keep African Americans from voting. These laws included **poll taxes** and **literacy tests**.

Poll Taxes

People had to pay poll taxes in order to vote. Most African Americans were poor. They had no money to pay poll taxes. So the poll taxes stopped them from voting.

Grandfather Clause

In the South, one voting law included a **grandfather clause**. It said that if your grandfather had voted, you could vote, too. So African Americans whose grandfathers had been enslaved could not vote.



Chapter 4 The Civil Rights Movement

The lives of African Americans were getting better. But many blacks and whites began to demand that segregation end. One of the first victories occurred in 1954. The Supreme Court decided that a black child had the right to go to an all-white school.

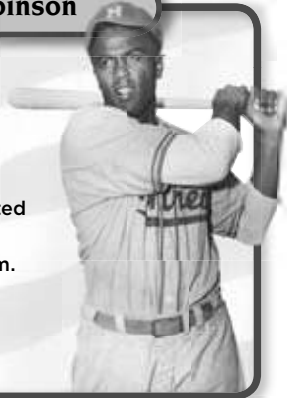
The court's decision opened public schools to African American children. It made "separate but equal" schools illegal.

📰 This newspaper headline announced the result of the 1954 Supreme Court case.



Jackie Robinson

Before 1947, there were no African American players on major league baseball teams. That year, Jackie Robinson became the first. Many people hated him for it. Some booed, hissed, and threatened him. He never gave up. Today people remember his talent and courage.



Other Changes

Meanwhile, changes for the better were slowly taking place. More African Americans became educated. Some taught themselves. Others entered schools and colleges.

Many African Americans joined the military. Few reached the rank of colonel or general. But in wars, they risked and lost their lives for their country. Their service won people's respect.

Others, like Marian Anderson, impressed people with their skills. In 1955 she sang at the opera house in New York City. She was the first African American singer to do so.

African Americans were often prevented from voting

Literacy Tests

Literacy tests examined what people knew about government. But many African Americans couldn't read or write. They failed the tests. For those who could read, local officials chose the questions. They could give a black person the hardest questions. They could also decide whether the answers were satisfactory.



White Primaries

A **primary** is an election to decide who will run for office. Southern states passed laws saying that only white people could vote in primaries. That way there were never any African Americans running for office. They could not become elected representatives.

Ⓒ This poll tax receipt shows that some people paid \$1.75 to vote. That would be like \$20 today.

Chapter 3

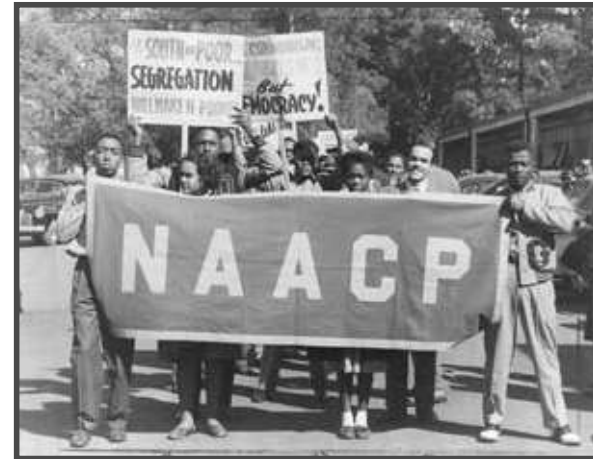
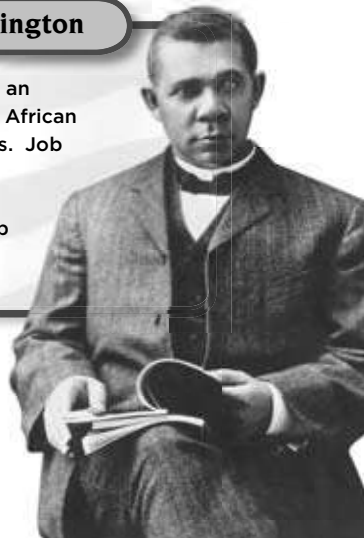
Fighting Back

In the early 1900s our nation was a hard place to live for African Americans. They didn't have the law on their side. Speaking out could be dangerous for them.

But some African Americans felt that things had to change. They found the courage to speak out. These leaders had different ideas about how to change things. One said, "Let's go back to Africa." Others wanted to improve things within the United States.

Booker T. Washington

Booker T. Washington was an educator. He believed that African Americans needed job skills. Job skills would earn people's respect, he said. Having jobs and money would help African Americans fight for their rights.



➤ The NAACP fought for equal rights. The NAACP used attorneys to fight unfair laws.

W.E.B. Du Bois was a leader who believed in immediate change. He strongly disagreed with Booker T. Washington. Washington proposed gradual change. "Why wait for justice?" was Du Bois' kind of question.

In 1910 Du Bois and others founded the National Association for the Advancement of Colored People. It is known as the NAACP. This organization worked hard to make sure that African Americans had equal rights.



Home-School Connection

Word Workout

WORDS TO KNOW

capable gigantic slumped strands
categories luminous soggy credit

Crazy Crosswords We'll use these words to create a crossword puzzle. When we've got the puzzle done, we can make up clues with silly definitions or sentences.

SPELLING WORDS

autograph	automatic	automobile
telegraph	telephone	television
telegram	homophone	phonics
disaster	astronomer	photography
myth	mechanic	mechanical
telephoto	astronaut	telescope
photograph	mythical	

Let's Spell We'll write the words on index cards. I'll take half and you take the other half. I'll give you my words to spell and you'll give me your words. Once we're finished, we'll switch cards.

Dear Family Member:

This week we're reading *Miss Alaineus*, a story about a girl named Sage. She likes to mix up vocabulary words. For example, she mentions her friend, Forest, and says that he is not a thicket of trees.

When she catches a cold and has to stay home, her mother calls her teacher and gets Sage's vocabulary homework. Sage is a funny girl, so I think funny things will happen.

This Week's Skills

Comprehension: character and plot

Vocabulary: context clues—
synonyms

Spelling/Phonics: Greek roots



Name _____

(fold here)
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Build a Character

We'll look at each illustration and use it to paint a picture of a character and create a plot for a story.



Character ?

Plot ?

Character ?

Plot ?



Character ?

Plot ?

Character ?

Plot ?



Ejercicio de palabras

PALABRAS DE VOCABULARIO

capable gigantic slumped strands
categories luminous soggy credit

Crucigramas locos Vamos a usar estas palabras para crear un crucigrama. Una vez que hayamos terminado la cuadrícula, escribiremos las pistas con definiciones u oraciones absurdas.

PALABRAS DE ORTOGRAFÍA

autograph	automatic	automobile
telegraph	telephone	television
telegram	homophone	phonics
disaster	astronomer	photography
myth	mechanic	mechanical
telephoto	astronaut	telescope
photograph	mythical	

Vamos a deletrear Vamos a escribir las palabras en tarjetas. Cada uno tomará una mitad. Te daré mis palabras para deletrear y tú me darás las tuyas. Cuando terminados, intercambiaremos tarjetas.



Conexión con el hogar

Queridos familiares:

Esta semana estamos leyendo *Miss Alaineus*, un relato acerca de una niña que se llama Sage. A ella le gusta mezclar las palabras del vocabulario. Por ejemplo, afirma que un bosque no es un área poblada de árboles sino más bien un amigo que se llama Bosque. Cuando Sage contrae un resfrío y tiene que quedarse en casa, su madre llama a su maestra y le consigue la tarea de vocabulario. Sage es una niña divertida, así que creo que pasarán cosas divertidas.

Destrezas de la semana

Comprensión personajes y argumento

Vocabulario: claves del contexto—sinónimos

Ortografía/Fonética: raíces griegas



Nombre _____

Armar un personaje

Vamos a observar cada ilustración y luego la usaremos para hacer el dibujo de un personaje y crear la trama para un relato.



Character ?

Plot ?

Character ?

Plot ?



Character ?

Plot ?

Character ?

Plot ?



Comprehension Check

Summarize

What was Nadia's problem in this story? What steps did she take to try to solve it? How was she finally able to resolve her problem? Use a Character and Plot Chart to help you organize your ideas.

Character	Plot

Think and Compare

1. From what point of view is this story told? How does this affect the way the story is told? Give examples from the story to support your answer.
(Character and Plot)
2. Think of a time when you had to handle a tough assignment. What was it? Why was it difficult? How did you handle it? **(Analyze)**
3. In what ways is science involved in everyday life? Give at least three examples. Can you name the basic scientific principle behind each example? **(Evaluate)**

Nadia Gomez Sees the Light

by Becky Cheston
illustrated by Jeff Hopkins

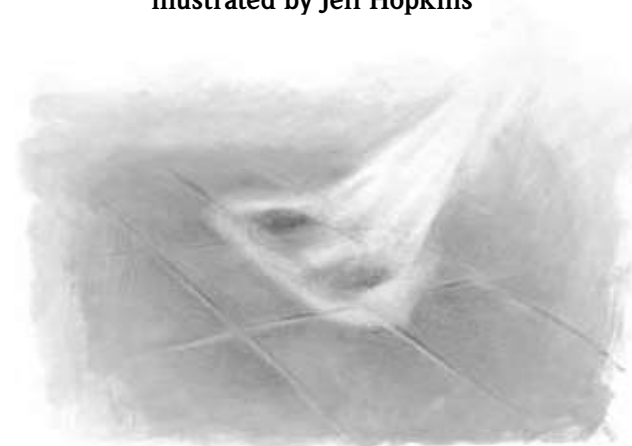


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CHAPTER ONE

Not So Special

My friends Eva and Freddy and I were hanging out after school in my kitchen.

"Isn't this the best room?" I said to no one in particular. My friends were used to me muttering things at odd moments, so they just ignored me.

Freddy looked up and said, "Yeah."

Eva kept working and simply said, "Sure."

But the kitchen *is* the best room. It's gigantic, with a large pink booth and a shiny tile floor.



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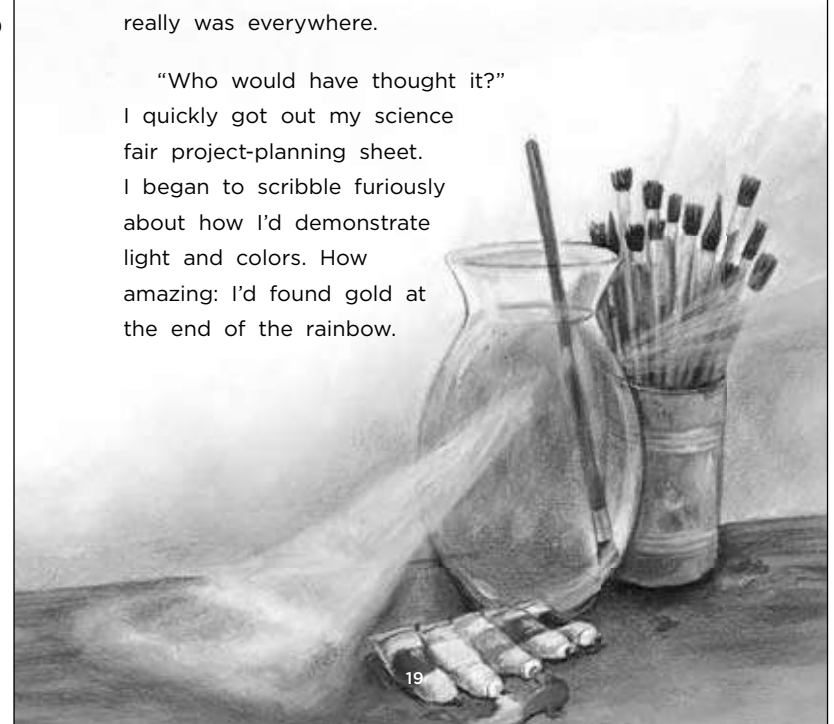
Nadia Gomez Sees the Light

But then it hit me as I looked at my paints. Without realizing it, I had arranged them into the color spectrum—red, orange, yellow, green, blue, indigo, violet. As if echoing this idea, a small rectangle of rainbow danced on the floor. This time, it came from a ray of sunlight shining through the thick glass of my water jar.

Light. Waves of it in different lengths, separating into colors. I knew about this! I just had never thought of it as science. Wow. Science really was everywhere.

"Who would have thought it?"

I quickly got out my science fair project-planning sheet. I began to scribble furiously about how I'd demonstrate light and colors. How amazing: I'd found gold at the end of the rainbow.



Marco threw me a pitch. And then he came over and began lecturing me just like Ms. Baldelli. He told me about the seams and about how you hold the ball. Then he went on about how the ball moves differently depending on how it leaves his arm. "Physics," he said. "The science of motion."

Then he further insulted me by ruffling my hair as if I were Diego and told me he had to leave. Marco smiled and told me to paint him a picture and try to see the science in painting. Science in painting? Was he seriously trying to ruin my world?

I trudged back into the kitchen. "I'll show him," I thought. "Mr. I Know Everything. Hah." Yep, I would show him to be so fallible—at least I think that was the fancy word for really, really wrong. I collected some thick, stubby brushes and a tall jar of water. Then I gathered up silver tubes of paints—scarlet, dandelion, evergreen, violet. What was scientific about that?

Best of all is the light. It pours in through a wall of windows and hovers beneath the high ceilings, tinting everything a pale, lemony yellow. See, I think of myself as an artist, so light is very important to me.

Freddy slapped the table as he snorted. "Check this out, Eva!" he said between chuckles.

Freddy grabbed my sketchbook and held it up next to my startled face. Eva frowned, looked confused, and then finally a gigantic smile crossed her face.

"You're good, Nadia," she said. "But, I don't get it."

What I'd drawn was a cartoon of *me*, with an oversized head and tiny body. I'd added my trademark features. A banner at the top read, "Science UN-Fair." Question marks spun around my head and I had a very confused look—a perfect caricature, I might add.

Freddy turned to me and said, "Eva was in the nurse's office during fifth period. Remember? She got hurt playing soccer during lunch."

"Oh, yeah," I said. And then I told Eva what she had missed.

During science class, we set up an experiment. Then we wrote up our findings, but Ms. Baldelli raced us through them so that she could share something special.

I rolled my eyes at Freddy and whispered, "There is nothing special about science."

"You got that right," he replied under his breath.

As soon as Ms. Baldelli said the words "science fair," I tuned out since science, in any form, is my least favorite subject. Then a few choice words brought me back. "Did she just say *everyone* and *mandatory*?" I asked Freddy. I couldn't believe what I was hearing.

"Everyone?" I blurted out. Ms. Baldelli nodded vigorously. "Why?"

"I'll tell you why," said Ms. Baldelli, walking among the clusters of desks and chairs. "Because I'd like each one of you to discover—as I have—that science is all around you."

I'd have to work on a science project in my limited spare time. That was NOT GOOD.

"Hey, let's go play baseball. Do you think you can catch my new curveball?" It took me three pitches before I finally got his rhythm and caught one.

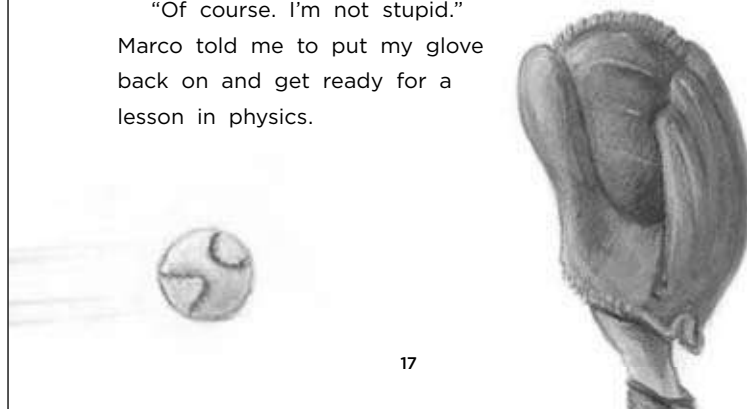
But then just as I was really relaxing and enjoying myself—you know, bonding with my older brother—he blew it. He asked, "So what are you doing for your science project?"

"Why did you have to bring that up?" I asked, throwing down my mitt.

"Cool your jets," Marco said as he laughed. "Science is full of interesting stuff. You know, baseball is science." Now, I love my brother, but baseball was NOT science.

Marco asked, "Ever hear of a word called *physics*?"

"Of course. I'm not stupid." Marco told me to put my glove back on and get ready for a lesson in physics.



The house seemed unusually quiet as I bounded inside. I called out for my older brother. "Marco, where are you?" Maybe he could get my mind focused on something other than my lack of ideas for the looming science fair project.

"In the kitchen," yelled Marco.

I found my tall, thin brother in the kitchen finishing a gigantic sandwich. "How do you do it?" I asked.

"Do what?" Marco asked in between bites.

"Not gain an ounce when you eat all the time," I replied.

"Luck and a fast metabolism," Marco said, as he licked his fingers. I shook my head. Maybe I should make Marco my science project. But I couldn't even spell *metabolism*, let alone figure it out.

Eva immediately said, "Who wants to enter a science fair?"

But Freddy shrugged and replied, "It might be kind of fun."

Eva and I looked at him in amazement and shrieked, "FUN?"

Suddenly, there was a flash of bright blue and a small pop, followed by a large spurt of water. Then came the inevitable interruption, my seven-year-old brother Diego.

Freddy yelled as most of the water had landed on his shirt.

"Water balloons, Diego?"
I shouted. "In the house?
Oh, you are in trouble."

I slid out from the kitchen booth just as Diego slid under it. We could hear Penny, his babysitter, calling him from upstairs.

"Can't catch me," Diego hollered as he tried to hide under the booth. "Who wants to?" I said. The three of us went on as if Diego was not there. I got Freddy some paper towels for his soggy shirt.

"You should invent a remote control for little brothers," Eva suggested. She then pointed her cell phone at Diego as if it were a clicker. "Then you could just press MUTE."

