Clean Energy

Power From the Sun and Wind

Learn about Earth-friendly energy

What do people need to light their homes and drive cars? Energy! It gives power to many things we need and use.

Most of the energy people use comes from coal, oil, and gas. They are called fossil fuels. Those fuels come from fossils under the ground. Fossils are the remains of plants and animals that lived long ago.

Burning fossil fuels pollutes the air. The air becomes dirty. That can be harmful to people, animals, and plants.

Now more people are using clean energy. Such energy does not pollute the air. Two kinds of clean energy are wind power and solar power. *Solar* means "from the sun."

Solar Power

Wind Power

People can turn wind energy into electricity. Wind turbines are machines that spin when the wind blows. They make electricity.

Raimund Koch/Corbis

Wind turbines are often as tall as 20-story buildings. The blades can be more than 100 feet long.

Wind turbines are grouped together in wind farms. Some wind farms have hundreds of wind turbines. The Roscoe Wind Farm in Texas has 627 turbines. They can power 230,000 homes.

Name: _____ Date: _____

Use the article "Gasping for Air" to answer questions 1 to 2.

1. Doctors found that 260 of the kids in the study developed asthma. What did doctors say caused the asthma cases?

2. How does this study show the need for people to do more to prevent air pollution?

Use the article "Clean Energy" to answer questions 3 to 4.

3. What does burning fossil fuels do to the air?

Eruption!

Mexico's "Volcano of Fire" roars back to life. When will the next big explosion occur?

Colima Volcano Observatory

The Colima Volcano

The Colima (koh-LEE-mah) Volcano in Mexico has roared to life again. The 12,500-foot volcano is also called the "Volcano of Fire." Over the past few centuries, it has had several major eruptions.

The Volcano of Fire is Mexico's most active volcano. It has erupted many times over the years. What scientists are most worried about is the next big eruption. The volcano has had huge eruptions about every hundred years. In the 20th century, there was one that took place in 1913.

Scientists study the pattern of activity and compare it to data taken from the major eruption of 1913. Volcano experts can use their studies to predict a time period when there might be a large, explosive eruption.

Leigh Haeger

Living Near the Volcano

Leigh Haeger

Inside a volcano.

The volcano is 20 miles north of the city of Colima. To make sure no one is in danger, officials created a safety zone around the volcano. People aren't allowed in that area.

Scientists use special equipment to track changes within the volcano. "We're looking for clues of another large, explosive eruption," says Luhr. "That way, we can be prepared."

Fleeing Goma: Eruption in the Congo

The volcano roared to life, sending lava and smoke high into the air. "First I thought it was thunder when the volcano started to spit the boiling lava. The town was covered with smoke, and we could hardly breathe," said one survivor.

The volcano erupted in January 2002 near the city of Goma. Goma is located in the Democratic Republic of the Congo, a country in Africa. Lava poured through the city, burning everything in its path.

As the lava and fires spread, people ran with whatever possessions they could carry. Many people fled into the neighboring country of Rwanda. Some children became separated from their families during the panic.

Leigh Haeger

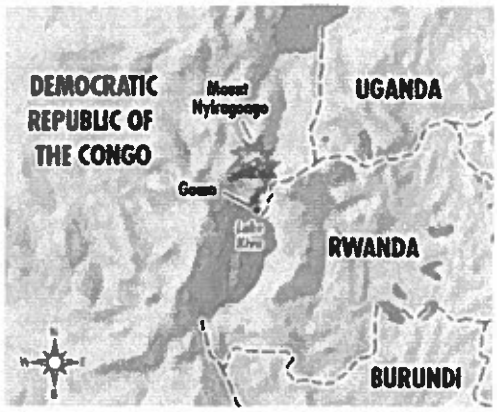
Democratic Republic of the Congo and Goma on the globe

Fire and Loss

At least 40 people are believed to have died in the eruption. About 50 others died later when hot lava caused a fuel tank to explode. The lava also spilled into nearby Lake Kivu, poisoning the waters with deadly gases.

Once the volcano stopped erupting, many people returned to the city. Others stayed away, fearing that the volcano would erupt again at any moment.

Many who returned to the city described Goma as a ghost town. "Goma is finished. We have nothing here...and no chance of rebuilding," said one survivor. Government officials say that about 10,000 families lost their homes because of the eruption.



Leigh Haeger

The map shows the area around the city of Goma.

Relief for Goma

The United Nations and the International Red Cross sent medical supplies, food, water, and clothing to Goma. They also sent tents, blankets, cots, and building materials.

Emergency workers helped lost children unite with their families.

4. What did officials do to make sure people would not be in danger from a large eruption?

Use the articles "Eruption!" and "Fleeing Goma: Eruption in the Congo" to answer question 5.

5. If the Colima volcano erupts, would the eruption be likely to affect people in Colima? Explain why or why not, using evidence from both articles.

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The Noisiest Cat

by W.M. Akers

Melissa had a cat that loved her too much. The cat was named Roger. He was an older cat, about 10 years old, Melissa guessed. She knew because her parents told her they got Roger not long after Melissa was born. When she was little, Roger was little, too. They would run and play and fall down together. Now that she was bigger, Roger was big, too. Very big. Possibly, she thought proudly, he was the fattest cat in town. But more importantly, he was the sweetest.