"Diego!" Penny marched into the kitchen. She looked frazzled. I had to give her credit. She took good care of Diego.

Eva picked up her books and said, "I have to get home."

"Me, too," said Freddy.

"No, wait," I cried. "Please, you can't leave until I come up with at least one idea." But no, they left.

Penny discovered Diego's hiding place, and as she knelt down to get him, he slithered out and barreled into me.



"Don't remind me," I groaned. Freddy laughed and said, "Stop acting like a baby." And then, child that I am, I stuck out my tongue at him. Of course, Freddy stuck his out right back at me.

Eva told us to behave and went back into the game. I told Freddy that I wanted to hang out with my brother Marco tomorrow. "Well, that's if I can get Diego to stop hanging on him like a magnet."

Freddy snapped his fingers and said, "Great idea for your project. Magnets."

CHAPTER THREE

Curveballs and Rainbows

On Saturday morning, I showed up late for Eva's soccer game. Freddy demanded to know why I was late.

"Papa cooked a big breakfast for Marco this morning," I said. "Omelettes and toast and fresh fruit salad and juice and muffins and. . . ."

Freddy groaned. "Enough. Stop torturing me already. I only had a lousy banana." At the break we called Eva over. "So how come you were late?" she asked. I felt like I was getting the third degree.

"Look, I'm sorry. SORRY!" Eva laughed and told me it was fine. "Hey, I think we should get together tomorrow and brainstorm."

Not thinking, I asked, "For what?" Both Freddy and Eva looked at me and said, "The science fair project."

"Gotcha!" I yelled, grabbing his wrists. Beside me, Penny slumped to the floor and muttered that she still had to make dinner.

I smiled and told her not to worry, since my darling little brother would not be giving her one more minute of trouble. Diego smirked. He did not think I had a plan. But then I said, "Mom is calling tonight. She would be VERY upset if she heard that a certain little boy had disturbed his father while he was hard at work."

"You win," said Diego. "I'll help you, Penny." And he meekly followed a grateful Penny out of the room.



With everyone gone, I amused myself by watching a small rainbow square swirl over the tiles as if someone were moving a colored flashlight around and around. I looked up. It was just the sun reflecting through a glass on the counter.

Slowly, I crawled back into the booth. Sunlight danced all around me as I opened the cold, hard cover of my science text. While the sunlight was fascinating to watch, it just made me feel deserted in my hour of need.

"Why me?" I moaned, for not one science idea popped into my head. Frustrated, I let out a huge sigh. I sat there staring at my blank science fair project sheet. Like my paper, I was a total blank.

Papa rose to answer the phone. I figured that it must be Mom. As he talked, I wandered around the studio, trying to distract myself.

When I heard the click of the receiver, I yelled at poor Papa. "How could you hang up on Mom before I had a chance to talk to her? Now I'll never come up with an idea." I was doomed.

But Papa laughed at my outburst. "That wasn't Mom. It was your older brother, Marco. He'll be home this weekend. Maybe he can help you." I danced into Papa's arms. He twirled me around, and the room took on a kaleidoscope of colors.

"Astronomy? Papa, it's me, Nadia." Did Papa not know that I had no idea how to use a telescope and would be clueless as to what I would be staring at?

"Well, how about rockets?" he asked earnestly.

Now I really had to laugh. "Are you saying that I'm a rocket scientist, Papa?" Even he laughed at that idea.

Papa told me that I was capable of doing anything that I set my mind to do. I know he meant well, but I told him that all my mind was set on doing was becoming an artist like he was.

Papa shrugged and started tidying up his studio. He folded a few paint rags and tightened the caps on some tubes of paint. Then he cleared his throat and told me that what I needed to do was stop complaining. He saw my face fall and then he said, "Well, talk to Mom. She knows a lot about computers and technology. Maybe she can help you."

"Right, Papa. Only, she's not coming back for two whole weeks." I responded with despair.

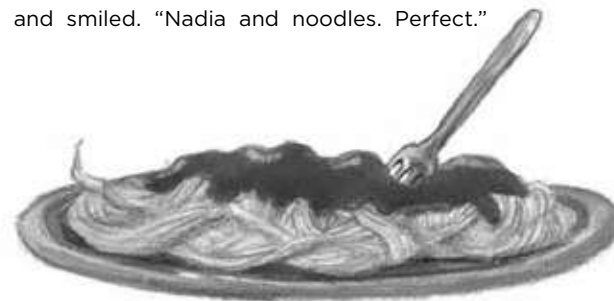
CHAPTER TWO

"I Am Not a Rocket Scientist!"

Papa worked all through supper—Penny's famous spaghetti and salad. Now, with Diego in bed (at last), and Penny gone, I watched the sun set over the driveway as I scrubbed the pots. Panes of luminous color winked on the surfaces of the soap bubbles.

I finished up and fixed a plate of food for Papa. The door to his studio stood ajar, and I could see him still absorbed in his work. As Papa stood at the sink, I could almost read his thoughts as he mechanically rinsed his brushes.

"Dinner!" I announced. Papa turned and smiled. "Nadia and noodles. Perfect."



I smiled back, pointed at his painting, and asked him if he had been thinking of dessert. Filling the canvas from top to bottom was a single ice cream cone, seven scoops tall. Pink, lime green, lilac purple, tangerine—brilliant, childlike colors dripped onto each other and down the sides of the cone. The painting made me want to laugh, it was so much fun. “That’s such a fun painting!”

My papa chuckled. “It looks simple, but it took me a long time to get it just right.” Then he sat down to eat. He began to twirl the strands of spaghetti around his fork.



I sighed and began doodling on a scrap of paper with a green pencil.

Sensing that I was feeling low, my papa said, “You know, if you keep your grades up, you can take an art course at the museum.”

I nodded and asked what would happen if I got a lower grade in one subject. “Just one subject, like, oh I don’t know, maybe science.”

Papa looked at me with concern. He ruffled my hair. “What’s wrong, pumpkin?”

I hesitated for a moment and then, like a dam bursting, out poured my fear of having to come up with a science fair project. “It’s just so hard and NOT FAIR!” I blurted out.

“Now, Nadia, it might be fun,” said Papa. “What categories do you want to focus on? How about zoology? Or biology? Or maybe even geology?”

All I heard was geology. Rocks? My father wanted me to study rocks.

“Or maybe the stars.”



Home-School Connection

Dear Family Member:

This week we are reading a realistic fiction story that is set in a village in Mexico. In *Bravo, Tavo!*, Tavo and his father face many problems. Tavo's village needs water for its crops, and Tavo needs new shoes to play basketball. Tavo's father comes up with the idea to dig new *zanjas*, or irrigation ditches, and the whole village laughs at his plan. Will Tavo find a solution to his problem of needing new shoes? Will Tavo's father and the villagers solve their problem of not being able to sell their crops because of the drought? As I read I'll learn more about the problems of the characters and how they solve them in this story.



This Week's Skills

Comprehension: problem and solution

Vocabulary: context clues

Spelling/Phonics: Latin roots

Name _____

Word Workout

WORDS TO KNOW

wearily suspicious jubilant debris
parched frayed sensation abruptly

Water Works Let's use the words to make up a short story about a water drop's day in a cornfield.

SPELLING WORDS

suspect distract export spectator
spectacle subtraction tractor import
transport transportation attraction inspector
missile committee intermission portable
respect dismiss inspect mission

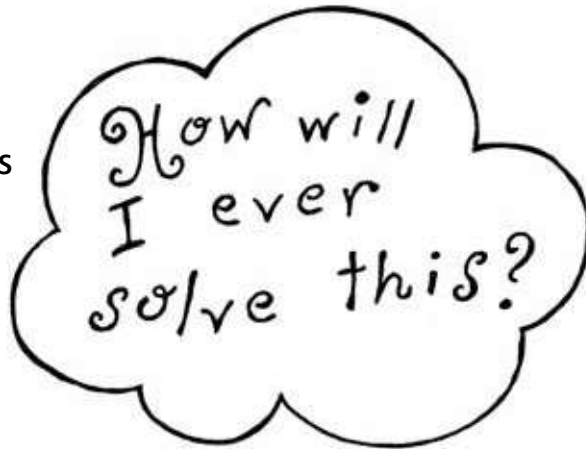
The Beginning and the End of Things I'll say one of the words. Can you give me another word with the same beginning or ending?

(fold here)
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What's the Problem?

Thinking about solutions can help you determine what problems brought them about. Can we figure out what problems these kids are trying to solve?

I'll make a list of everything I have to do. I'll put the things in order, from most important to least important. I might even cross some things off if they aren't important at all. I'll have it done by Tuesday.



Instead of every kid creating a project, we can work together as a class. We'll make one super-terrific project that is sure to make our school proud.



We should have two wastebaskets in every classroom. One is for things that can be recycled. The other is for trash. Then we need a recycling center. There, students can sort the recyclables into baskets for glass, plastic, metal, and paper.



I'll help Joshua by introducing him to some of my friends. We'll make sure to include him in games and special events. I'll also suggest that he join our softball team. I'll help him practice, too.

Ejercicio de palabras

PALABRAS DE VOCABULARIO

wearily suspicious jubilant debris
parched frayed sensation abruptly

El Agua Usemos las palabras para armar un cuento corto basado en el efecto del agua en los cultivos de maíz.

PALABRAS DE ORTOGRAFÍA

suspect distract export spectator
spectacle subtraction tractor import
transport transportation attraction inspector
missile committee intermission portable
respect dismiss inspect mission

El principio y el final de las cosas Voy a decir una de las palabras. ¿Puedes darme otra palabra con el mismo principio o final?



Conexión con el hogar

Queridos familiares:

Esta semana estamos leyendo un relato de ficción realista que ocurre en un pueblo en México. En *Bravo, Tavo!*, Tavo y su padre enfrentan muchos problemas. El pueblo de Tavo necesita agua para los cultivos y Tavo necesita zapatos nuevos para jugar baloncesto. El padre de Tavo tiene la idea de cavar nuevos zanjas y el pueblo se ríe de él. ¿Podrá Tavo encontrar una solución al problema que necesita zapatos? ¿Podrán su padre y el pueblo encontrar una solución al problema que no pueden vender sus cultivos por la falta de agua? Cuando lea, voy a ir aprendiendo más acerca de los problemas de los personajes y cómo los resuelven en el cuento.



Destrezas de la semana

Comprensión: problema y solución

Vocabulario: claves de contexto

Ortografía/Fonética: raíces latinas

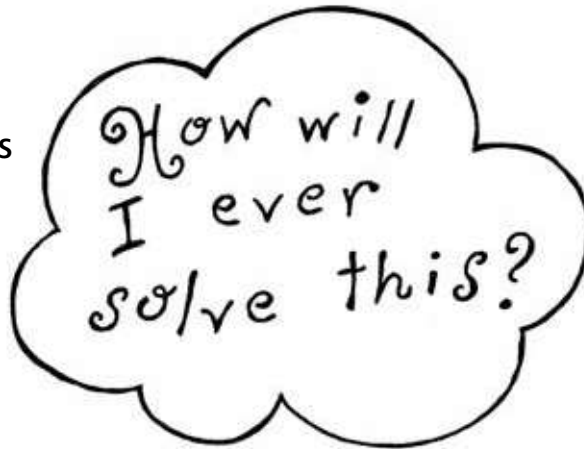
Nombre _____

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¿Qué problema hay?

El pensar en las soluciones puede ayudarte a determinar cuáles fueron los problemas que las originaron. ¿Puedes darte cuenta cuáles son los problemas que estos chicos están tratando de resolver?

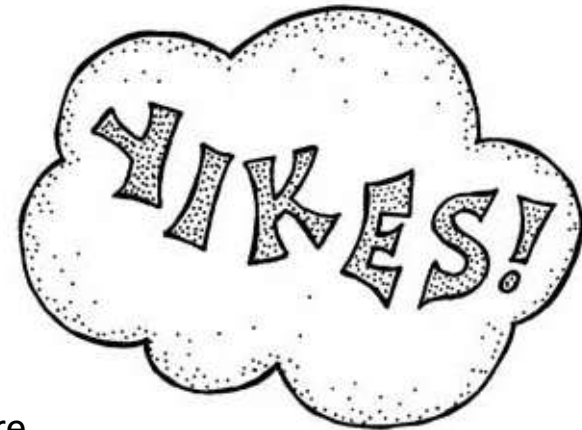
I'll make a list of everything I have to do. I'll put the things in order, from most important to least important. I might even cross some things off if they aren't important at all. I'll have it done by Tuesday.



Instead of every kid creating a project, we can work together as a class. We'll make one super-terrific project that is sure to make our school proud.



We should have two wastebaskets in every classroom. One is for things that can be recycled. The other is for trash. Then we need a recycling center. There, students can sort the recyclables into baskets for glass, plastic, metal, and paper.

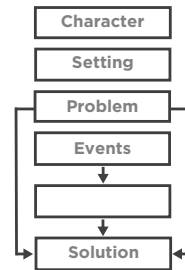


I'll help Joshua by introducing him to some of my friends. We'll make sure to include him in games and special events. I'll also suggest that he join our softball team. I'll help him practice, too.

Comprehension Check

Summarize

Use the Problem and Solution Chart to help you summarize the story.



Think and Compare

1. Look back at page 8. What problem do moths face during the day? What helps them with the problem? **(Author's Purpose)**
2. Which insect do you find the most interesting? Which do you like the least? Explain how you made your choices and support your ideas with examples from the text. **(Evaluate)**
3. You read about many different ways insects protect themselves. Which do you think is the best defense? Why? **(Evaluate)**

SURVIVAL INSTINCTS

Insects

by Barbara A. Donovan

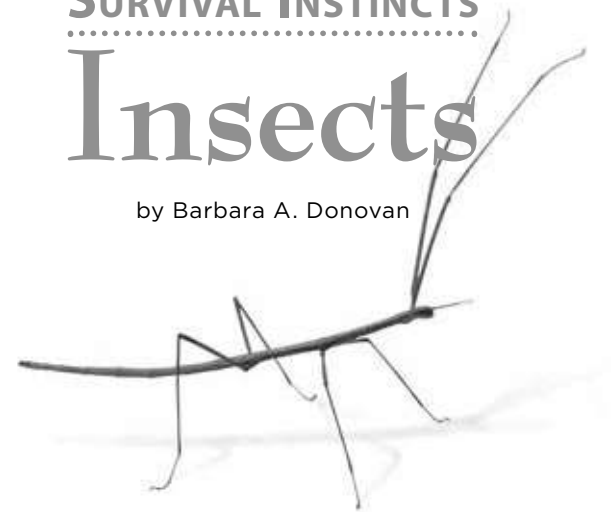


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Introduction

Did you know that there are more kinds of insects than any other kind of animal in the world? Scientists have named more than 800,000 kinds of insects. But there might be between one million and 10 million kinds of insects.

Bees, ants, and butterflies are all insects. They are part of a group of animals called **arthropods**. Insects are small animals that have some of the same body parts.

An insect's body has three parts. They are the head, thorax, and abdomen. They have six legs and two antennae, or feelers. Many also have two pairs of wings. An insect's skeleton is on the outside of its body. This is called an **exoskeleton**. This hard, outer "shell" helps protect the insect from harm.

Insects are **prey**. Other animals eat them. That's why insects have lots of ways to stay safe. Read on to find out about some of the ways that insects keep safe.

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Glossary

arthropod (*AHR-thruh-pod*) an animal with no backbone but with jointed legs and a jointed body (**page 2**)

autotomy (*aw-TOT-uh-mee*) the ability to separate a leg or other body part from the rest of the body when needed (**page 14**)

camouflage (*KAM-uh-flahzh*) the color, shape or pattern on an animal that helps it blend in with its surroundings (**page 8**)

colony (*KOL-uh-nee*) a group of the same kind of living thing that lives or grows together (**page 6**)

exoskeleton (*ek-soh-SKEL-uh-tuhn*) the hard, outside covering of an animal that helps protect and support it (**page 2**)

larvae (*LAHR-vee*) plural of larva; the wormlike young of insects (**page 5**)

mimicry (*MIM-ik-ree*) a similar look between animals that protects an animal from predators (**page 12**)

pollinate (*POL-uh-nayt*) to carry pollen from one flower to another for reproduction (**page 18**)

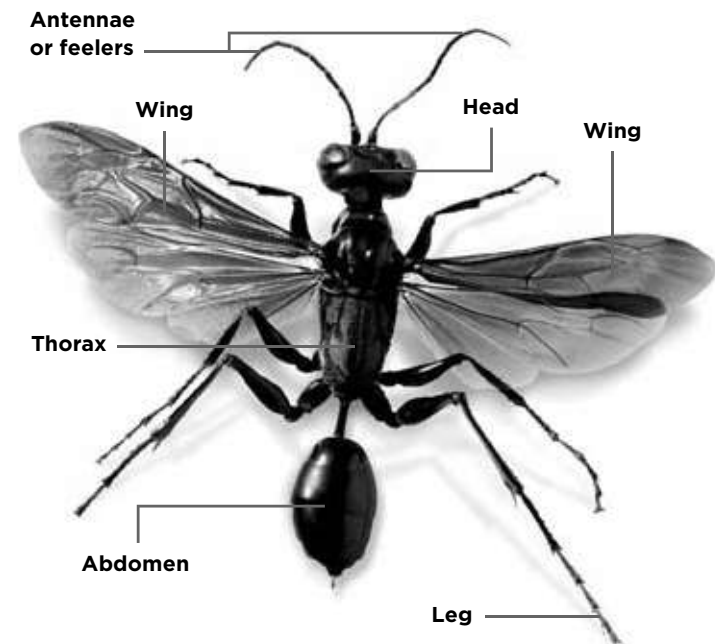
predator (*PRED-uh-tur*) an animal that hunts and kills other animals for food (**page 4**)

prey (*PRAY*) an animal that is hunted and killed by another animal as food (**page 2**)

survival instinct (*suhr-VIGH-vuhl IN-stingkt*) a way of behaving in order to stay alive that animals are born with and do not have to learn (**page 4**)

venom (*VEN-uhm*) the poison of some spiders, reptiles, or other animals (**page 18**)

Diagram of an Insect



Chapter One

Staying Safe



Insects have very good **survival instincts**. They avoid danger. Many **predators**, such as birds and skunks, hunt insects for food. Insects run or fly to escape them. This behavior keeps them alive. Running away is only one way insects stay safe.

Insects have excellent eyesight. They also have special sense organs on their antennae and feet. These special organs help them “hear” sound waves in the air. They can feel them through their feet, too. They can sense when danger is near.

Caterpillars chew on plants from the underside of leaves, staying hidden from birds flying by.



Conclusion

Insects are everywhere on Earth. Bees buzz along in fields and woods. Ants wearily trundle across parched ground. Moths rest on frayed leaves. Butterflies flit over secluded island beaches where no one disturbs them. All of these insects and others have ways to stay safe. Most avoid danger. Some have special body parts that help them stay safe. Others use venom or poison as a defense. Over millions of years, insects have adapted to the dangerous world in which they live.

Insects are fascinating creatures. Become an insect watcher. Observe the insects where you live and find out more about them. You might be jubilant when you discover a rare or unusual insect.



It's All Relative

Spiders and Scorpions

Spiders and scorpions are not insects. They are another kind of arthropod called arachnids. Arachnids have eight legs, not six. They have two body parts, not three. They are venomous. Both spiders and scorpions inject poison into their victims when protecting themselves against attack.



Some insects have poison throughout their bodies. They are poisonous. They are not venomous. A death's head hawk-moth is poisonous. A predator that eats this moth eats its poison as well. Insects like the net-winged beetle have colors warning that they are poisonous.

Caterpillars can be poisonous, too. Some have hairs and spines that connect to poison glands. They can cause rashes, pain, and swelling. Some caterpillars have bright colors to warn about this.

The emperor moth can be deadly. It injects a poison into animals that attack it. The poison stops their blood from clotting. That makes them bleed to death.



This is a yellow-winged grasshopper. It uses a flash of color and clicking sounds to distract predators. Then it drops to the ground. It freezes so it's hard to spot.

Disguises help some insects to survive. Green lacewing **larvae** hunt insects that have soft bodies. But they also need to hide from predators who try to eat them. So the lacewing larvae cover themselves to hide. For example, they might take the dead bodies of other insects and stick them on their backs. Nestled under the debris, the lacewing larvae stay safe.



Each fall, ladybugs gather to hibernate for the winter. An individual ladybug's chance of survival is greater in a mass than by itself.

Some insects find safety in numbers. Bees, ants, and termites live in large groups called **colonies**. Suppose a bird sees a colony of ants. Which one of the thousands of ants in the colony will it choose to eat? One ant in a huge mass has a better chance of surviving than if it were the only meal around for the predator to eat.

Also, the colony can survive losing a lone insect. If a predator eats one ant, another ant can take its place. The colony goes on as if nothing happened.



Honeybees swarm when they are forming a new colony.

Social bees defend their hives by stinging, but there's a new bee that is quicker to attack than most bees. These are Africanized or "killer" bees. Their venom is no stronger than that of other bees, but these bees sting hundreds of times. Each sting gives a bit of venom, and getting so many stings at one time can cause some victims to die.

Chapter Four

Venom and Poison

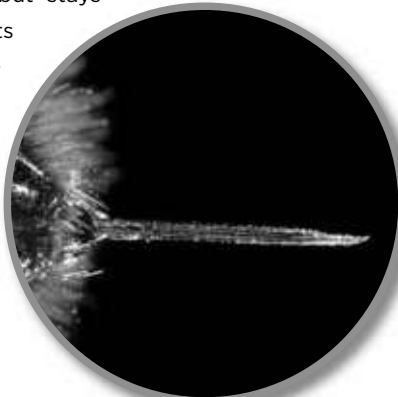


Bees are helpful insects. They **pollinate** flowers and give us sweet honey. However, bees must protect themselves and their hives, too. Many bees can sting. Bees also deliver **venom**. Venom is a poison that insects inject into others. Insects such as bees, wasps, and ants inject venom into their victims to kill or stun them.

A bee's stinger has a barb, or hook, on the end. When the bee stings, the barb hooks into the animal's skin. As the bee tries to get free, venom flows into the wound.

A worker bee's stinger comes out of its body easily but stays in its victim. Without its stinger, the worker bee dies. The worker bee has died helping to save its hive.

This is a close-up view of a honeybee stinger.



Fact or Fiction?

Is a ladybug a bug?

A ladybug is a beetle, not a bug. Bedbugs and chinch bugs are real bugs. A bug has special mouthparts that act like straws. Bugs use them to suck juices from plants and blood from their victims. Parts of their wings are hard as well.

Staying still is another way insects stay safe. For example, praying mantises stay still most of the time. Leaf and stick insects stay still because they can't run very fast. They can lie without moving on a leaf or branch. But they will sway in the breeze. This makes their "frozen" posture look more natural. It fools their predators.

Harvester ants work as a team to carry grass seeds back to their nest.



Chapter Two

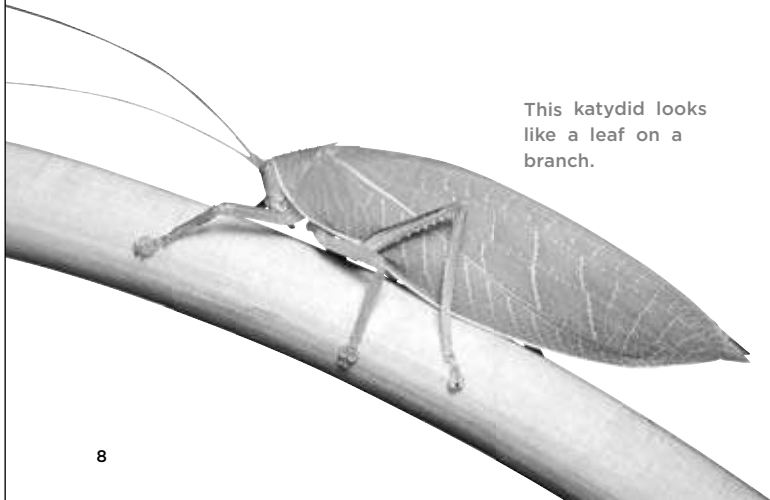
Color Confusion



Like other animals, the coloring on many insects helps them stay safe. Some insects' colors blend into their surroundings. The ability to blend in is called **camouflage**.

Moths fly at night. They rest during the day. Daytime is a dangerous time for moths because that's when predators, such as birds, are active. Camouflage helps many moths stay safe. The moths blend in with the backgrounds where they rest. This makes them hard to detect.

This katydid looks like a leaf on a branch.



Medical Alert

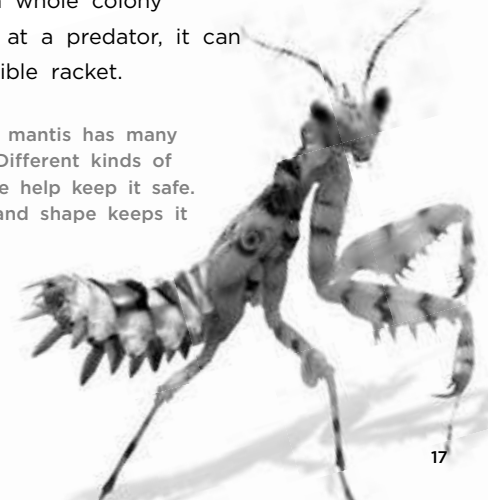
Toxic Oil Beetle

Insects can be a source of medicine. This beetle protects itself with a burning liquid that can cause blisters. Some doctors use this liquid to get rid of warts.



The giant hissing cockroach also makes a noise that scares away predators. This insect lives in a huge colony. When a predator comes near, these hissing sound the alarm. If a whole colony begins hissing at a predator, it can become a terrible racket.

A praying mantis has many enemies. Different kinds of camouflage help keep it safe. Its color and shape keeps it hidden.





Don't touch a velvet ant! The female can curl into a ball and give a painful sting.

Some insects have hard, sharp parts to defend themselves. For example, the praying mantis has sharp spines on the backs of its legs. If you or a predator grabs it, it will rear up. Then it will jab you with its sharp spines.

Other insects, such as ants, bees, and wasps, have sharp stingers. The coloring on yellow jackets and other wasps clearly warns of danger. If a predator gets too close, it could get stung.

Insects such as bees and wasps also make a noise that warns predators. Buzzing tells predators to stay away from them or risk getting stung.



This moth developed from an inch worm. Its color pattern almost matches the bark on the tree where it is resting.



An owl butterfly might make a predator suspicious. Its eyespots look like an owl's eyes. Its wings look like owl feathers.

Some insects have colors that confuse their enemies. The sun moth has two pairs of wings. Its back wings have a bright orange color, and its front wings have dull colors that match its surroundings. When a predator comes near, the sun moth flies a short distance away, flashing its bright orange color. It settles on a branch or tree and its dull front wings cover up its bright orange wings. The predator searches for a glimpse of orange. But it does not see the camouflaged sun moth resting nearby.



Crickets have great hearing. They jump away when they hear predators.

Can you guess how a stinkbug stays safe? The stinkbug and many other insects give off foul-tasting liquids to stay safe. The shield bug's bright red color warns predators about its awful-tasting liquid. The bombardier beetle abruptly sprays a burning chemical that stuns its victim. It is not a pleasant sensation.

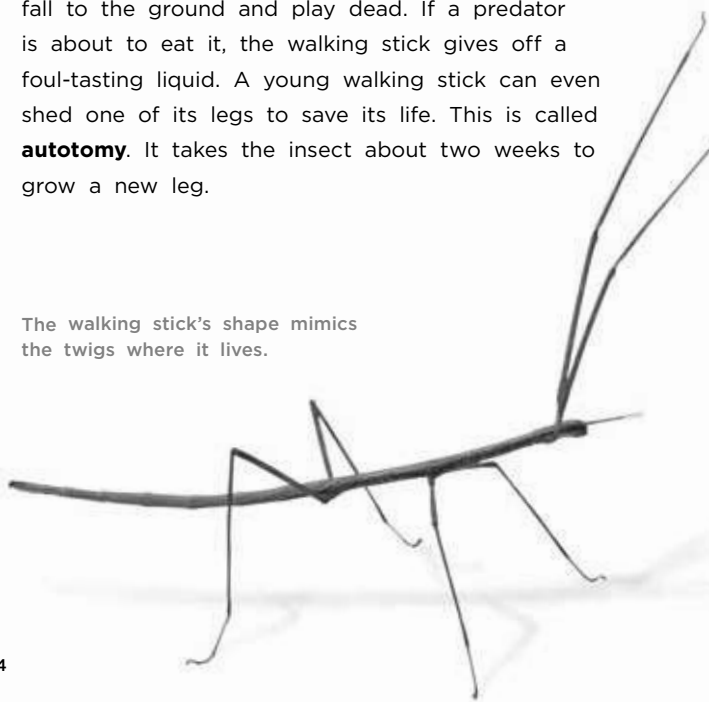
Chapter Three

Body Works



Most insects have more than one way of protecting themselves. The walking stick is a good example of this survival instinct. First, it will stay still or sway in the breeze. If a predator grabs it, the walking stick becomes stiff. It looks like a stick to the predator. Or a walking stick might fall to the ground and play dead. If a predator is about to eat it, the walking stick gives off a foul-tasting liquid. A young walking stick can even shed one of its legs to save its life. This is called **autotomy**. It takes the insect about two weeks to grow a new leg.

The walking stick's shape mimics the twigs where it lives.



Many butterflies, such as the owl butterfly, have large colored dots on their wings. These dots look like eyes. As a result they are called "eyespot." A flash of these eyespots startles predators. To them, the owl butterfly's "eyes" look like they belong to a much larger animal. The predators keep away.

An insect's bright color is a warning. Red, yellow, and black warn predators. They say, "I could be a danger to you!" If a predator ignores such warning signs, it might get an unpleasant surprise. It could feel a painful sting or bite.

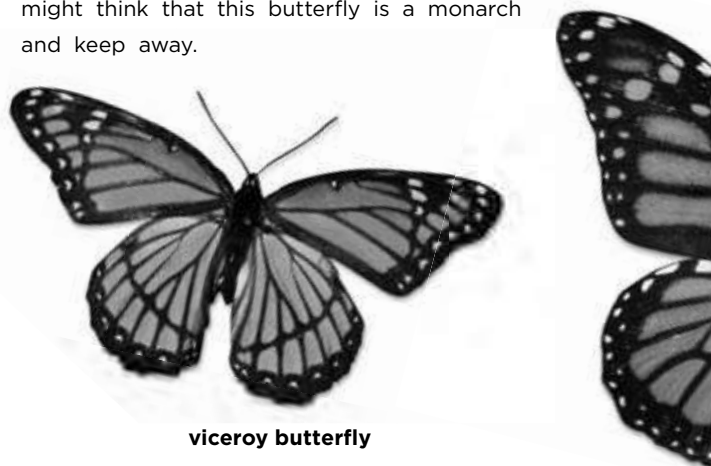
This honeybee's yellow and black stripes warn birds that it could hurt them.



A mimic is one who copies another. **Mimicry** helps some insects to stay safe. A harmless insect could have the same warning colors as a harmful one. For example, the viceroy butterfly looks very much like the monarch butterfly.

A monarch eats milkweed plants. Since birds don't like the taste of these plants, they avoid this butterfly. It tastes like the plant it eats. The monarch warns about its foul taste with black and orange colors.

The viceroy butterfly mimics the monarch butterfly. The viceroy does not eat milkweed plants, and it does not taste terrible to birds. But its colors look like the monarch's. A bird might think that this butterfly is a monarch and keep away.

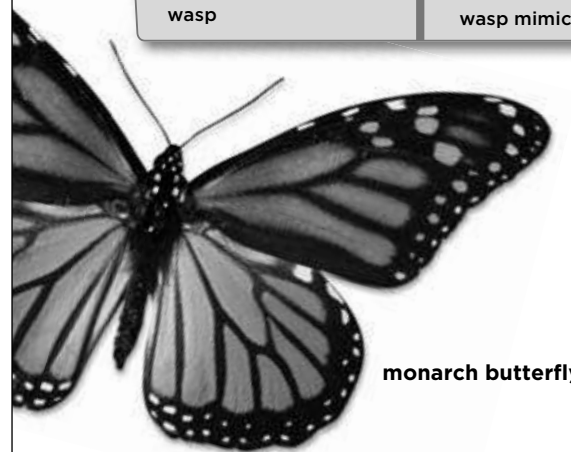


viceroy butterfly

Other insects mimic the shape of things that their predators can't eat. For example, a thorn bug looks like the thorns on the plants where it lives. The back of a thorn bug is in the shape of a thorn. When a predator comes near, the thorn bug stays still. It looks just like all the other thorns on the plant. Once the danger is past, the thorn bug begins moving again.

Insects and Their Mimics

Dangerous Insect	Harmless Mimic
honeybee	hover fly
lycid beetle	longicorn beetle
pipevine swallowtail butterfly	spicebush swallowtail butterfly
wasp	wasp mimic moth



monarch butterfly



Home-School Connection

Dear Family Member:

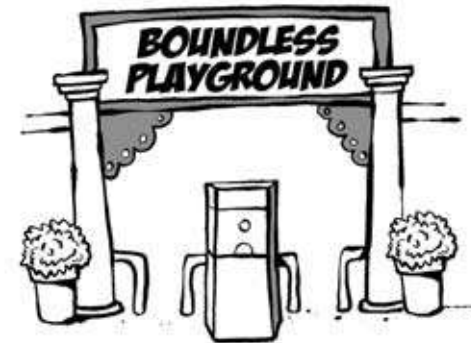
This week we're reading a series of articles titled "A Dream Comes True." It's about new facilities that help people with physical disabilities participate in all activities. One such place is "Boundless Playground." Children with disabilities can swing and use sandboxes among many other typical playground activities. It makes me see the need for more of these facilities.

This Week's Skills

Comprehension: persuasion

Vocabulary: context clues

Spelling/Phonics: words from mythology



Name _____

Word Workout

WORDS TO KNOW

elementary	physical	rigid
interact	wheelchair	

Word Game I'll say one of the vocabulary words and you write down the first thing that pops into your head. When we've gone through all the words, we'll talk about what you wrote down for each and why.

SPELLING WORDS

clothes	territory	gracious	echo
gigantic	ocean	parasol	mortal
fury	furious	January	Olympics
salute	cycle	cyclone	lunar
fortune	cereal	terrace	atlas

Speed Spell Spell each word I give you as quickly as you can. I'll time you and check how many words you spelled correctly in one minute. Are you up for improving your score with another round?

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Convince Me!

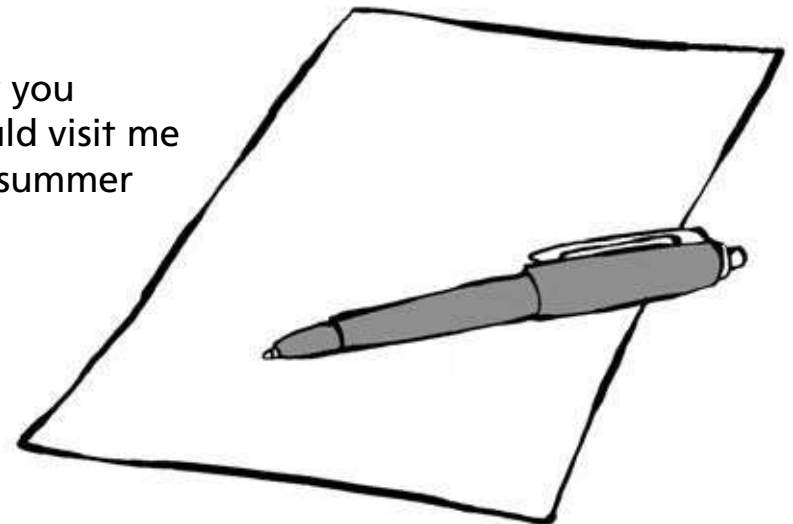
How convincing are we? Are our powers of persuasion in good working order? Let's look at the need for persuasion in each situation below. We can talk about it and jot down notes. If you want, we can choose one and create a complete piece of persuasion.