When Melissa watched TV, Roger sat on her lap. When she did her homework, he sat on her paper. When she ate, he ate, too. Everywhere Melissa went, Roger followed.

"That cat loves you so much," Melissa's mother would say. "He doesn't know what to do without you!"

Most of the time, this was great. Other girls had dolls. Other girls had stuffed animals. Other girls had guinea pigs and hamsters and hermit crabs-pets that were usually in cages or tanks. But Melissa didn't need any of that. She had a big fat kitty that followed her everywhere.

Yes, it was all pretty great-until Melissa tried to go to sleep.

At night, Roger would sit outside her door perched like a hen on an egg. All night long, Roger would wait for Melissa to wake up. At first, he would wait quietly. But after a few hours, he would start to get impatient. Every night, at around one in the morning, Roger would start to yowl.

If you do not have a cat, you do not know what an awful noise a yowl can be. Cats make lots of nice noises-like purring and meowing and sneezing-but a yowl is not nice at all. It starts deep inside their throat and moves up slowly, getting louder all the time. "Heeeeeee-yowl!" Roger would say, over and over again. It sounded like he was being stepped on. It sounded like he was in pain. And it woke Melissa up every time. Her eyes would pop open. Her stomach would twist up. She would lie there for hours, listening to Roger's awful cry. No human is strong enough to sleep through a yowling cat.

"Mom!" Melissa would say the next day. "Roger was yowling again last night. He kept me up for hours!"

"Oh sweetie," Mom would say. "He just can't stand to be without you. He loves you too much. Why don't you just open your door and let him in?"

This Is Not My Cat

by W.M. Akers

She sat in front of the window, curled into a ball, feverishly licking herself. She was brown, black, grey, and orange-all the colors a cat can be swirled into a crazy patchwork. She looked like she had been the sole witness in the explosion of a paint store.

"You are a very lovely cat," Aggie said. "I wish I knew what you were doing here."

The cat looked up and meowed, as if to say she was asking herself just the same question.

Aggie had come home from school that day, same as always. She had fixed herself a plate of graham crackers and peanut butter, same as always. She had sat down on the couch to watch afternoon TV with the cat, same as always. Only one thing was different: this was the wrong cat. Aggie's beloved cat Princess was jet black and on the heavy side. This interloper had an air of the jungle about her. She was muscular, smaller than Princess, and apparently much more fit.

"What did you do to my cat?!" asked Aggie, her mouth full of graham crackers. "How did you get in here? We don't have a cat door. We didn't leave any windows open. Did you teleport in through the glass? Or have you always been living in the house, and you just now decided to show yourself? Do you have an evil plan?!"

Although it appeared to consider her words carefully, the cat said nothing. Aggie turned off the TV in disgust. She was going to have to deal with this herself.

Taking the cat in the crook of her arm, she carried it outside. The cat wriggled in her arms, but Aggie held her tightly. "I've already lost one cat today. I'm not losing another one."

She peered under bushes, behind the garbage cans, and in the secret corners inside the garage. Princess was nowhere to be seen. As she grew desperate, she even looked in the

his front lawn to sit on the curb and sulk. It was getting dark now, and Aggie's parents would be home soon. She had two mysteries on her hands-where this cat came from and where her cat went-and felt in her bones that if she let the sun go down without solving them, she never would. Beside her, the strange cat crouched and began to purr. There was something in the bushes.

"Princess?" Aggie called. The bushes rustled louder.

The strange cat lowered her stomach to the ground and pulled herself through the grass like a soldier might. Without meaning to, Aggie mimicked her, crouching as low as she could without falling over. They crept forward together as the bushes rustled louder and louder. Aggie leaned forward, one palm in the dirt, and tore the bushes open. The cat pounced, startling the shadowy creature hiding inside.

"Princess?!" asked Aggie, as the animal turned and ran away. She was about to go after it when a glimmer of light from a passing car illuminated it briefly. "Unless Princess was dressed up for Halloween, that was a raccoon. That's my mom's car. Let's go home and see whether or not we can explain this mess."

Aggie hefted the cat and trudged home. She opened the door and cried a forlorn, "Hey, Mom."

"Hey, sweetheart," said Mom. "What's going on?"

"I've got some news about the cat." Aggie walked into the living room, making eye contact with her mother and preparing to deliver the bad news, but her mouth couldn't form words. There was Princess sitting right beside Mom on the couch, same as always.

"The cat, sweetheart?"

"We, uh... the strange cat entered from outside. We have two of them now."

Mom looked as surprised to see the new cat as Aggie was to see the old. As the two cats met each other, Aggie stared at Princess, dying to know where she had been. Princess looked at her, black eyes shining and yawned, as if to say that she would never tell.

4. Aggie's problem is that her cat is missing. Does she solve this problem? Support your answer with evidence from the story.

Use the articles "This Is Not My Cat" and "The Noisiest Cat" to answer questions 5 to 7.

5. Compare the problems in both stories.

6. Compare the actions that Melissa and Aggie take to solve their problems.

Computers vs. Books

by ReadWorks

Mia Murphy was tired when she got home from school last Friday. It had been a long week. She was working on a computer project and had stayed late at school to finish her work. After stepping off the bus and trudging home, she plopped onto her chair in the kitchen.

"What's up, Mia?" Mr. Murphy asked. He was making Mia her favorite after-school snack, a grilled cheese sandwich.

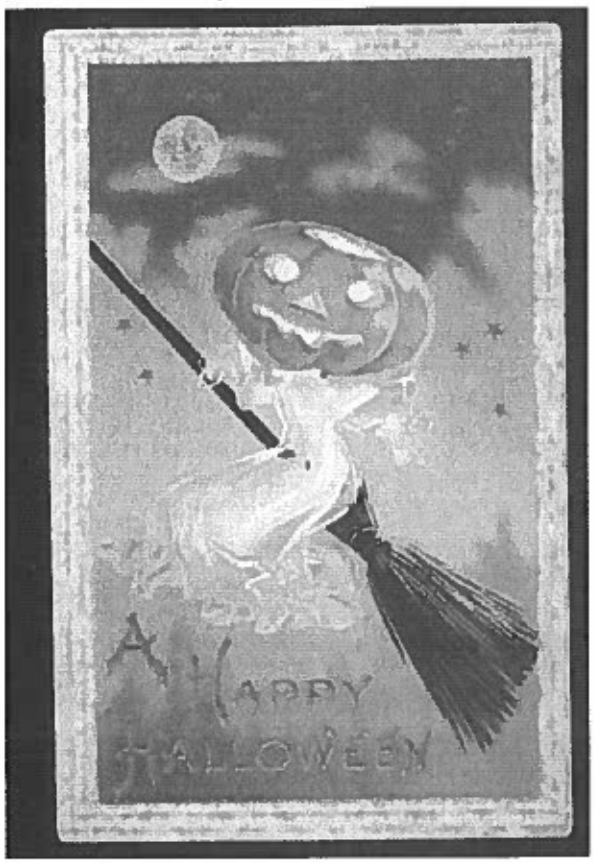
"This project is taking me forever!" Mia replied. "I have to design a website page for my computer class."

"Wow, fancy!" Mrs. Murphy shouted from the living room. "When we were in middle school, we didn't even know how to use computers." She walked into the kitchen and sat down next to Mia. She asked her daughter if she had anyone to help her with her project.

"We have partners-mine is named Ali," she explained. "Today we learned how to insert pictures into our page!"

History of Halloween

by ReadWorks



Makayla gently placed her black witch's hat on top of her black curls as she looked at herself in the mirror. Her mom had painted her skin green and outlined her eyes in purple paint. She wore tall, black boots underneath a long, purple dress. It was October 31 , and she was ready for trick-or-treating on Halloween night.

"Makayyyla!" her mom called out from downstairs.

Makayla's two friends, Colden and Porter, had arrived. Colden stood in the doorway, his costume blowing in the wind. A white sheet hung over his head, and his eyes peered out from two cut-out holes.

Porter decided to dress like his favorite superhero, Batman. A black mask covered his face and a long cape trailed behind him. They carried plastic pumpkin bowls to collect candy later in the evening.

"In the 1800s, many people from Ireland and Scotland came to the United States to start a new life," the teacher told her students earlier that day. "Even though their ancestors had their own trick-or-treating traditions, they started their own in their new country."

Mrs. Narula had read an article by Benjamin Radford, a man who researches science and history. He wrote that teenagers in those communities started to play pranks during Halloween celebrations. Adults tried to stop the pranks by giving children candy instead. And the tradition still remains today with children all around the world dressing up for candy!

4. How does Makayla learn about the history of Halloween?

Use the articles "Computers vs. Books" and "History of Halloween" to answer questions 5 to 6.

5. Characters in both stories learn about the past. Support this statement with evidence from the texts.

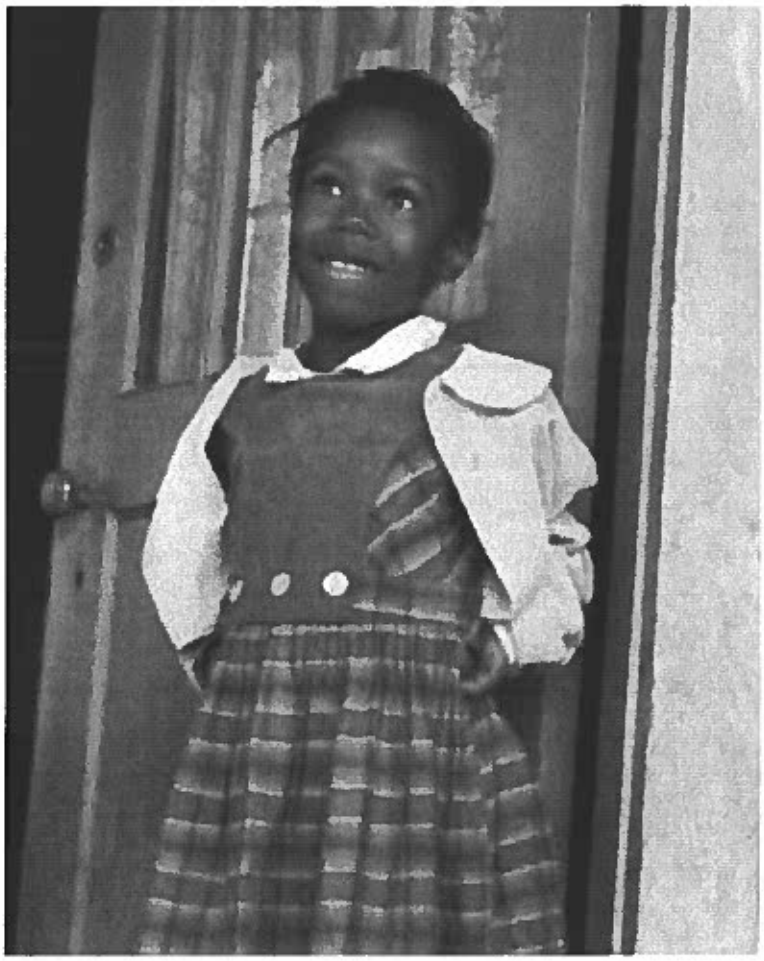
6. Compare how characters in both stories learn about the past. Support your answer with information from each text.