Why consumers should buy a Teeth-So-Clean Toothbrush



Why our city/town needs more dog runs

Why you should visit me this summer



Ejercicio de palabras

PALABRAS DE VOCABULARIO

elementary physical rigid
interact wheelchair

Juego de palabras Voy a decir algunas de las palabras de ortografía y escribirás la primera cosa que te venga a la cabeza. Cuando hayas hablado sobre todas las palabras, vamos a hablar sobre lo que escribiste y por qué lo pensaste.

PALABRAS DE ORTOGRAFÍA

clothes	territory	gracious	echo
gigantic	ocean	parasol	mortal
fury	furious	January	Olympics
salute	cycle	cyclone	lunar
fortune	cereal	terrace	atlas

Ortografía veloz Deletrea cada palabra que te daré lo más rápido que puedas. Te tomaré el tiempo y revisaré cuántas palabras deletreaste bien en un minuto. ¿Quieres mejorar tu puntaje con otra ronda?



Conexión con el hogar

Queridos familiares:

Esta semana estamos leyendo una serie de artículos titulados *A Dream Comes True*. Es acerca de lugares nuevos en donde se ayuda a las personas con discapacidades físicas para que puedan participar en muchas actividades. Uno de esos lugares es *Boundless Playground*. Los niños con discapacidades pueden columpiarse y usar areneros, entre muchas otras actividades típicas de un lugar de juegos. Este artículo me muestra la necesidad de que haya más lugares como estos.

Destrezas de la semana

Comprensión: persuasión

Vocabulario: claves de contexto

Ortografía/Fonética: palabras de la mitología

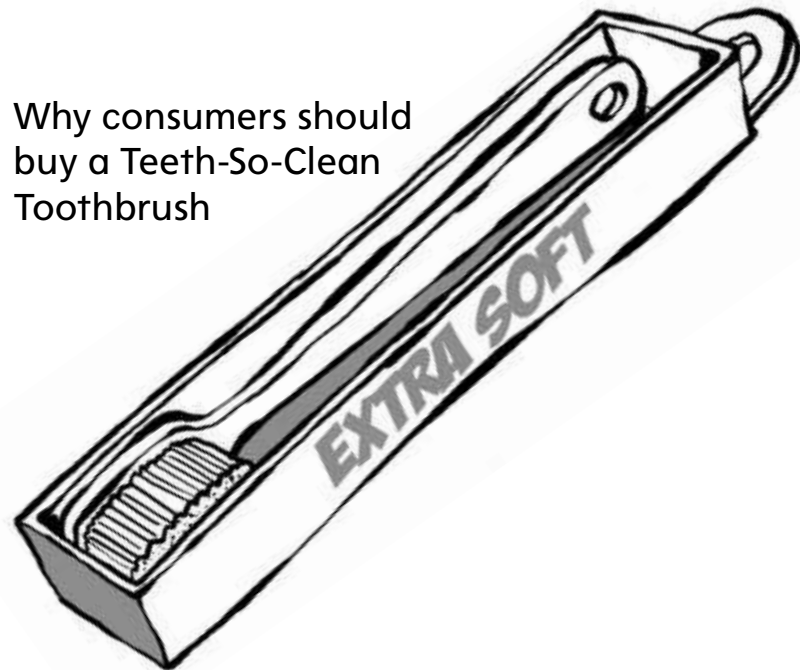


Nombre _____

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¡Convénceme!

¿Qué tan convincentes somos? ¿Funcionan bien nuestros poderes de persuasión? Observemos la necesidad de persuasión para cada situación que se muestra abajo. Podemos hablarlo y tomar notas breves. Si deseas, podemos escoger una situación y escribir un fragmento completo para intentar persuadir.

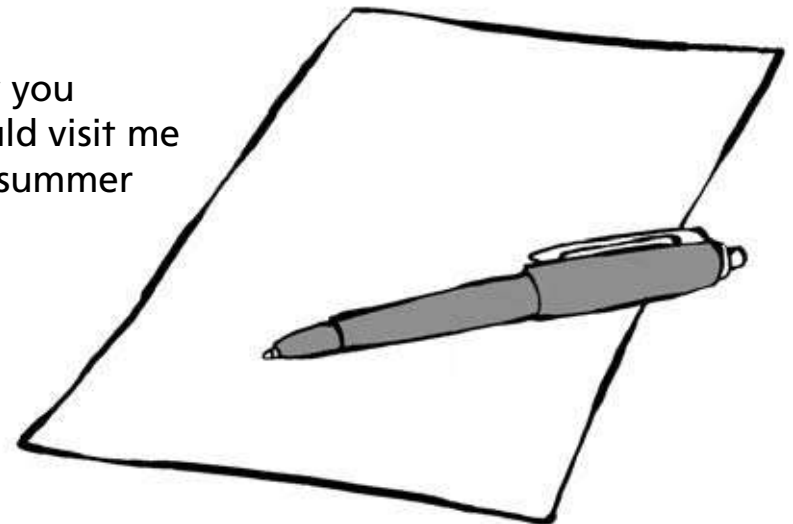


Why consumers should
buy a Teeth-So-Clean
Toothbrush



Why our city/town
needs more dog runs

Why you
should visit me
this summer



Comprehension Check

Summarize

Use the Fact and Opinion Chart to help you summarize the book.

Fact	Opinion

Think and Compare

1. The author makes the argument that everyday people changed America between 1954 and 1965. What evidence does she give to support this argument? *(Persuasion)*
2. Imagine that you were one of the Little Rock Nine. How would you have felt on the first day of school? Describe some of the thoughts and emotions you might have had. *(Synthesize)*
3. Do you think the work of the civil rights movement is complete? Why or why not? *(Evaluate)*

Taking a Stand

The Civil Rights Movement

by Lynea Bowdish

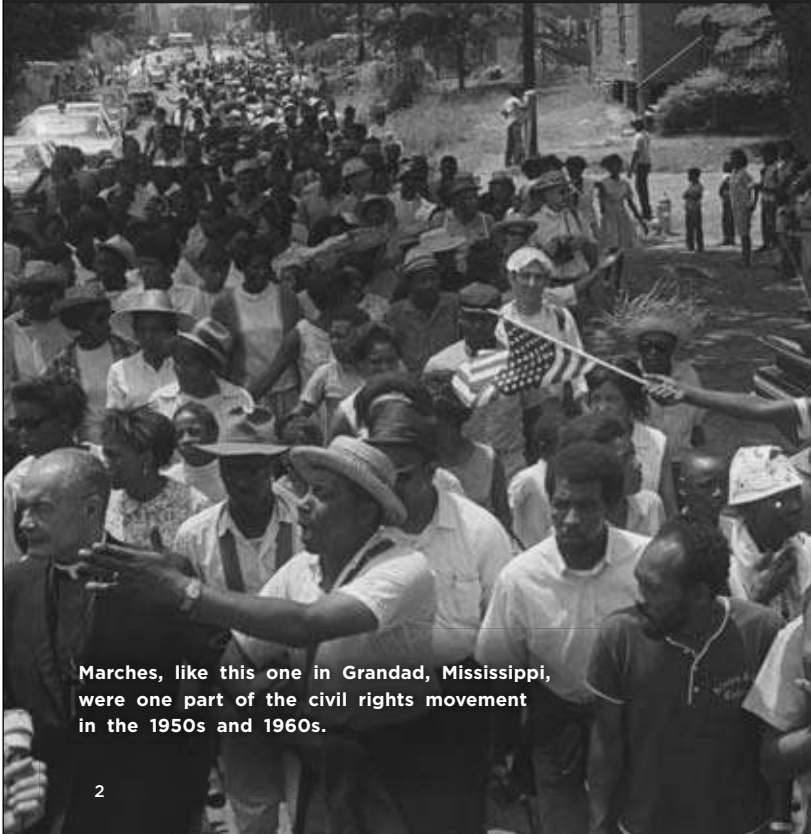


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Introduction

You have probably heard of Martin Luther King, Jr., and Rosa Parks. Their names have become symbols of one of the most important times in United States history. The years were 1954 to 1965. It was the time of the **civil rights** movement.



Marches, like this one in Granddad, Mississippi, were one part of the civil rights movement in the 1950s and 1960s.

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Glossary

boycott (*BOY-kot*) a form of protest in which people refuse to do business with, attend, or take part in something (*page 11*)

civil disobedience (*SI-vil dis-oh-BEE-dee-ents*) a form of protest in which people refuse to obey laws. The actions are not violent, and the people accept arrest and punishment for their actions. (*page 11*)

civil rights (*SI-vil RYTS*) the rights of people to be treated equally under the law (*page 2*)

demonstrators (*DEM-un-stray-tors*) people who publicly show their feelings for or against a cause (*page 16*)

desegregation (*dee-se-gre-GAY-shun*) to reverse segregation by stopping the practice of separating races (*page 8*)

discrimination (*dis-crim-NAY-shun*) different treatment people receive because of their race, religion, or other factor (*page 19*)

inequality (*in-ee-KWAL-uh-ty*) treating one group of people differently or unfairly (*page 14*)

integrate (*IN-te-grayt*) to combine or blend; to allow races to attend the same schools and receive the same services (*page 8*)

lawsuit (*LAH-soot*) a legal appeal that is brought before a court for decision (*page 6*)

lunch counters (*LUNCH COWN-ters*) long shelves or tables at which meals are sold (*page 14*)

patrolled (*pa-TROLLED*) walked around in order to keep things peaceful (*page 10*)

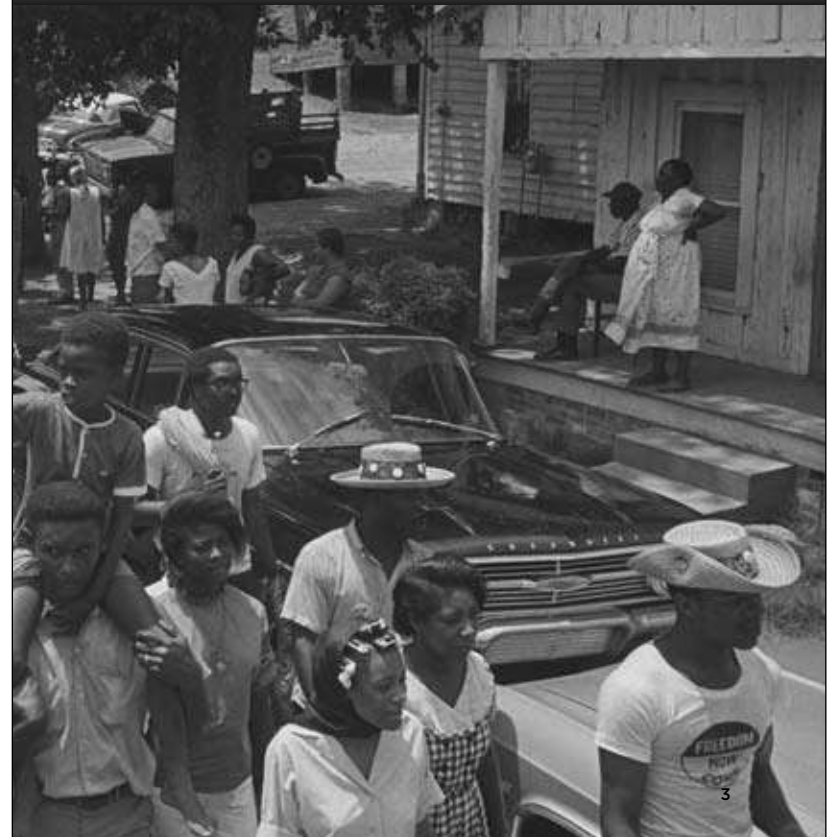
protesters (*PRO-test-ers*) people who show their objection to a cause or an action (*page 15*)

Supreme Court (*suh-PREEM KAWRT*) the highest court in the United States (*page 5*)

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Taking a Stand

The purpose of the movement was to gain basic rights for African Americans. But the people involved weren't all famous. Most were everyday people. Some had to walk through angry crowds to go to school. Others walked to work for months to protest unfair treatment on buses. It was these everyday people taking a stand that helped to change the United States.



CHAPTER 1

Separate but Not Equal

After the Civil War, laws were passed to keep blacks separate from whites. This was called segregation.

These laws were called “Jim Crow” laws. Jim Crow laws separated blacks from whites in public places. Blacks went to one school. Whites went to another. At the movies, blacks would go in one door. Whites would go in another. Once inside, they would sit in different places. Most public areas were segregated.

Most of these laws were passed in the South. But segregation existed in other parts of the country, too. And the federal government supported segregation laws.



Public drinking fountains were segregated.



Martin Luther King, Jr., in the March from Selma to Montgomery.

1964 President Lyndon Johnson signs the Civil Rights Act of 1964.

1960

1963 Martin Luther King, Jr., gives his “I Have a Dream” speech in Washington, D.C.

1965

1965 The Voting Rights Act of 1965 is passed.

1970

Conclusion

The movement for civil rights started long before 1954. It has lasted far beyond 1965. But the years from 1954 to 1965 were a time of great struggle.

Many of the people involved in the movement were everyday people. They wanted equality in their daily lives. They wanted to go to good schools. They wanted to sit comfortably on buses. They wanted to eat at lunch counters. They wanted to be able to vote.

Some of these people became well known. Others did not. All of them will be remembered for how they helped to change America.

THE CIVIL RIGHTS MOVEMENT FROM 1954 TO 1965

1954 The U.S. Supreme Court rules on *Brown versus Board of Education of Topeka Kansas*.

1957 In Little Rock, Arkansas, the Little Rock Nine enter Central High School.

1950

1955

1960

1955 In Montgomery, Alabama, Rosa Parks refuses to give up her seat on a bus.

1960 In North Carolina, the Greensboro Four begin a sit-in at a Woolworth's lunch counter.



Some African American schools were held in churches.

In many states, there were laws that the train cars had to be segregated. These laws were challenged in courts. In 1896, the United States **Supreme Court** ruled that the segregation of train cars was legal. The court said that segregation was allowed as long as the cars were “separate but equal.” This ruling was used to support segregation in other public places, too.

But separate *wasn't* equal. For example, white children went to one school. Black children went to another. Usually, the white schools were better. African American children often had to travel far from their homes to go to school. The buildings themselves were usually not as nice. Neither were their books and other supplies.

LINDA BROWN AND THE TOPEKA BOARD OF EDUCATION

Seven-year-old Linda Brown lived in Topeka, Kansas. Linda was like many other African American children in the 1950s. An elementary school was nearby. But Linda couldn't go there. That school was only for white children.

Linda Brown had to walk across railroad tracks in a train yard to get to a bus stop. An old bus took her to a school far from her home.

In the 1950s an organization called the National Association for the Advancement of Colored People (NAACP) filed a **lawsuit** against the Board of Education in Topeka, Kansas. The NAACP believed that children should be allowed to go to their local schools. It shouldn't matter what color the children were.

Linda's father, Oliver Brown, joined the lawsuit. The court case went to the U.S. Supreme Court in 1954. The case was named *Brown versus Board of Education*.



Linda Brown was one of several children involved in *Brown versus Board of Education*.

CHANGING LAWS

The boycotts, sit-ins, and marches worked. They raised the public's awareness about inequality. In 1964, President Lyndon B. Johnson signed the Civil Rights Act. Its purpose was to stop **discrimination** based on race, religion, or origin. It provided equal voting rights. It provided equal chances for jobs. And it also included integration of schools and other public places.

The Civil Rights Act had been passed. But the struggle wasn't over. African Americans knew that the only way to protect their rights was to vote. But many African Americans were stopped from voting.

In some places, voters had to take a literacy test. The test would show if people could read. If they couldn't read, they weren't allowed to vote. In other places, voters had to pay a poll tax. If people could not afford to pay the tax, they weren't allowed to vote.

The Voting Rights Act of 1965 outlawed literacy tests. Later laws forbade the use of poll taxes. African Americans finally had a fair say in their government, and in their own future.

Protecting Everyone's Rights

The Civil Rights Act paved the way for other laws that protected people's rights. The Americans with Disabilities Act, which passed in 1990, ensured that people with disabilities would be treated equally. For example, workplaces had to provide ramps or elevators for people in wheelchairs.

Leaders in the Civil Rights Movement

Lyndon Baines Johnson was born in Gillespie County, Texas, in 1908. Johnson was elected Vice President under John F. Kennedy in 1960. He became President in 1963 after Kennedy was killed.

Johnson was responsible for the passage of the Civil Rights Act of 1964. It was the most far-reaching law of its kind in U.S. history. It was followed by the Voting Rights Act in 1965.

Johnson had grown up with segregation. As an adult, he was surrounded by people who supported it. Nevertheless, he supported these two laws that guaranteed basic rights for all Americans.



President Lyndon Johnson signed the Civil Rights Act on July 2, 1964.

Leaders in the Civil Rights Movement

As a lawyer for the NAACP, Thurgood Marshall fought for civil rights through the courts. After the Brown case, he went on to argue many other cases before the U.S. Supreme Court. In 1967 he became the first African American on the Supreme Court. He served on the court until 1991.