Walking Tall

How did Ruby Bridges make history?

Many years ago, a little girl named Ruby Bridges arrived at her new elementary school. The school was in New Orleans, Louisiana.

As she walked toward the school's front doors, an angry crowd of people shouted at her. United States **marshals** walked with her. A marshal is an officer. They were there to protect the first grader. That's because the people didn't want Ruby to go inside. But the 6-year-old walked into the school anyway. As she did, she marched into history books.



Bettmann/Corbis

Ruby Bridges started first grade in 1960.

The day was Nov. 14, 1960. On that morning, little Ruby became one of the first African Americans to attend an all-white elementary school in the South.

Winning the Vote

Imagine if boys made all the rules. That's how it was in 1776, when the United States was founded. Women were not allowed to vote until 1920! This year [2012] is the 92nd anniversary of that important event.

Library of Congress, George Grantham Bain Collection

Thousands of women marched in New York City for the right to vote.

The women's suffrage movement began in the 1800s. Suffrage is the right to vote. To win this right, women held protests and marches. Hundreds of those women were arrested and jailed.

Women's groups across the country are honoring those who fought for this right with special events throughout the year. "Learning how women's actions changed America is important. It encourages us to understand that we can make a better world," said Molly Murphy MacGregor, the president of the National Women's History Project.

Use the article "Winning the Vote" to answer questions 3 to 4.

3. What did women do to win the right to vote?

4. Women winning the right to vote was an important event.

Support this statement with evidence from the text.

Buttons and the Blue Glove

by ReadWorks

Buttons the cat is flying through the air. She cannot fly on her own, of course. After all, she is a cat, not a bird. But here she is, flying in the clouds.

Buttons is hanging on tight to a wing of an airplane, with a blue glove in her mouth. This glove is her favorite thing in the whole world. It's why she is on the airplane.

Inside the plane, a pretty woman in a red hat waves at Buttons and smiles.

How did Buttons get on the airplane? Where is she going, and why?

Well, it all started about a year ago. Buttons was walking along in a very nice alley, searching the trash for food. Quite suddenly, she was caught up in a net and put into a box with holes. These kidnappers took Buttons to a shelter and locked her in a cage with food, water, and toys.

Buttons was there for a very long time. People would come and go. They would peer into her cage and smile. Buttons did not want to be kidnapped again, so she would hiss at them.

"HISSSSS!" she would say.

People would shake their heads and walk away. This happened day after day, and Buttons

BAM! The glove was caught in the grill of the bus. Buttons chased the bus!

The bus stopped at a red light, and that was where she caught it. The doors opened, and the bus driver tipped his hat.

"Do you have a bus ticket?" he asked.

Buttons did not have a bus ticket because cats normally do not ride the bus.

"Get out, freeloader!" he said as the bus screeched off.

The bus drove away so fast the blue glove went flying off the bus. Buttons jumped into the air to catch it in her mouth, but just as she did...

WHOOSH! A strong gust of wind opened the glove up like a balloon. Buttons was holding on with her teeth, but she was no match for this wind. Up into the sky they went!

That's when a flock of geese flying south for the winter saw the beautiful blue glove starting to fall.

"Is that a flying cat?" one of the geese asked.

"I think it is," the other goose replied. "And such a pretty color blue on that glove."

"A cat cannot fly very far like that," the first goose said.

"Indeed. Let's help her."

And so the geese decided to help Buttons fly. They lifted her onto their wings and flew her up, up, and away into the clouds until they reached an airplane.

The geese set Buttons down on one of the airplane's wings.

"You're welcome!" they said, in a huff. "This rude cat didn't even thank us!"

Inside the plane, Maggie was on her way to visit her mother. At this moment, she remembered she forgot her favorite gloves on the table!

She looked out the window and saw the glove. Then she saw Buttons.

Buttons looked in the window and waved at Maggie. Thanks to the pretty blue glove, they were going on an adventure together!

the title: *The Curious Situation of Foxes.*

That's funny, Gina thinks. *I don't remember taking this book out of the library.*

She's surely missed school now, and the bicycle is nowhere to be seen. Must be lying in a heap in the brambles. She stands and looks around, dusting off her jeans. There's a big hole in the sleeve of her favorite sweatshirt!

She's far behind the hotel, surrounded by blackberry bushes. There's a stone wall covered in moss and a heavy green door with a copper handle in the shape of a fox. She touches the fox head, and the door opens.

She walks through the door and sees the front of the hotel. And there's the bicycle! But this can't be the entrance to the hotel, can it?

She peers down a long hallway. It's longer than she remembers. Her head still hurts from being hit so hard. In her hand, she carries the book that attacked her from the air. She touches her forehead and winces.

"Ugh, I've got a lump on my head like a horn!"

At the end of the hallway is a room she has never seen before. She hears laughter and clinking glasses, and sees the flicker of a roaring fireplace.

In a strange room with oak walls and tapestries, three people are playing a board game. One man is wearing a tweed jacket and a monocle. One woman has a feather in her hair. The other woman wears a long string of pearls around her neck. They look like ghosts. They drink champagne and white tea, and pass around cherries on a silver platter.

"Hello, my dear," says the woman in the necklace of pearls. "Join our party. Don't look so scared."

"Who are you, and how did you get into the hotel?" Gina asks.

"I am Marilyn," she says. "And the young woman with the feather in her hair is Melinda. We have always lived here."

"Festive outfit!" Melinda quips.

Marilyn takes Gina by the hand and leads her to a chair. Now, Gina sees that her clothes have changed. She is no longer wearing the jeans and sweatshirt she put on earlier. She is wearing a red and green party dress with a black velvet bow in her hair.

all around her shoulders and head.

"Tragedy! What can we do?" they cry.

Just now, Gina remembers the book in her hand: *The Curious Situation of Foxes*. She opens to the first page and begins to read: "Chapter One: In Case Of Emergency. What to do when a fox portal is opened."

Melinda throws her arms in the air. "MRRPHN!" She pulls a sleeping baby fox out of her mouth. "Read it!"

"Well, it says here," Gina reads, "that the un-foxing spell must be chanted in unison. Now, everyone, try your best to grab each other's hand!"

"I can't reach!" Marilyn cries.

"Yes, you can!" says the Fox Hunter. He begins swimming around the room. He does the backstroke through foxes, gathering Marilyn and Melinda in each arm.

Marilyn's dainty fingers wrap around Gina's hand. They chant.

"Foxes of Nature, we beg for your forgiveness and beseech thee to return to the forest. This hotel is not where you should hibernate!"

Gina pauses for a second, and then says: "FOXEN BEGONEN BENEDICTEN FOXNOMORE!"

There is a lightning crash outside and all the windows rattle. And then, backwards, the way they came, the foxes are sucked back into the portal. One by one, tails first and heads last. They are sucked back into the hole, still sleeping soundly, to return to only the devil knows where.

When the last fox disappears, the book in Gina's hand begins to flutter. It's being pulled uncontrollably toward the portal now. She cannot control her arm, if she doesn't let go, she'll go flying across the room. And she does!

"AHHHH!" Gina screams, being pulled toward the hole. It feels like her arm will tear right off.

"Let go of the book!" Gina hears a voice cry. And she does that, too. The force pulling her is released and her body stops mid-air. She falls to the floor with a thud. Just like the foxes, she falls asleep.

Name: _____ Date: _____

Use the article "The Curious Situation of Foxes" to answer questions 1 to 2.

1. What happens to the foxes after Gina says, "FOXEN BEGONEN BENEDICTEN FOXNOMORE!"?

2. A realistic story describes events that could happen in real life. Is "The Curious Situation of Foxes" a realistic story? Support your answer using details from the text.

Use the article "Buttons and the Blue Glove" to answer questions 3 to 4.

3. Where is Buttons at the end of the story?

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"Well, it says here," Gina reads, "that the un-foxing spell must be chanted in unison. Now, everyone, try your best to grab each other's hand!"

"I can't reach!" Marilyn cries.

"Yes, you can!" says the Fox Hunter. He begins swimming around the room. He does the backstroke through foxes, gathering Marilyn and Melinda in each arm.

Marilyn's dainty fingers wrap around Gina's hand. They chant.

"Foxes of Nature, we beg for your forgiveness and beseech thee to return to the forest. This hotel is not where you should hibernate!"

Gina pauses for a second, and then says: "FOXEN BEGONEN BENEDICTEN FOXNOMORE!"

There is a lightning crash outside and all the windows rattle. And then, backwards, the way they came, the foxes are sucked back into the portal. One by one, tails first and heads last. They are sucked back into the hole, still sleeping soundly, to return to only the devil knows where.

When the last fox disappears, the book in Gina's hand begins to flutter. It's being pulled uncontrollably toward the portal now. She cannot control her arm, if she doesn't let go, she'll go flying across the room. And she does!

"AHHHH!" Gina screams, being pulled toward the hole. It feels like her arm will tear right off.

"Let go of the book!" Gina hears a voice cry. And she does that, too. The force pulling her is released and her body stops mid-air. She falls to the floor with a thud. Just like the foxes, she falls asleep.

Name: _____ **Date:** _____

Use the article "The Curious Situation of Foxes" to answer questions 1 to 2.

1. What happens to the foxes after Gina says, "FOXEN BEGONEN BENEDICTEN FOXNOMORE!"?

_____

_____

_____

2. A realistic story describes events that could happen in real life. Is "The Curious Situation of Foxes" a realistic story? Support your answer using details from the text.