Thurgood Marshall was a lawyer for the NAACP. He believed that separate was not equal. Marshall argued that segregation did not give African Americans equal rights.

In 1954, the United States Supreme Court agreed with Marshall's argument that separate was not equal. It ruled against racial segregation in public schools. The next year the court ruled that schools must be desegregated "with all deliberate speed."

"To separate [children] . . . solely because of their race generates a feeling of inferiority . . . that may affect their hearts and minds in a way very unlikely ever to be undone. . . . The doctrine of 'separate but equal' . . . [is] inherently unequal."

From the U.S. Supreme Court decision,
Brown v. Board of Education

THE LITTLE ROCK NINE

The Supreme Court decision didn't say how **desegregation** should happen. It also didn't give a time limit.

It wasn't until 1957 that the city of Little Rock, Arkansas, decided to **integrate** their schools. Nine African American students were picked to go to Central High School. They became known as the Little Rock Nine.

But there were many people in Little Rock who were against integration. They were rigid in their beliefs. The governor of Arkansas was one of them. The governor sent the Arkansas National Guard to the school to keep the students out.

Elizabeth Eckford was one of the students. On September 4, she took the bus to school. When Elizabeth got off the bus, she saw the armed soldiers of the National Guard. She also saw a crowd of people protesting. When the crowd saw Elizabeth, they began yelling at her and calling her names.

The Little Rock Nine studied together at home when they were not allowed to enter the high school.



One of the most famous moments in the civil rights movement happened on August 28, 1963. On that day, more than 200,000 people took part in the March on Washington.

The demonstrators wanted equal rights for African Americans, including the integration of schools across the country and fairness in getting jobs. And they wanted a civil rights law passed that would assure these rights.

The march ended at the Lincoln Memorial. There, Martin Luther King, Jr., spoke to the crowd. King's speech became known as his "I Have a Dream" speech.

In his speech, King said, "I have a dream that my four little children will one day live in a nation where they will not be judged by the color of their skin but by the content of their character."



Martin Luther King, Jr., speaks to the crowd gathered at the Lincoln Memorial in Washington.

CHAPTER 3

Moving Toward a Resolution

In the early 1960s, people continued to work for equal rights. But it was still dangerous for many of the protesters.

In 1963, demonstrations began in Birmingham, Alabama. The **demonstrators** wanted an end to segregation. The protesters boycotted local businesses and held lunch counter sit-ins. The protests were all nonviolent, but the mayor ordered them to stop. Martin Luther King, Jr., was arrested and jailed.

Then, on May 3, 1963, the police interacted violently with the demonstrators. They used fire hoses and police dogs against them. Photos of the event spread around the country. People were stunned by the images of police brutality and support began to grow for the movement.



Police in Birmingham used hoses on young protesters.



"I tried to see a friendly face somewhere in the mob. . . . I looked into the face of an old woman, and . . . she spat on me."

—Elizabeth Eckford

Elizabeth tried to enter the school. One of the guards raised his weapon and refused to let her by. Elizabeth walked to a bench. She thought she'd be safe there. But the mob followed. Two adults finally guided her to a bus. She later had nightmares about the mob.

Police escorted the other eight students to school. The Arkansas National Guard kept them out of Central High, too.

The Little Rock crisis got worse. The governor did not want integration. Neither did the mobs that gathered.

The mayor of Little Rock finally asked for help. President Dwight D. Eisenhower sent in soldiers from the United States Army. He also ordered the Arkansas National Guard to protect the Nine from physical danger.

On September 23, the nine students entered the school. This time they were protected by soldiers. The troops **patrolled** the halls for the rest of the year. But it was still a struggle every day. The students were constantly picked on. They were called names. Sometimes they were attacked.

Despite everything, senior Ernest Green graduated from Central High on May 29, 1958.

African American students in many other places faced the same struggle when they were the first to integrate elementary schools, high schools, and colleges around the country.

Ernest Green was the first African American to graduate from Central High School.



The students were allowed to stay, but they weren't served food. The students were polite and sat reading books at the counter until the store closed. They returned the next day.

Other **protesters** joined them, and sit-ins began in other stores. Reporters and TV newspeople came to see them. Soon the whole country knew about the sit-ins. Sit-ins spread to other cities across the nation. They occurred in parks, pools, and other public areas. Many were effective.

In July of 1960, Woolworth's officially integrated its lunch counter.



SIT-INS AND THE GREENSBORO FOUR

By 1960, laws existed against the segregation of schools and public transportation. But blacks and whites were still separated in other places.

Boycotts were just one way that people protested racial **inequality**. Sit-ins were another.

Some restaurants and **lunch counters** wouldn't serve African Americans. Others provided counters for them, but the counters didn't have seats.

In 1960, four African American college students went into a store called Woolworth's in Greensboro, North Carolina. They sat down at the lunch counter meant for white customers. They were refused service.

"We were all in the same algebra class and we . . . became friends. . . . We had determined how we were going to conduct ourselves . . . we sat at a lunch counter where blacks never sat before. And people started to look at us. . . . It was our intent to sit there until they decided to serve us . . . So the next day we went down with fifteen, and the third day it was probably a hundred and fifty . . . and then it spread to [other cities]."

—Joseph McNeil, sitting on the left in the photograph, about the sit-in at Woolworth's



CHAPTER 2

Boycotts and Sit-ins

School integration was only one part of the civil rights struggle. Because of the Jim Crow laws, African Americans faced segregation on buses, in movie theaters, and in many other public places. African American leaders believed that the best way to change things was through protest and **civil disobedience**. People would refuse to obey unfair laws and customs, but they would do so nonviolently. They knew they might be arrested and punished. But they wouldn't fight it.

The Montgomery Bus **Boycott** in 1955 began with an act of civil disobedience by a woman named Rosa Parks.

People who practiced civil disobedience knew they could be arrested for protesting.





Rosa Parks was arrested for refusing to give up her seat to a white man.

ROSA PARKS AND THE BUS BOYCOTT

In 1955, the bus system in Montgomery, Alabama, was segregated. As white passengers boarded a bus, blacks were expected to move to the back. Some people had already tried to change this practice. But it took the effort of all the people in the African American community to force a change in the rules.

On December 1, 1955, Rosa Parks sat down on a bus. The bus driver told her to give her seat to a white man. She refused and was arrested and taken to jail.

Rosa had once worked for the NAACP. The NAACP asked Rosa if they could use her case to fight bus segregation. She said yes. Leaders in the African American community also asked people to boycott the city buses to protest the unfair treatment.

Almost all of the African Americans in Montgomery participated in the boycott. African Americans with cars took people to work. Pickup and drop-off points were set up. Thousands of other people walked to work and everywhere else they wanted to go.

The boycott lasted almost thirteen months. The bus company lost money in bus fares. Downtown businesses lost customers. The organizers wanted to keep the boycott nonviolent, but there was still danger. Some leaders were arrested. Some boycotters were attacked.

In 1956, the buses were finally desegregated by court order. The boycott ended with success.

"You know, you can take things, and take things, and take things . . . [but] this new generation had decided that they just had taken as much as they could. Sometime I walked by myself and sometime I walked with different people. . . . I walked a mile, maybe two miles . . . going to and from [work]."

—Georgia Gilmore, about the bus boycott

Leaders in the Civil Rights Movement

At the time of the bus boycott, Rev. Martin Luther King, Jr., had just become a minister at a church in Montgomery. He was 26 years old. King became one of the leaders of the boycott. King took great risks doing this. His house was bombed, and he and others were arrested for leading the boycott. The situation made national news. Martin Luther King, Jr., became a national figure during the boycott.



Home-School Connection

Word Workout

WORDS TO KNOW

founding civilization complex outcast
reflected shortage strategy traditional

For Example I'll give you a vocabulary word and you can tell me what the word means. Then give me an example of something it might describe.

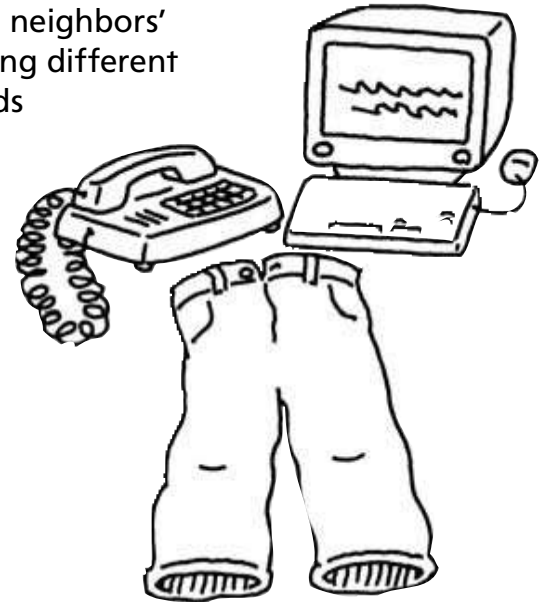
SPELLING WORDS

uniform	bisect	tricycle	triplet
unicorn	unify	unison	universe
unicycle	biweekly	binoculars	century
centipede	centimeter	tripod	university
triangle	trio	triple	bicycle

Using Prefixes I'll say one of the spelling words, but I'll leave off the prefix. You tell me what the prefix is and then spell the word. Some base words can have more than one prefix. That's okay. If you make a mistake I'll tell you to try again. When we're done we'll underline the prefixes in each word and review their meanings.

Dear Family Member:

In class, we're reading *Weslandia*, a story about a boy who is different from the kids around him. For a summer project, Wesley decides to build his own civilization. He plants a different kind of plant than those in his neighbors' gardens. He makes clothing different than that worn by the kids he knows. A theme is an overall message to readers. So far, I think the theme is how being different can lead to new and wonderful things.



This Week's Skills

Comprehension: theme

Vocabulary: word origins

Spelling/Phonics: number prefixes **uni**, **bi**, **tri**, and **cent**

Name _____

(fold here)
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Choose a Theme

Let's read the information about each holiday. Then we can think about what the holiday means and how we would reflect the theme of each one. If you want, we can carry through on one holiday mission.

April Fool's Day

The first of April, some do say,
Is set apart for All Fool's Day;
But why the people call it so,
Nor I, nor they themselves, do know,
But on this day are people sent,
On purpose for pure merriment.

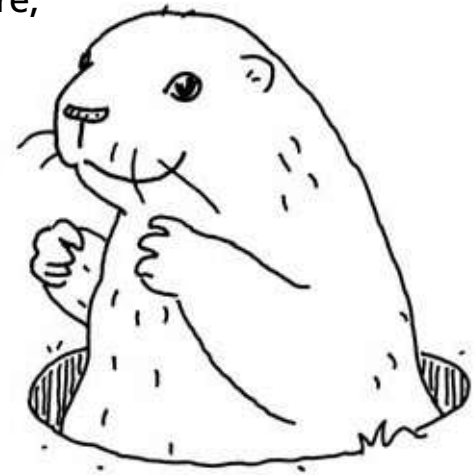
—Anonymous

Your Plan: Your class is planning an April Fool's Day party. What theme will you have for the party? How will you carry that out for the party?



Groundhog Day

According to German folklore, a groundhog can predict the weather! Every year on February 2, people in a Pennsylvania town gather around a groundhog's hole. The groundhog is always called Punxsutawney Phil. They wait for Phil to poke his head out from his hole. If Phil casts a shadow, there are supposed to be six more weeks of winter. If Phil casts no shadow, spring will supposedly be early. Unfortunately, Phil is often wrong.



Your Mission: Make up a song or rhyme about Groundhog Day. Be sure to work a theme into it!

Ejercicio de palabras

PALABRAS DE VOCABULARIO

founding civilization complex outcast
reflected shortage strategy traditional

Por ejemplo Te voy a dar una palabra de vocabulario y tú me dirás lo que la palabra significa. Luego, me darás un ejemplo de algo que la palabra podría describir.

PALABRAS DE ORTOGRAFÍA

uniform	bisect	tricycle	triplet
unicorn	unify	unison	universe
unicycle	biweekly	binoculars	century
centipede	centimeter	tripod	university
triangle	trio	triple	bicycle

Usar prefijos Voy a decir una palabra de ortografía, sin el prefijo. Dime cuál es el prefijo y deletrea la palabra. Algunas palabras base pueden tener más de un prefijo. Eso está bien. Si cometes un error, vuelve a intentar. Subrayemos los prefijos y revisemos su significado.



Conexión con el hogar

Queridos familiares:

En la clase estamos leyendo *Weslandia*, un relato acerca de un niño que es diferente de los demás niños que lo rodean. Para un proyecto de verano, Wesley decide construir su propia civilización. Él planta un diferente tipo de planta de las que hay en los jardines de sus vecinos. Él confecciona la ropa diferente de la que visten los niños que conoce. El mensaje general para los lectores es un tema. Hasta ahora, yo pienso que el tema de este relato es cómo ser diferente puede llevar a cosas nuevas y maravillosas.



Destrezas de la semana

Comprensión: tema

Vocabulario: origen de las palabras

Ortografía/Fonética: los prefijos de número **uni**, **bi**, **tri**, **cent**

Nombre _____

(fold here)
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Escoge un tema

Leamos la información acerca de cada día feriado. Luego, podemos pensar acerca de lo que el día feriado significa y cómo podríamos reflejar el tema de cada uno. Si deseas, podemos llevar a cabo una misión de un día feriado.

April Fool's Day

The first of April, some do say,
Is set apart for All Fool's Day;
But why the people call it so,
Nor I, nor they themselves, do know,
But on this day are people sent,
On purpose for pure merriment.

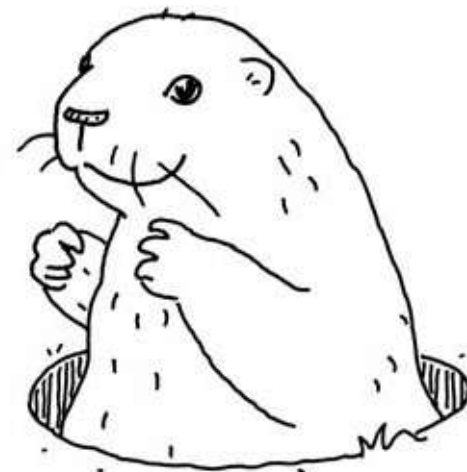
—Anonymous

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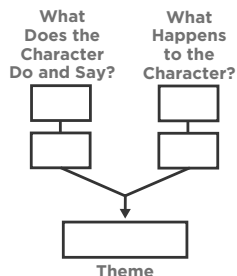


Your Mission: Make up a song or rhyme about Groundhog Day. Be sure to work a theme into it!

Comprehension Check

Summarize

What do you think the theme of this story is? Use the Theme Chart to list examples from the story that support your ideas.



Think and Compare

1. Mica says he often feels like an outcast. How does the author use the theme of being an outcast? Give examples from the story. **(Theme)**
2. Being different ended up helping Mica in this story. Has being different ever helped you? If so, how? **(Analyze)**
3. When Mica learns about Jupiter, it helps him help his town. Some people in this country think that more money should be put into our space exploration program. Others think that the money could be put to better use. What do you think? Do you think there is value in space exploration? If so, what is it? If not, why do you think so? **(Synthesize)**

Fruit from Space

by Carol Pugliano-Martin
illustrated by Claire Louise Milne



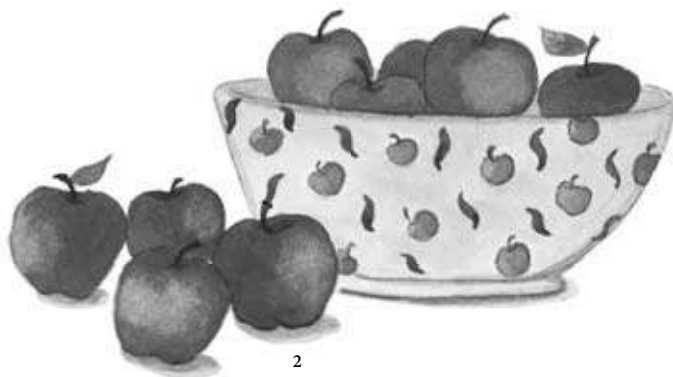
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Chapter One

It's Not Easy Being Me!

My name's Mica and I hate apples. I hate anything to do with apples, such as apple pie, apple cobbler, and just plain apples. Now that's not the most important thing about me, but it's key considering what my family's business is. You see, we have owned an apple farm for several generations. For my family, apples are traditional. My mother and sister wear apples on their dresses, and my father and brother wear apple bandanas. And you wonder why I hate apples? I didn't think you would.

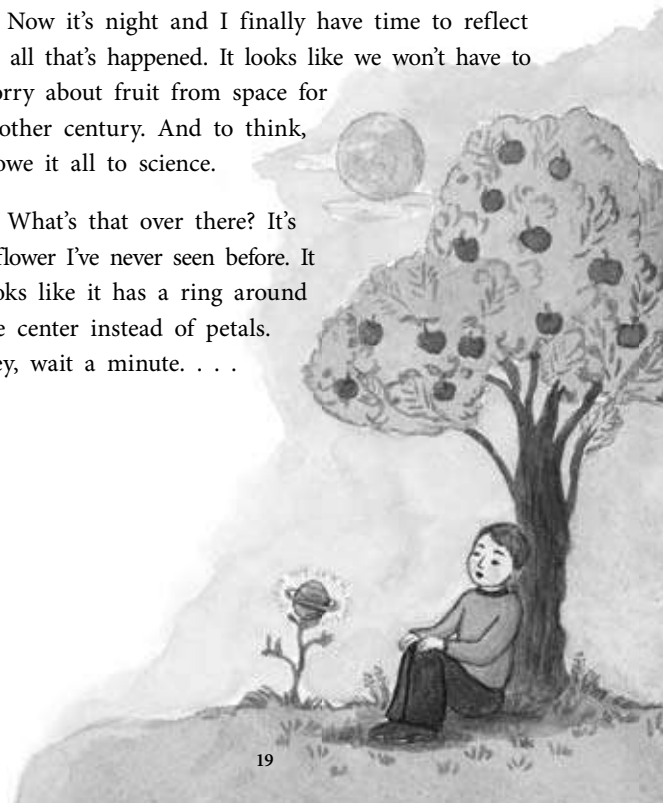


"Mica, your plan worked. Our annoying spots are gone," said the mayor later that day. "I proclaim you Town Scientist!"

Everyone cheered wildly for me! I didn't feel like such a horrible outcast after all. I even went home and had a gigantic piece of apple pie and a tall glass of ice-cold milk.

Now it's night and I finally have time to reflect on all that's happened. It looks like we won't have to worry about fruit from space for another century. And to think, I owe it all to science.

What's that over there? It's a flower I've never seen before. It looks like it has a ring around the center instead of petals. Hey, wait a minute. . . .



The next day was quite a spectacular scene.

“Please remember your sunglasses, everyone! That goes for animals, too!” shouted the mayor into his megaphone.

I couldn’t believe it. The town was wall-to-wall with people lying in the sun, and it was all my doing. I figured that since a sunny day clears up a storm, lying in the sun would clear up everyone’s “stormy” red spots. Our town had become an enormous tanning salon.



It’s not only my family that loves apples so much. All of my friends love apples, too. They think I’m lucky to live on an apple farm. I, however, heartily disagree with them. I am not lucky. I’d rather live on another planet than live on a farm. Everyone wonders what’s wrong with me. Well, I don’t think there’s anything wrong with me just because I happen to find apples kind of disgusting. But it’s hard working on the farm because I have to be around apples all the time. I may have to pick them and polish them, but I definitely won’t eat them.



Of course, the apples are bad enough, but then there are also the cows. Don't even get me started on them. I don't like cows, and if you've ever been kicked by one, you'll know why I feel that way. They're probably insulted that I don't like milk. Sometimes I think our cows are trying to be funny with all their kicking, but let me tell you, there's nothing worse than a cow with a sense of humor! I'm positive that their mooing is their way of laughing at me behind my back.

So you can see my life is very complex. I have many dilemmas and no simple solutions. And my main objective is to think of a strategy to get me out of all this farm work. But another problem is to get my mom to stop making every meal with apples. What do you suppose we're having for dinner tonight? Apple fritters with apple butter, apple juice, and ice cream topped with, you guessed it, apples! Oh well. Now as if all that isn't bad enough, I have to write my science report on a planet. But hey, it's better than picking apples, right?

Chapter Five

Here Comes the Sun

I couldn't believe it. Here I was, me, Mica, sitting in the office of our mayor, telling him about my discovery, and he was intrigued. In fact he thought I had done great scientific work and my hypothesis made total sense.

"You've figured out the problem, but what's the solution?" asked the mayor.

I breathed a sigh of relief. I had the solution all figured out. I enthusiastically told the mayor my plan—or to us scientists, experiment.



As soon as the bell rang to go home, I raced out of school. I had to get to the library. I was on to something gigantic and it couldn't wait.

I burst through the doors of the library and ran to a computer. I typed in the key word "Jupiter" to see what I could find. After surfing anxiously for a while, I found it.

Jupiter's red spot is really a tumultuous storm that's always brewing. The red spot on Jupiter looks just like the spots on everyone in town. But what's the connection, you may ask? I found the answer in an article in an obscure science journal. It seems that once every century, something unusual happens in Jupiter's storm. The strong winds send minuscule particles out into space. The scientists hypothesize that the particles may even take on life form. Ha, I knew what the scientists didn't. The particles did take on life form and they had landed in our town. More precisely, they had landed on our farm! The fragments had grown into the mystery tree and, well, you know the rest.

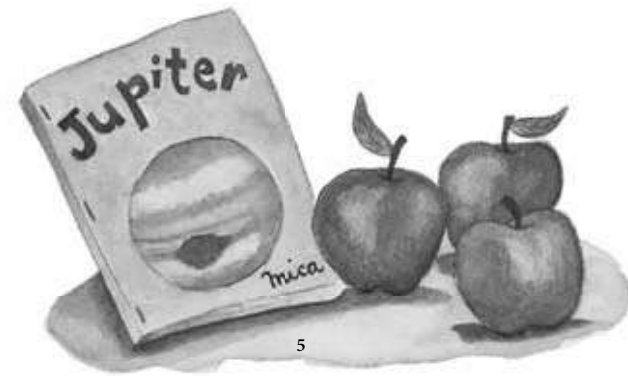
I ran out of the library. Next stop, the mayor's office!

Chapter Two

Mystery in the Orchard

I handed in my Jupiter report today, but I don't remember anything about the planet. That's because as soon as I got home, excitement ruled. I could hear the noise about half a mile away. When I got to the farm, there was bedlam!

"Well, if you didn't plant it, then how did it get here?" I heard my mother yelling. My father said he didn't know how the peculiar plant got there but that it had to be gotten rid of right away. He didn't want our crop to be spoiled by some mystery fruit.



"Hey, what's going on?" I asked over all the commotion.

"This!" shouted my mother as she pointed to a strange tree in the middle of the orchard.

At first glance, when I looked at the tree, it looked like all the other trees. But then I noticed the extraordinary fruit. Each piece was round and yellow and had a big red spot on it. There was just one spot and each piece of fruit was the same.

"Mica, get an ax and help me cut this bizarre thing down," ordered my father. "I can't have it messing up the crop!"

I started for the barn, but just then a colossal bang of thunder roared, and lightning streaked across the sky.

"Mica, quick, get inside. There's a big storm coming!" shouted my mother. As rain started falling, we all raced into the house, leaving the odd tree for the night. Little did we know, the wind blew some of the fruit down and into the barn and henhouse. The hens and the cows saw the strange fruit and ate it up. Well, that figures. What do you expect from hens and cows?



"Remember, pupils, all of the answers lie in science," Mrs. Banks said. Man, that woman loved science! I had never really cared about science before. But this time, when Mrs. Banks went on and on about the wonders of science, I listened. Maybe science *was* the answer.

I looked down at the science report. I had put a picture of Jupiter on the cover, and now I stared at it. Round, yellow, with a big red spot! I started to get extremely excited as I waited for class to end. Was this how scientists felt as they realized they may have made an important discovery?

Chapter Four

Science to the Rescue!

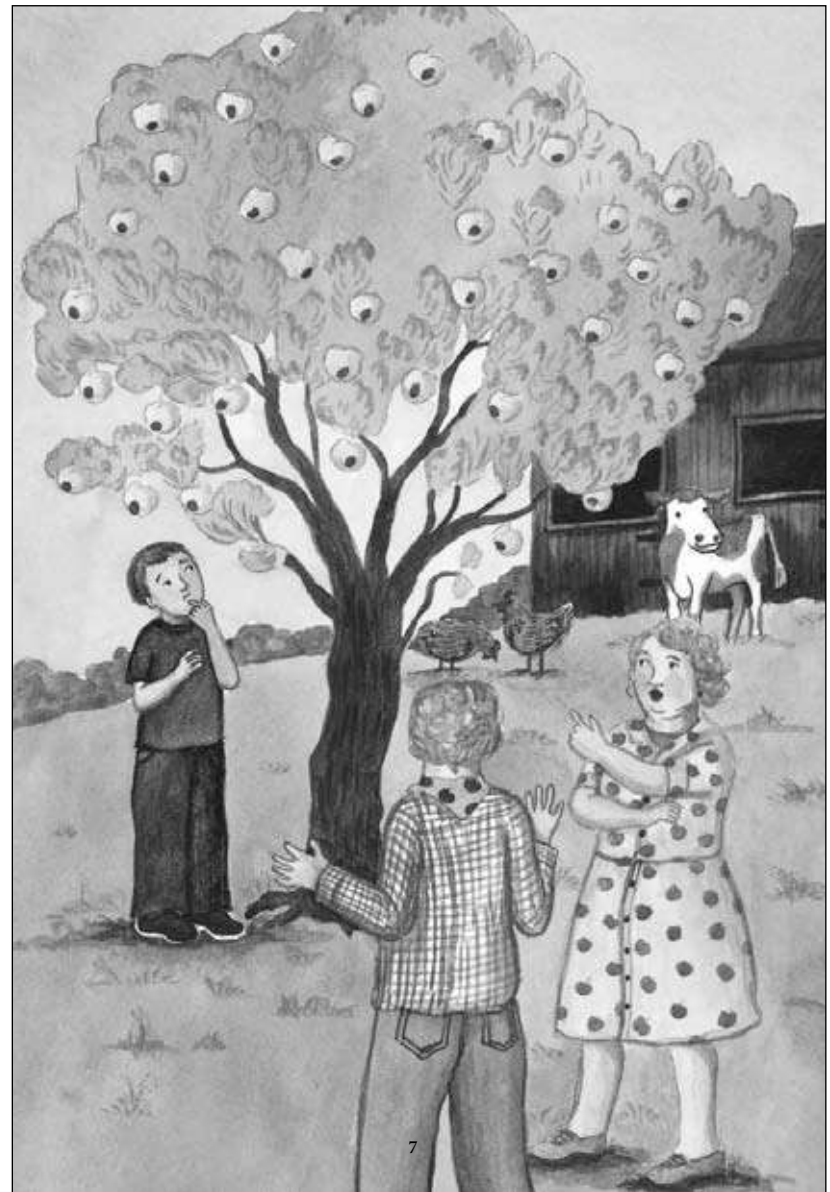
The next day in science class, Mrs. Banks was returning our graded science reports. So much had happened since I wrote that report on Jupiter, I barely remembered writing it at all.

Throughout the class, all of my red-spotted classmates would annoyingly turn to look at me. It was almost as though they thought if they stared hard enough, a big red spot would appear on me, too. I just stared back. I had gotten used to being the center of attention.



Fruit from Space

© Macmillan/McGraw-Hill



When the storm was over, Dad and I went to chop down the peculiar tree. That tree sure didn't want to come down. We chopped and chopped, but our axes hardly made a dent. Finally, though, the stubborn tree was down.

"Hey Dad," I whispered cautiously as I tapped him on the shoulder. "Look at that."

"Jumping jackrabbits!" said my father. There was an eerily glowing hole in the spot where the tree was cut down.

"Must be from the lightning," said my father. "Now let's throw out this outlandish fruit. Everything will be back to normal in the morning."

Boy, was he wrong.



As we all sat around the television one night, the show we were watching was interrupted. Suddenly our mayor appeared. He looked very nervous and worried. He wiped sweat from his forehead. A big red spot glowed on his bald head.

"My fellow townspeople. I'm sorry to interrupt your show, but this is extremely urgent."

The mayor was trying to remain composed, but then he lost it.

"What's happening to our civilization?" cried the mayor. "This onerous epidemic has spread throughout our entire town! We have not faced a problem like this since the founding of our town."

My family turned to look at me. I realized that I was the only unspotted creature for miles around. I tried to ignore their envious stares.

"Somebody please help us!" he moaned as his big red spot seemed to glow even brighter.

He seemed to be looking right at me!



My dad spotted our hired hand Bill carrying two buckets of milk from our cows.

“Bill, Bill, don’t sell the milk!” yelled my father as he ran to Bill.

But it was too late. Bill informed us that he had already sent a sizable shipment of our milk out to the stores.

We heard the hum of the milk delivery truck as it headed down the road carrying jugs and jugs of milk from our cows. Bill was right—it was too late. Bill set his pails down and we all looked inside. The creamy white milk had a big red spot settled right on the top! We looked at Bill again and noticed he had a white milk moustache above his upper lip. And right above that, right in the middle of his nose, was a glowing red spot!

The next few days were absolutely crazy. The milk had gone to the local stores and the people of the town had drunk the milk. All over town, people had big, glowing red spots on them. Grownups, teenagers, and babies were covered. Even some animals were spotted. Guess they like milk, too.

The next morning my little sister, Sally, burst into the kitchen as we were eating. Everyone was eating apple omelets except me. I had plain toast. My mom asked Sally what was wrong.

“Look at these eggs I just got from the henhouse,” said Sally, white-faced.

Each egg in Sally’s basket had a red spot on it! My mom checked the eggshells from the eggs they had eaten. Sure enough, they had red spots on them, too. We raced to the henhouse.

Each and every bird had one big red spot on her otherwise white feathers!

Then in slumped my big brother, Hank. He asked us what was going on. My father asked if he had just gotten up.

“I’ve been up for a bit,” said Hank. “Just long enough to eat some of Mom’s delicious omelets,” he said as he kissed Mom’s cheek.

“Oh, sweetheart, maybe you shouldn’t have done that,” said my mother. “We don’t know what’s going on with these eggs.”

We were about to find out.

Chapter Three

Spots, Spots Everywhere!

Even though the farm was in complete chaos, I still had to go to school. I went upstairs to get my books and when I came down, what a shock! Everyone in my family had a big glowing red spot on them!

I recognized that glow right away.

"The tree!" I shouted as we all ran out back.

When we got to the place where the tree once stood, we stopped and stared. Instead of the glow, there was a gigantic red spot in the dirt. There was no shortage of strangeness on our farm! Then we noticed the cows had red spots on them!



10

© Macmillan/McGraw-Hill

Fruit from Space

Our farm looked like a giant case of one-spot measles. Suddenly it hit me. The cows and the hens ate the fruit! I told my family my theory and at first they all looked confused.

I pointed to the spot where the tree once stood. There was still a bit of half-eaten, red-spotted fruit on the ground.

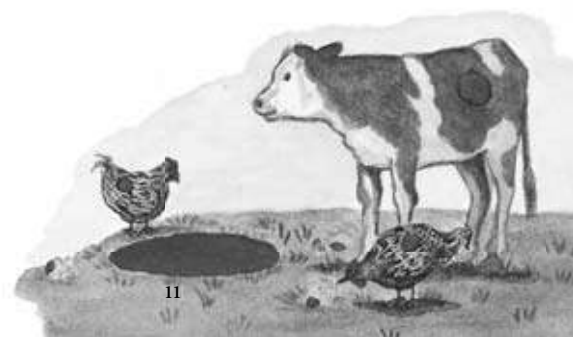
My father nodded his head solemnly. Then his gaze landed on me and stayed there.

"Mica, you are the only one of us without a red spot. How can that be?"

He was right. I told him I remained unspotted because I was the only one who hadn't eaten the eggs.

"The boy's onto something!" said my father. "The hens ate the fruit and we ate the eggs. Oh, no, the milk!"

We all quickly headed for the barn.



11



Home-School Connection

Word Workout

WORDS TO KNOW

attraction discussions emerged focused
inquire sprawled unreasonable ventured

What Is the Same? I'll choose a word and ask you to use it in a sentence. Tell me which word part is added onto the words. We will not use the word **inquire**. Why?

SPELLING WORDS

collapsible	breakable	affordable
usable	bearable	favorable
capable	honorable	convertible
unreasonable	respectable	sensible
unbelievable	possible	suitable
laughable	likable	comfortable
enjoyable	invisible	

Spelling Bee Let's write the words on index cards. Then we can split them in half. I'll read my words for you to spell, and you can read yours for me to spell.

Dear Family Member:

The Gri Gri Tree is about a young girl who sits all day in a gri gri tree. Others think there is something wrong with her until she sees a sea monster and warns them about it. The villagers agree to let her write about what she saw. To summarize a story, or to tell it in a short way, means to talk about the beginning, middle, and end of a story. This book is funny, so I think there will be an entertaining ending.

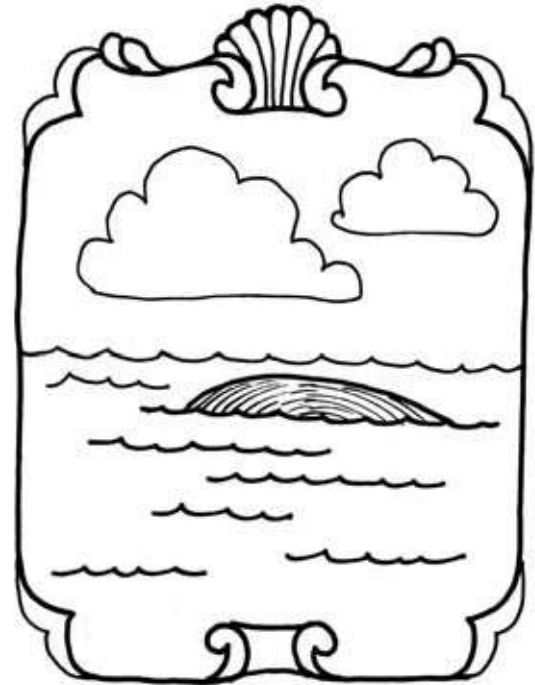
This Week's Skills

Comprehension:
summarize

Vocabulary: word parts—
Latin roots

Spelling/Phonics: words with **able** and **ible**

Name _____



(fold here)
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Remember When?

Think about a day or a longer period of time that was special to us. Let's think of that day as a story and summarize it. We can write down the beginning, middle, and end of our special time.

BEGINNING

MIDDLE

END

Ejercicio de palabras

PALABRAS DE VOCABULARIO

attraction discussions emerged focused
inquire sprawled unreasonable ventured

¿Qué es lo mismo? Voy a escoger una palabra y te voy a pedir que la uses en una oración. Dime qué parte de la palabra se agrega a las palabras. No usaremos *inquire*. ¿Por qué?