_____

_____

_____

Use the article "Buttons and the Blue Glove" to answer questions 3 to 4.

3. Where is Buttons at the end of the story?

_____

_____

_____

Meet the Judge!

Sonia Sotomayor is the first Hispanic American on the Supreme Court.

Getty Images

Sonia Sotomayor's job rules! On August 8 2009, she became a **justice**, or judge, on the U.S. Supreme Court. The Supreme Court is the highest court in the nation.

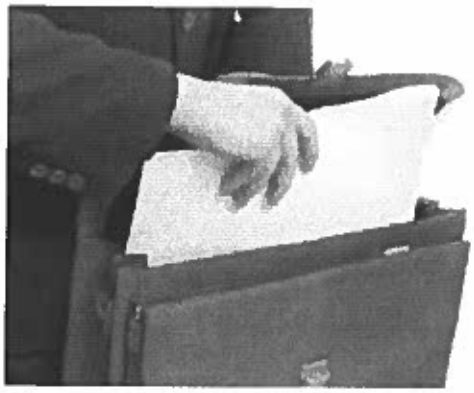
Sotomayor (soh-toh-migh-YOR) is the first Hispanic American to become a Supreme Court justice. She is also the third woman to sit on the nation's top court.

The justice hopes her experience is "an inspiration for others," she says. "It's a sort of awesome sense of responsibility."

Corbis

Sonia Sotomayor (left) is congratulated by her family and judges after joining the Court.

· The nine justices are **appointed**, or chosen, for life. That way, they can make decisions without worrying about losing their jobs.



Shutterstock

· Lawyers send the Supreme Court about 10,000 cases a year. Of those, the justices usually hear and decide about 100 cases.

Running Like a Pro

by Aditi Sriram

Everyone told Julien he looked just like his father. The same steady hazel eyes, the same big ears sticking out on either side of his face. "Oh my goodness!" people would say with a gasp. "Aren't you a spitting image of your dad!" When his cello teacher met his father, he said, "What a bold lineage you share." Julien liked that way of putting it, that he didn't just look like his father, but that he and his father shared something more special.

So when Julien's father began training for a marathon, Julien found himself wanting to run as well. He was in sixth grade, and the cross-country team was holding tryouts in a few weeks. He wanted to give it his best shot. His father said, "That's a great idea, son. Running is not only great exercise for the body but for the mind too. When I go for a run, I feel free from all the things I have to do for the rest of the day. I don't think about work or chores. Any worries I have, I leave at the start line, and they only climb back into my head when I've finished my run, by which time I'm so pumped that they no longer feel like worries."

"Is that how you're able to run such long races, Dad?" Julien asked. He was becoming nervous about having to run for so long without stopping.

"Wow," Zoe said to Julien and his father. "We've got a marathon runner here."

"My dad's the marathon runner," Julien said in between breaths.

"Well, I can tell that you're going to be great at long distance too," Zoe said with a smile. "You *pronate*, which means that you put more stress on the insides of your feet when you run. It's totally normal, don't worry. And now we can find you the perfect pair of shoes to keep your feet strong and your arches supported while you run."

"My son, the pro," Julien's father said, patting him on the back when Julien got off the treadmill.

Father, son, and Zoe spent thirty minutes trying on different pairs of shoes, a rainbow of colors, a series of brands, and settled on a pair of blue sneakers.

"We've done the research," Julien's father said on the drive back home. "Now you're ready to train!"

And Julien agreed, wiggling his toes inside his brand new shoes-the same color and brand as his father's.

I shrugged.

"Yes! It's fine!" I said.

I thought it was the best solution. I had come up with it, after all, so it had to be the best.

"Okay," he said. "Let's see how long it stays attached to the bike."

My dad said he was proud of me for taking initiative. That means I see something that needs to be fixed and do it without being told!

"I think I have a new lesson for you, though," Dad said. "I want to show you how to conduct an experiment."

I had come up with a solution to a problem, and now the second step was to test it under different conditions.

I asked my sister when she was planning to go for a bike ride. She said at 2:00 p.m.

I grabbed a pen and a piece of paper and made two columns on the paper. One column said GOOD, and one column said BAD. At 2:00, I went outside to watch her ride.

First, she rode down the sidewalk and the reflector stayed on. I made a checkmark in the GOOD column.

Next, she went over a bump and the reflector stayed on. I made another checkmark. Good again!

Then, she rode underneath a tree. *Uh oh!* I knew what was coming next.

One of the branches from the tree swept across the back of her bike, and the next thing I knew the whole reflector was untied and on the ground!

Ariel cried out, "My reflector!"

I made another checkmark, this time in the column that said BAD.

"Back to the drawing board!" I said.

"Grrr!" said Ariel.

Later that night, my dad and I sat down with my paper to look at the checkmarks.

Just like last time, my sister rode under the tree. However, this time, the reflector stayed on the bike.

"Yay! It didn't fall off!" Ariel squealed happily.

I was pretty proud myself. I made a great big checkmark in the GOOD column, and then drew a smiley face just for fun.

I turned around to see that my dad had been watching the entire time.

"Excellent work, little scientist," he said. "You recreated the experiment and found the solution to your sister's bike problem."