PALABRAS DE ORTOGRAFÍA

collapsible	breakable	affordable
usable	bearable	favorable
capable	honorable	convertible
unreasonable	respectable	sensible
unbelievable	possible	suitable
laughable	likable	comfortable
enjoyable	invisible	

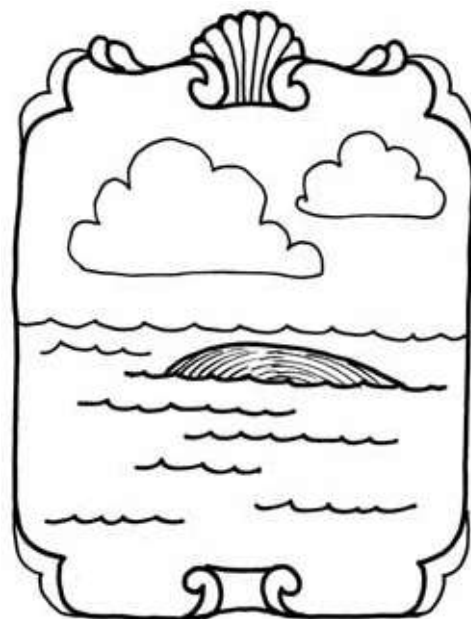
Concurso de ortografía Escribamos las palabras en tarjetas. Tú tomas una mitad y yo la otra. Voy a leer mis palabras para que las delectes y tú harás lo mismo.



Conexión con el hogar

Queridos familiares:

The Gri Gri Tree es acerca de una niña que se sienta todo el día sobre un árbol *gri gri*. Los demás piensan que hay algo raro con ella hasta que ve un monstruo marino y ella le advierte a la gente. Los habitantes del pueblo están de acuerdo en dejarla escribir lo que vio. Resumir un relato, o sea, contarlos en forma corta, significa hablar del comienzo, el desarrollo y el final de un relato. Este libro es divertido, por eso pienso que va a tener un final entretenido.



Destrezas de la semana

Comprensión: resumir

Vocabulario: partes de una palabra—raíces latinas

Ortografía/Fonética: palabras con *able*, *ible*

Nombre _____

¿Recuerdas cuándo fue?

Piensa en un día o en un período de tiempo más largo que haya sido especial para nosotros. Pensemos en ese día como si fuera un relato y resumámoslo. Podemos escribir el comienzo, el desarrollo y el final de nuestro momento especial.

BEGINNING

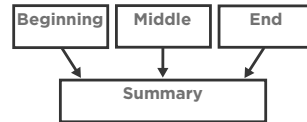
MIDDLE

END

Comprehension Check

Summarize

Use a Summary Chart like the one shown to jot down the main events that happened in this story. Then write a summary of the story.



Think and Compare

1. Turn to page 14. What is happening to Caitlin? Where is she? **(Summarize)**
2. Would you enjoy viewing and studying a coral reef exhibit at an aquarium? Explain why or why not. **(Analyze)**
3. Many of the animals in an aquarium have been born and raised in captivity. Others, however, are captured in their natural habitats and sold for displays and special exhibits. Do you feel it is fair to the animals? Explain your point of view with facts and reasons. **(Synthesize)**

Into the Depths of the Sea

by Katherine Talmadge Sallé
illustrated by Tom Labaff



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CHAPTER ONE

A Change in Plans

"Hurry up!" Caitlin said to her brother Domenic.

Domenic was loaded down with his toolbox and some lumber. "I'm walking as fast as I can!" he said. "Besides, we've got all day tomorrow to work on the decorations. What's the hurry?"

It was Friday afternoon and Caitlin and Domenic were on their way to their grandmother's house. First thing Saturday morning, they would get busy decorating Grandma's basement. They were having a big family party there on Sunday afternoon.

Domenic had been studying about the ocean animals that live in a coral reef. He and Caitlin had decided to turn Grandma's basement into an undersea world. Caitlin had already sketched the cardboard fish that she would hang from the ceiling. Domenic planned to build a treasure chest. Then he and Caitlin would fill it with prizes.

"What a terrific idea!" Grandma said when she heard their plans. "I'll help with the decorations too, and I . . ."

"Caitlin! Wake up!" It wasn't an earthquake. It was only Domenic. "We've got loads of work to do! I built the treasure chest, but you've got to get busy with the fish."

"But I *was* busy with the fish," Caitlin said, confused and groggy. "We danced, we went househunting, I went to a pajama party with the pajama fish, and I . . ."

Domenic yelled, "Grandma, Caitlin's dreaming about fish in their pajamas again!"

Grandma came into the room. "Did you have a nice nap, dear?" she asked, with that pat, pat, pat on the head that made Caitlin feel like a little kid.

"I *did* have those adventures. I *did* play with Slim and Scary Larry! I *did* help Melissa find a new shell for a house!" Caitlin said.

"I'm sure you did, dear," Grandma said, hugging Caitlin tightly. Then, "Ouch!" Grandma said. "Something in your pocket has a sharp edge on it."

Caitlin smiled as wide as she could. Out of her pocket she pulled the pearly white shell.





Suddenly a large group of pajama fish swooped down to Caitlin and Melissa. "Hey, Caitlin," the leader said. "Want to come to a party?"

"A party! How fun! But what should I wear?" Caitlin asked.

"You're dressed perfectly!" another pajama fish said. "It's a pajama party! Come on!"

Suddenly, Caitlin looked at her pajamas and then back at the reef. How could she be underwater, in her pajamas? Where was Grandma? Where was Domenic? And what was that shaking? Was it an earthquake? Would the reef and her pals be hurt?

Grandma's voice trailed off. Her eyes were twinkling. That always happened when she had a truly great idea.

"Grandma, what is it? What are you up to?" Caitlin asked.

"Oh, I just got the best idea!" Grandma crowed. "There's a new attraction at the aquarium. It's called 'Into the Depths of the Sea!' It's all about life in a coral reef!"

Domenic asked, "When should we go? Tonight?"

"No," Grandma said. "An exhibit like this will attract many visitors. Let's get up early tomorrow and be there when the aquarium opens!"



Grandma was almost hopping with excitement, and Domenic laughed. He always had fun when Grandma made a plan. Then he looked at Caitlin.

With a frown, Caitlin sat down hard on one of Grandma's kitchen chairs. "I want to decorate for the party tomorrow."

"Aw, Caitlin," Domenic said. "Don't be unreasonable. Here's a chance to actually *see* a coral reef. You'll learn a lot, and get even better ideas for your decorations."

"We can move all the furniture in the basement tonight, and get organized. Then we'll get right to decorating tomorrow, after we get home," Grandma said.

Caitlin knew that there was no use arguing. And though she would never admit it to Domenic, Caitlin knew he was right. You can learn a lot from books. But books are only words and pictures. Often, you can learn much, much more by experiencing things yourself.



CHAPTER FIVE

The End of the Journey?

"Thanks for that dance," Caitlin said to Scary Larry. Then she spotted a little hermit crab without a shell. "Oh, you poor thing!" Caitlin said. "Where's your shell?"

"I outgrew it, and I wasn't crazy about the neighborhood, anyway," the hermit crab said. "I'm Melissa, and I'm going househunting. Want to tag along?"

"Sure!" Caitlin said. So Caitlin walked all around the reef, with Melissa scuttling along at her side. Melissa found a lovely two-bedroom shell with a view of the coral forest. Caitlin also found a shell. It was pearly white—so beautiful that she decided to keep it. She tucked it into her pocket.



"That was really fun!" Caitlin laughed, as she and the clownfish emerged from the tickly anemones.

Then what felt like five little hands tapped her on the back, and a voice behind her said, "I'd like to inquire whether you would care to dance with me."

"Scary Larry! There you are!" Caitlin cried, turning around. "But you're not scary at all! You're so polite! Of course I'll dance with you!"

Larry wrapped the ends of two tentacles around Caitlin's hands. "I use the other three for dancing," he explained. "That's why I'm such a smooth stepper. In your world, dancers have only two feet to use!" And off they danced.



CHAPTER TWO

At the Aquarium

Inside the aquarium stood an ocean tank containing sharks, giant tortoises, and schools of big, silver fish, all swimming together like a rippling silver sheet. There was even a whale in another tank.

"I want to see the reef fish," Caitlin said. "They're bright yellow and orange and blue."

A voice behind her said, "And why do you think these fish are silver?"

"I don't know," Caitlan said shyly. "Why?"



“Well, you’re swimming in sunlit waters in the open ocean. Below you, bigger fish would like to eat you. But you fool them. Your silver color makes it difficult for them to see you in the shiny, sunlit water.”

“You must be Mr. Hanson,” Grandma said. “The woman at the ticket booth said that your tour of the reef exhibit would begin here. We can’t wait!”

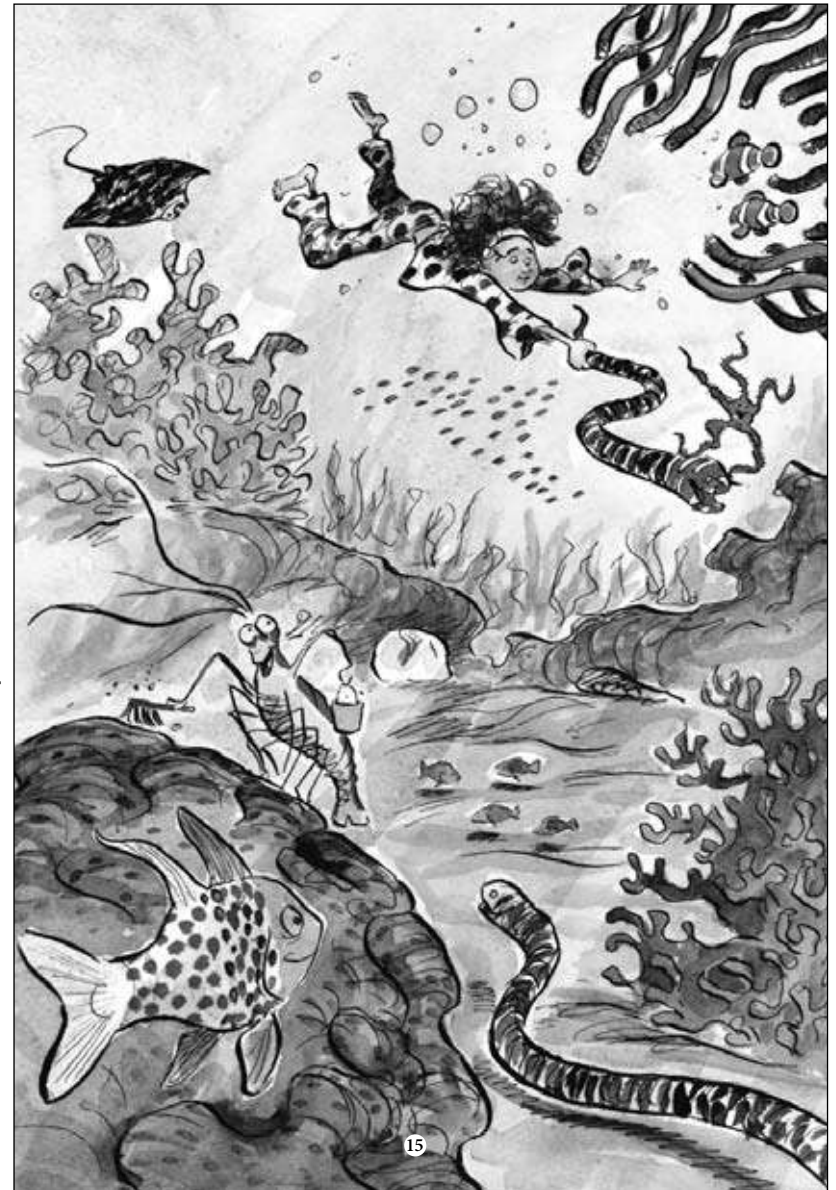
Mr. Hanson led the group to a huge reef tank. “Welcome to our coral reef,” he said. “We’ve tried to recreate the reef just as it appears in the South Pacific. First, notice the colorful reef itself. A coral reef is built by enormous clusters of tiny animals called coral polyps.”



6

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Into the Depths of the Sea



15

Caitlin was shocked for only a second. Then she happily grabbed hold of the eel. "What's your name?" she said.

"Call me Slim," he answered. "Everybody's kind of scared of me, and that gets on my nerves."

"I'm not scared of you," Caitlin whispered, giving him a little pat. "Where are we going?"

"To the reef!" Slim answered. "Here are our escorts now!" Swooping down, amid giggles and chatter, were thirty-two orange jellyfish. Caitlin checked to make sure, and was happy to see that each one was wearing a ballet skirt.

Soon Slim reached the floor of the reef. Caitlin found herself in a forest of brightly colored trees, each one made out of coral. Here and there she saw what looked like giant bouquets of flowers. She wasn't sure they were anemones until she saw the crowd of clownfish. That convinced her.

"Hey!" a clownfish called to Slim. "It's *my* turn to play with Caitlin! Come on, let's swoosh and wiggle through the anemones!" And that's just what Caitlin did.

"Those can't be animals!" a man said. "Some of them look like beautiful trees, and that one looks like a brain."

"But they are animals," Mr. Hanson replied. "You're right, the staghorn coral look like trees, and you named that other one correctly. It's called a brain coral."

"What are those flowers?" a woman asked.

"Those are anemones. They, too, are animals. They anchor in the coral and sand. You'll see clownfish swimming in and out of them. The clownfish brings the anemone food. In return, the anemone lets the clownfish hide from its enemies. I guess you could describe them as good neighbors. While we're looking at fish, please notice the beautiful yellow tangs and the little blue chromis. Also, there's a brittle star, the green starfish with the long tentacles."

"I see a monster!" a little boy wailed, pointing to the corner of the tank.

"No, that's not a monster. It's a zebra moray eel. He's a shy creature, but he looks scary because he keeps opening his big, big mouth. That's how he breathes."

Caitlin couldn't help joining in as the boy started opening and closing his mouth, copying the moray eel. Then she saw a very curious creature. "Why is that little crab inside a seashell?" she asked.

"That's a hermit crab. Unlike most crabs, he doesn't have a hard shell of his own. So he searches on the floor of the reef for shells that other creatures have discarded. It's kind of like a garage sale! When he finds a throwaway shell that fits, he takes it."

"Now, can you see the little shrimp hiding over there? It's called a 'cleaner shrimp' because it eats parasites off the fish. Another case of being good neighbors!"

Caitlin was thrilled with the reef creatures. However, she was growing tired of the discussions between Mr. Hanson and the other members of their group. The hallway was dark, and Caitlin got an idea. She looked at Grandma and Domenic to make sure they were still focused on Mr. Hanson's presentation. Then she slipped into the darkness and ventured off on her own.



CHAPTER FOUR

Strange Happenings

Caitlin felt sad that Domenic and Grandma didn't believe her. After supper that night, she gathered up her art supplies, went to Grandma's guestroom, and put on her pajamas. Then she sprawled out on the bed and started to scribble and draw. She loved making her beautiful yellow tangs, orange and white clownfish, and little blue chromis. Suddenly, the lights in the room flickered and went out. The room was very dark, and Caitlin was scared. "Grandma, Domenic!" she tried to call. But although her mouth opened and closed and opened and closed, no sound came out. Then she heard a voice in the darkness say, "Please stop making fun of me. I've come to take you on a wonderful ride!"

Caitlin spun her head around. Out of the darkened wall behind her bed slithered the zebra moray eel.



When she reached them, Mr. Hanson was just finishing his presentation. "Oh, there you are, Caitlin!" Grandma said. "I was worried when you disappeared."

"Grandma! You're not going to believe this! I saw orange jellyfish dressed in ballet skirts dancing together!"

"Oh, sure you did!" Domenic laughed.

"No, really! I did! Then Scary Larry, a green brittle star, asked me to come and swim in his tank!"

"Oh, Caitlin, what an imagination you have," Grandma said, patting Caitlin on the head the way she used to when Caitlin was about four or five.

"I *did* see that, I *did*! And then, I saw a tank full of pajama fish!"

"Yes, *that* you did see," said Mr. Hanson. "She's right, people; you can believe that story!"

"But some of the pajama fish were different from the others," Caitlin said. "Some were really wearing their pajamas!"

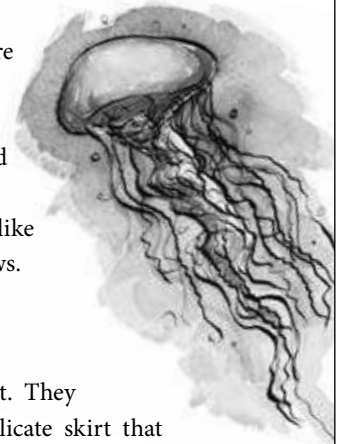


CHAPTER THREE

Strange Sights

"Free to find my own adventure and plan my *own* aquarium visit," Caitlin whispered as she snuck down the darkened hall. She could see that all along its length were smaller tanks built into the wall, like an endless row of colorful windows.

The first window she came to was filled with orange jellyfish, each about the size of Caitlin's fist. They were bell-shaped, like the long, delicate skirt that Caitlin's ballet teacher often wore when she led the class in practice. As she watched, all the jellyfish floated and drifted up and down in the tank. They began to look more and more like ballet dancers. Then Caitlin stared. Hard. One jellyfish had actually turned into a ballet dancer! Impossible. She shook her head. The dancer disappeared into the drifting group. Caitlin moved to the next tank.





In the next tank, Caitlin found a green brittle star. It was stretching against the window, and Caitlin was so close to it that she could see the thorny bumps that grew out of its body and tentacles. The starfish looked a little scary, so Caitlin gave him a name, Scary Larry.

Larry fascinated her. Then something strange happened. He started to wave at her. "Come on in and have a swim," he seemed to beckon.

A ballerina jellyfish? A friendly starfish looking for a swimming pal? Such things seemed awfully strange, but stranger still was what Caitlin found in the next tank.