"And I saved us a trip to the bike shop!" I said.

"You sure did," Ariel said. And then she gave me a great big hug.

4. What is the purpose of the tests that the sales representative puts Julien through?

Use the articles "Fixing My Sister's Bike" and "Running Like a Pro" to answer questions 5 to 6.

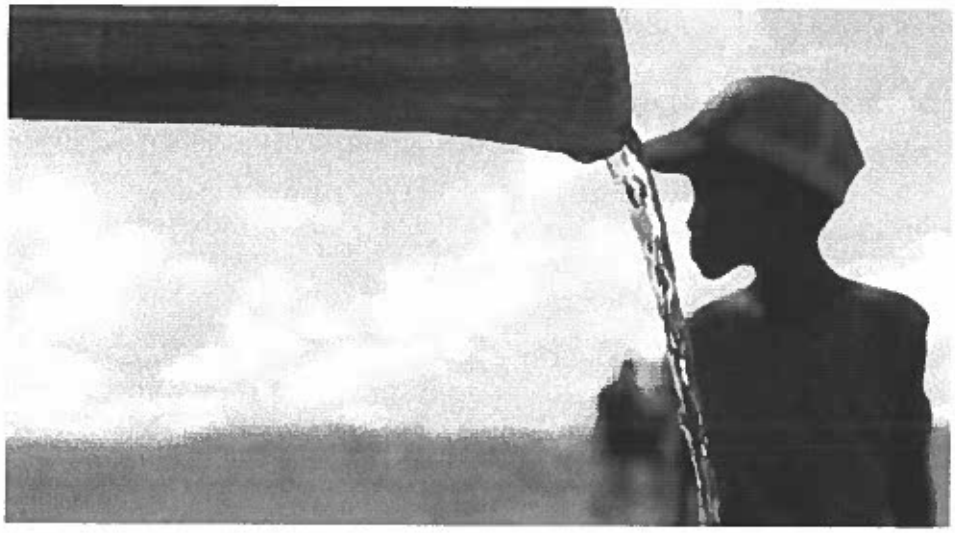
5. How are the tests in "Fixing My Sister's Bike" and "Running Like a Pro" alike?

6. Based on the information in these stories, explain why having a purpose is important to doing a test. Support your answer with evidence from both texts.

Water Worries

Almost 1 billion people don't have clean water, a report finds.

What do you do when you're thirsty? Chances are you get a glass of water from the sink. Not everyone can do that. In fact, almost 1 billion people around the world don't have clean drinking water.



AP Images

A boy in Africa stands near a water pump. It is the only source of water in his village.

That's the finding of a report by world aid groups. The study looked at the living conditions of people around the globe. Many have to walk hours each day to collect water from rivers. Often that water is not safe to drink, because it's dirty.

About 2.6 billion people don't have safe places to go to the bathroom, the report says. Lakshmi grew up in a poor village in India. That is a country in Asia. For a long time, her school did not have bathrooms. She and her classmates had to use bushes outside.

World leaders say it's important for kids to have good hygiene, or cleanliness. Drinking clean water and washing your hands after using the bathroom can help prevent diseases.

Aid workers have been helping by installing pipes around the world. To install is to set up. The pipes have given people water in their homes. Aid workers also have been teaching people how to filter, or clean, rain water. They even have built bathrooms. That's made a difference

Saving the Animals

In the early 2000s, Julie O'Connor's third-grade class at Public School 48 in New York City held a bake sale. The students raised $266 from the sale. They gave the money to help the animals at the Kabul Zoo. "The kids were excited to help the zoo's animals," O'Connor said.

Leigh Haeger

Afghanistan on the globe.

Kabul is the capital of Afghanistan, a country in Asia. Afghanistan has suffered from years of war. Bombs and bullets have destroyed some parts of the Kabul Zoo. Many animals at the zoo and in the city died or were injured in the fighting.

Traveling to Kabul

An international group of zoos, led by the North Carolina Zoo, raised more than $500,000 for the animals of Kabul. A team of scientists and veterinarians traveled to Kabul. The team took food, medicine, and supplies to help the animals.

The team members repaired the zoo's cages and pens. They also treated injured zoo animals, including monkeys, antelopes, gazelles, and a black bear.

Name: _____ Date: _____

Use the article "Saving the Animals" to answer questions 1 to 2.

1. How were animals at the Kabul Zoo affected by war?

_____

_____

_____

2. What did people and zoos from different countries do to help the animals at the Kabul Zoo?

_____

_____

_____

Use the article "Water Worries" to answer questions 3 to 4.

3. Almost 1 billion people don't have clean water to drink or use in bathrooms. Why is clean water important for health?

_____

_____

_____

Trouble at Reading Railroad

by W.M. Akers

"Those aren't the rules!" said Mario.

"This is my house! I'll tell you what the rules are!" said Nicky.

The two cousins stared at each other, both refusing to blink. They were warriors about to leap at each other's throats and settle their argument with violence. The battlefield lay between them, their armies strewn across it. It was not an ordinary battlefield covered with tanks and cannons and soldiers. It was a square, covered in colorful rectangles, some guarded by green and red plastic fortresses. But although the war wasn't real, the fight between Nicky and Mario was. They were playing Monopoly and prepared to do anything to win.