Caitlin watched many small colorful fish drifting back and forth in this tank. She recognized the yellow tangs and the blue chromis. But there were new fish in the tank. The sign said they were pajama cardinalfish, commonly called "pajama fish." These fish made Caitlin smile. She could tell why they were called "pajama fish." The bottom halves of their bodies were white with big black dots, just like a pair of pajamas Domenic once had. Caitlin was really enjoying watching the fish swim. Then she stared. With a gasp, she ran back through the darkened hallway, anxious to find Grandma and Domenic.



Calendar

Monday

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Credits

Unit 1 Week 3 On Level *Ellis Island: The Golden Doors*

1: (t) Bettmann/CORBIS 3: (b) Joseph Sohm; ChromoSohm Inc./CORBIS 3: (b) Joseph Sohm; ChromoSohm Inc./CORBIS 5: (c) Siede Preis/Getty Images 6: (bc) The New York Public Library/Art Resource, NY 7: (t) Royalty-Free/CORBIS; (b) Bettman/CORBIS 8: (bkgd) Kaz Chiba/Getty Images 9: (br) Ingram Publishing/Alamy Images 10: (cr) Bettmann/CORBIS 11: (tl) Hulton Archive/Getty Images 12: (b) Bettmann/CORBIS 13: (tr) Lewis Eastman House/Getty Images 14: (t) Bettmann/CORBIS 17: (t) Phil Degginger/Alamy Images 19: (b) Gail Mooney/CORBIS 21: (tr) Bob Krist/CORBIS

Unit 1 Week 5 On Level *The Shot Heard Around the World*

1: (t) North Wind/North Wind Picture Archives. 3: (tr) Bettmann/CORBIS. 4: (br) CORBIS. 5: (t) MPI/Getty Images. 6: (t) Bettmann/CORBIS. 7: (br) Kean Collection/Getty Images. 8: (br) Kevin Fleming/CORBIS. 10: (tc) Freelance Photography Guild/CORBIS; (t) C Squared Studios/Getty Images. 11: (b) Bettmann/CORBIS. 15: (b) North Wind/North Wind Picture Archives. 16: (b) CORBIS. 18: (t) Bettmann/CORBIS. 21: (bl) CORBIS.

Unit 2 Week 1 On Level: *Searching for Cures*

1: Paul A. Souders/Corbis. 2: Bettmann/Corbis. 3: George Doyle/Stockbyte Platinum/Getty Images. 4: Hulton Archive/Getty Images. 5: The Granger Collection, New York. 6: Bettmann/Corbis. 7: Eye of Science/Photo Researchers, Inc. 9: Hulton Archive/Getty Images. 10: Bettmann/Corbis. 11: Photo 24/Brand X/Corbis. 12: AFP/Getty Images. 13: Popperfoto/Alamy. 14: Josef Scayled/Corbis. 15: Corbis/SYGMA. 16: Lester V. Bergman/Corbis. 17: Paul A. Souders/Corbis. 18: Andy Crump, TDR, WHO/Photo Researchers, Inc. 19: David Butow/Corbis/SABA. 20: Leita Cowart/AP Images. 21: Stephen Ferry/Liaison/Getty Images.

Unit 2 Week 2 On Level *Tracing the Food Web*

1: Bob & Clara Calhoun/Bruce Coleman USA. 2–3: Myrleen Ferguson Cate/PhotoEdit. 3: Tracey Thompson/Corbis. 4–5: Darrell Gulin/Corbis. 7: BananaStock/PunchStock. 8: (t) Discovery Channel Images; (b) Microfield Scientific Ltd/Photo Researchers, Inc. 9: Digital Vision/PunchStock. 10: Steve Maslowski/Photo Researchers, Inc. 11: Bob & Clara Calhoun/Bruce Coleman USA. 12: infocusphotos.com/Alamy. 13: (b) Astrid & Hanns-Frieder Michler/Photo Researchers, Inc; (r) SuperStock, Inc./SuperStock. 14: Art Wolfe/Photo Researchers, Inc. 16–17: W. Wayne Lockwood, M.D./Corbis. 17: Guenter Ziesler/zefa/Corbis. 18–19: Owaki-Kulla/Corbis. 19: Brandon D. Cole/Corbis. 20: Owaki-Kulla/Corbis. 23: (bkgd) Brand X Pictures/JupiterImages; (inset) Anthony Mercieca/Photo Researchers, Inc. 24: Joe McDonald/Corbis. 25: Worldwide Picture Library/Alamy. 26: Carl R. Englander/age fotostock. 27: Kevin Schafer/Corbis. 28: Kat Wade/San Francisco Chronicle/Corbis. 30: Jade Albert Studio, Inc./Taxi/Getty Images.

Unit 2 Week 3 On Level *Discovering the Elements*

1: Steve Cole/Getty Images. 2: The National Trust Photolibrary/Alamy. 3: (t) John A. Rizzo/Getty Images; (b) Artiga Photo/Masterfile. 4: Richard Gross/Corbis. 5: (l) Comstock/PunchStock; (r) Greg Otto/Visuals Unlimited. 7: (t) SPL/Photo Researchers, Inc; (b) Hulton Archive/Getty Images. 8–9: Brand X Pictures/PunchStock. 9: (t) Beatworks, Inc./Alamy; (cl) Newmann/zefa/Corbis; (br) C Squared Studios/Photodisc/Getty Images. 10–11: Patrice Latron/Corbis. 11: Charles D. Winters/Photo Researchers, Inc. 13: (l) Grace Davies/Omni-Photo Communications; (r) Kevin and Betty Collins/Visuals Unlimited/Getty Images. 14: Robert Harding Picture Library Ltd/Alamy. 15: Royalty-Free/Corbis. 16: Steven Georges/Press-Telegram/Corbis. 17: (t) AJPhoto/Photo Researchers, Inc; (b) Papilio/Alamy. 18–19: Richard Megna/Fundamental Photographs. 19: Dr. Mitsuo Ohtsuki/Photo Researchers, Inc. 20: SSPL/The Image Works. 21: DK Limited/Corbis.

Unit 2 Week 4 On Level *Sky Watchers*

1: The Print Collector/Alamy. 2–3: Kim Westerskov/Stone/Getty Images. 3: Enzo & Paolo Ragazzini/Corbis. 4: Hulton Archive/Getty Images. 5: Scala/Art Resource, NY. 6: Astrofoto/Peter Arnold Inc. 7: Norbert Speicher/Alamy. 9: Réunion des Musées Nationaux/Art Resource, NY. 10: National Portrait Gallery, London, UK/The Bridgeman Art Library. 11: The Print Collector/Alamy. 13: University of Edinburgh/The Bridgeman Art Library. 14: (t) North Wind Picture Archives/Alamy; (b) The London Art Archive/Alamy. 15: Christel Gerstenberg/Corbis. 16: Gavriel Jecan/Corbis. 17: European Southern Observatory/Photo Researchers, Inc. 18: Dennis Hollinan/Alamy. 19: STScI/NASA/Corbis. 20: NASA. 21: Robert Karpa/Masterfile. Frames: 4, 10, 14, 1996 Image Farm Inc; 13, Comstock/PunchStock. Backgrounds: Royalty-Free/Corbis.

Unit 2 Week 5 On Level *Weather Extremes*

1: Skip Bolen/epa/Corbis. 2: Dennis Frates/Alamy. 3: Royalty-Free/Corbis. 4: Joson/zefa/Corbis. 5: Tim Davis/Corbis. 7: Yves Marcoux/First Light/Getty Images. 9: REUTERS/NASA/Corbis. 10: Royalty-Free/Corbis. 11: Jason Polite/Alamy. 12: (t) Enigma/Alamy; (b) Sean Ellis/Photographer's Choice/Getty Images. 14: AP Images. 16: Dan Suzio/Photo Researchers, Inc. 18: (br) NOAA/ZUMA/Corbis; (bl) NOAA. 19: Skip Bolen/epa/Corbis. 20: AP Images. 21: Science Faction/Getty Images.

Unit 3 Week 5 On Level *On the Home Front: Life During World War II*

1: Corbis. 2: Getty Images. 3: Bettmann/Corbis. 5: (tl) The Mariner's Museum/Corbis; (cr) Time Life Pictures/Getty Images. 6: The Mariner's Museum/Corbis. 7: Time Life Pictures/Getty Images. 8: Lake County Museum/Corbis. 9: (br) The Granger Collection, New York; (cr) Swim Ink 2, LLC/Corbis. 10: Bettmann/Corbis. 11: The Mariner's Museum/Corbis. 13: Harold M. Lambert/Lambert/Getty Images. 14: (t) Corbis; (bl) National Archives and Records Administration. 15: Hulton Archive/Getty Images. 16: Corbis. 18: Library of Congress. 19: (tr) Library of Congress, Prints & Photographs Division, Ansel Adams, photographer, [reproduction number, e.g., LC-DIG-ppprs-00257]; (bl) Douglas Schwartz/Corbis. 20: Bettmann/Corbis.

Unit 4 Week 1 On Level *Science in the Snow*

1: (b) George D. Lepp/CORBIS. 2–3: (bkgd) Royalty-Free/CORBIS. 4: (b) Thomas R. Taylor/Photo Researchers, Inc. 5: (tr) Francois Gohier/Photo Researchers, Inc. 6: (b) Graham Neden; Ecoscene/CORBIS. 7: (c) George D. Lepp/CORBIS. 9: (bc) Bruce Heinemann/Photodisc/Getty Images; (cl) Vin Morgan/AFP/Getty Images; (bkgd) Morton Beebe/CORBIS. 11: (c) Bruce Heinemann/Photodisc/Getty Images; (b) Roger Ressmeyer/CORBIS. 12–13: (b) AP Photo/Hugh Ducklow. 13: (c) Peter Johnson/CORBIS. 14–15: (b) John Conrad/CORBIS. 16: (b) Galen Rowell/CORBIS. 17: (tl) Bruce Heinemann/Photodisc/Getty Images; (tr) Carlo Allegri/AFP/Getty Images. 18: (bc) Commander John Bortniak/NOAA Corps. 19: (t) Rick Price/CORBIS. 20: (c) Rick Price/CORBIS. 20–21: (b) Tim Davis/CORBIS.

Unit 4 Week 2 On Level *On the Moon*

1: NASA/Corbis. 3: NASA. 4: BSIP/Photo Researchers, Inc. 5: Bettmann/Corbis. 6: NASA. 7: NASA/Corbis. 8: Reuters/Corbis. 9: NASA/Roger Ressmeyer/Corbis. 10: NASA/SSPL/The Image Works. 11: Bettmann/Corbis. 12: Roger Ressmeyer/Corbis. 13: NASA/Corbis. 14–15: StockTrek/Getty Images. 15: Reuters/Corbis. 16: (t) Roger Ressmeyer/Corbis; 16: (b) Corbis. 17: Bettmann/Corbis. 18: Corbis. 19: Time Life Pictures/NASA/Getty Images. 20–21: Corbis.

Unit 4 Week 3 On Level *Environmental Heroes: Communities Making a Difference*

1: Monradus/Alamy. 2–3: Scott Bauer/USDA Agriculture Research Services. 3 (t): Brooks Kraft/Corbis. 5: (t) Jim Parkin/Alamy; (b) Ron Fehling/Masterfile. 7: mediacolors/Alamy. 8: Pep Roig/Alamy. 9: Sarah Leen/National Geographic/Getty Images. 10: Image Source/PunchStock; (inset) Frank Lukasseck/Corbis. 11: Monradus/Alamy. 12: Pep Roig/Alamy. 14: Corbis. 15: Ted Horowitz/Alamy. 16: Rick Velleu. 18: Icelandic photo agency/Alamy. 21: moodboard/Corbis.

Unit 4 Week 5 On Level *A Visit to Grand Canyon National Park*

1: Robert Glusic/Getty Images. 3: Corbis. 4–5: Joseph Sohm/Corbis. 6: Mark Gibson/Alamy. 8: James Randklev/Corbis. 9: David Muench/Corbis. 10: (t) Getty Images; (c) Tom Bean/Stone/Getty Images; (b) Buddy Mays/Corbis. 14–15: Hubert Stadler/Corbis. 16: (br) Getty Images; (t) Richard Hamilton Smith/Corbis. 17: David Young-Wolff/PhotoEdit. 18: Marianna Day Massey/ZUMA/Corbis. 19: images-of-france/Alamy. 20: Tom Bean/Corbis. 21: Robert Glusic/Getty Images.

Unit 5 Week 1 On Level *The Oregon Trail: Westward Ho!*

1: PhotoLink/Getty Images. 2: Hulton Archive/Getty Images. 4: Bettmann/Corbis. 5: David Muench/Corbis. 6: North Wind Picture Archives. 7: The Granger Collection, New York. 8: North Wind Picture Archives. 9: (t) Oregon Historical Society; (b) Dave Bartruff/Corbis. 10: PhotoLink/Getty Images. 12–13: Jonathan Blair/Corbis. 14: North Wind Picture Archives. 15: Corbis. 16–17: Layne Kennedy/Corbis. 18–19: The Granger

Collection, New York. 21: AP Images.

Unit 5 Week 2 On Level *Alice Greenough: A New Woman of the Old West*

1: Steve Cole/Getty Images; (inset) National Cowboy Museum. 2: Jules Frazier/Getty Images. 3: National Cowgirl Museum and Hall of Fame, Fort Worth, Texas. 4: Library of Congress Prints and Photograph Division, Call no: HAER MONT,5-RELO.V,2-1. 5: Hulton-Deutsch Collection/Corbis. 6: Steve Cole/Getty Images. 6–7: Bettmann/Corbis. 8: K.D. Swan. 9: Bettmann/Corbis. 10: Corbis. 10–11: Library of Congress Prints and Photographs Division, LC-USZC4-3169. 12: National Cowboy Museum. 13: Bettmann/Corbis. 14: John and Lisa Merrill/Corbis. 15: Glenbow Archives NA-029-8. 17: National Cowgirl Museum and Hall of Fame, Fort Worth, Texas. 18: Hulton Archive/Getty Images. 19: Photodisc/Getty Images. 20: National Cowgirl Museum and Hall of Fame, Fort Worth, Texas. 21: Photodisc/Getty Images.

Unit 5 Week 3 On Level *Animal Observers*

1: (t) The Jane Goodall Institute. 2: (b) Natalie Fobes/CORBIS. 4: (tc) TRBfoto/Getty Images; (bl) Scala/Art Resource, NY. 5: (bc) Norbert Wu/Minden Pictures. 6: (tc) G.K. & Vikki Hart/Getty Images; (bl) Photodisc/Getty Images. 7: (tc) Comstock/PunchStock; (br) Photodisc/Getty Images; (br) G.K. & Vikki Hart/Getty Images. 8: (tc) TRBfoto/Getty Images; (cl) Science Source/Photo Researchers, Inc. 9: (br) Creatas/PunchStock; (t) J.J. Audubon/Academy of Natural Sciences/VIREO. 10: (tl) J.J. Audubon/Academy of Natural Sciences/VIREO. 11: (c) Comstock/PunchStock. 12: (tc) TRBfoto/Getty Images; (br) Fotos International/Getty Images. 13: (t) The Jane Goodall Institute. 14: (t) Hugo van Lawick/National Geographic Image Collection. 15: (br) C Squared Studios/Getty Images; (c) Comstock/PunchStock. 16: (b) J. C. VINCENT/Peter Arnold, Inc.; (c) Comstock/PunchStock. 17: (tc) TRBfoto/Getty Images; (b) Peter G. Veit/National Geographic Image Collection. 18: (br) McDonald Wildlife Photography/Animals Animals/Earth Scenes. 19: (c) Comstock/PunchStock. 20: (tc) Comstock/PunchStock; (cr) Fritz Polking/Peter Arnold, Inc.

21: (b) LWA-JDC/CORBIS.

Unit 5 Week 5 On Level *The Story of African American Voting Rights*

1: (c) Bettmann/CORBIS. 3–4: The Granger Collection, New York. 6: (c) Siede Preis/Getty Images; (bl) MPI/Getty Images. 7: (tc) The Granger Collection, New York. 8–9: (b) William Lovelace/Express/Getty Images. 9: (tc) Siede Preis/Getty Images. 10: (b) Courtesy of Edward L. Williams of <http://www.rootsweb.com/~txnavarr>. 11: (tr) Bettmann/CORBIS. 12: (bc) Siede Preis/Getty Images; (br) Bettmann/CORBIS. 13: (tc) Library of Congress. 14: (tc) Siede Preis/Getty Images; (tr) Bettmann/CORBIS. 15: (b) Picture History. 16: (bc) Siede Preis/Getty Images; (br) Bettmann/CORBIS. 17: (t) From the Erie Johnston Papers, McCain Library and Archives, University of Southern Mississippi. 18: (tc) Siede Preis/Getty Images; (tr) Bettmann/CORBIS. 20: (c) Siede Preis/Getty Images. 21: (c) Flip Schulke/CORBIS.

Unit 6 Week 2 On Level *Survival Instincts: Insects*

1: Photodisc/Getty Images. 3: Burke/Triolo Productions/Brand X Pictures/Getty Images. 4: Dennis Johnson; Papilio/Corbis. 5: Jay Cossey. 6: Kevin Schafer/Corbis. 7–8: Anthony Bannister; Gallo Images/Corbis. 9: Kevin Schafer/Corbis. 10: Buddy Mays/Corbis. 11: Gallo Images/Corbis. 12–13: Stan Elems/Visuals Unlimited. 14: G.K. & Vikki Hart/Getty Images. 15: Mary Cummins/Visuals Unlimited. 16: Nature's Images/Photo Researchers, Inc. 17: (b) Photodisc/Getty Images; (t) Anthony Bannister; Gallo Images/Corbis. 18: Jerome Wexler/Visuals Unlimited. 19: Bryan Knox; Papilio/Corbis. 20: Photodisc/Getty Images. 21: Hugh Clark; Frank Lane Picture Agency/Corbis.

Unit 6 Week 3 On Level *Taking a Stand: The Civil Rights Movement*

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