It had started that afternoon when Mario's mom dropped him off at Nicky's house. They were cousins, nearly the same age, and had been playing together since they were born. They had played pirates and action figures, video games and tag, and had always had a good time. But whenever they had made the mistake of playing Monopoly, the same thing always had happened.

It always started with an argument over who got to be which piece. Obviously, both of them

them got a monopoly by sheer chance. Then the taunting would begin.

"Oh wow," Mario would say. "You have Baltic Avenue, Connecticut, and St. Charles. Those are *really* great properties."

"Oh, so what? So you've got all the yellows. Everyone knows the yellows are the worst. Who is a Marvin Gardens, anyway?"

"I don't know, but as soon as I get a hotel on him, it's gonna cost you $1,200 to find out."

Their voices would get louder. Their sentences would get shorter. Their faces would get red as they counted out each move, slamming their pieces down with greater and greater fury. But they would not yell, no matter who landed on Free Parking, no matter how many hotels were built, no matter what monopolies were acquired. They would not yell...until one of them drew The Card.

Every time they landed on Chance, the room would grow quiet. They would lift the flimsy red cards slowly, knowing it could be the match that lit the flame.

And finally, as it always eventually did, The Card had appeared.

"Take a ride on the Reading Railroad," Mario had read. "If you pass Go, collect $200."

They both had looked at the board. Mario's piece-the hat, the stupid, boring, awful hat-had been on the Chance space two spots past Reading Railroad. If he went forward around the board, he would pass Go. He would get $200. He would be able to afford the railroad-one of his favorite properties-and the game would shift in his favor. But he had known Nicky wouldn't let that happen.

Nicky had picked up Mario's piece.

"Put that down," Mario had said.

Nicky had then moved it back two rectangles and put it on Reading Railroad.

"You know it goes forward," Mario had said. "You know it does!"

"The card doesn't say anything about that."

"The pieces always go forward. *Always*."

"Only on the cards that say 'Advance.' This doesn't say anything about it, so you take the

Apple the Cat Calls a Meeting to Order

by ReadWorks

It's a sunny morning in the one-room apartment, and the girl is sleeping peacefully in her bed.

Under the table across the room, someone is not asleep but awake and alert. Apple the Cat has an important mission, but she's going to need some help. She's already tried everything she could do on her own, but she's beginning to realize this mission is not so simple. She will have to call in reinforcements.

She tried meows and playful taps of the paw, but nothing could wake the sleeping girl.

Apple calls a meeting to order. A few of her trusty friends are in attendance. She has summoned Fur Toy, Feather Stick, Bear Bear, and Shoe.

"We have an important subject to debate," says Apple.

Bear Bear is grumpy because he doesn't know what could possibly be important enough to call a meeting to order so early in the morning.

"This couldn't wait until later?" he grunts.

everyone knows she means business.

"I don't know, it could work," she admits. "Plus, what does she need all those dishes for?"

Apple thinks about it. She doesn't want to upset the girl, but she really needs to wake her.

"Wait just a minute, here," says Bear Bear from a few feet away. "What is SO important you can't possibly wait for her to wake up?"

Apple pretends not to hear him, but the others begin to nod in agreement. Only Feather Stick seems unconcerned as he continues to preen his feathers and play in the patches of streaming sunlight from the window.

"Yeah, I mean, what is so important?" demands Shoe.

"Fine," says Apple. "I'll admit-it's about time I got a treat. The girl has been so busy lately, it's been days since my last treat! I'm going crazy here. I love those things!"

"So what do we get out of this?" asks Fur Toy.

"How does my undying appreciation sound?" replies Apple.

There is some hesitation among the others, but everyone knows Apple is most loved by the human, so it doesn't take much convincing.

"Now we just need a plan," she says.

"Well, I've got one," interjects Fur Toy. "If we all climb to the top of the counter and jump at the same time, surely that will be enough force to break the top plate!"

Apple is hesitant; she really does not want to upset the girl, but she couldn't be more desperate for a treat. She finally agrees to the plan. What could go wrong? Plates are replaceable, and surely the girl won't mind. On the other hand, despite being the most loved, she is also likely to be the first blamed for the mishap.

Apple, Shoe, and the toys, with the exclusion of Bear Bear, who watches from afar, climb together to the top of the shelf.

"On my count," says Shoe, grumbling something about how she's too old to be doing this.

"1....2.....3!" They all jump, but their timing isn't quite right, and Fur Toy and Feather Stick miss the plate altogether. They hardly make a peep and the plate remains unbroken.

Name: _____ **Date:** _____

Use the article "Apple the Cat Calls a Meeting to Order" to answer questions 1 to 2 .

1. Why does Apple the cat call a meeting?

_____

_____

_____

2. The problem Apple has in this story is how to wake the human. How does Apple solve this problem?

_____

_____

_____

Use the article "Trouble at Reading Railroad" to answer questions 3 to 4.

3. What game do Mario and Nicky play in the story?

_____

_____

_____

7. Can a story have a problem without a solution? Support your answer with evidence from at least one text.

Whoop It Up!

Fish and Wildlife Association

Whooping Crane

Whooping Crane

Scientists have been teaching whooping cranes to fly south.

Dressed in a white costume, scientist Joe Duff pretended to be a whooping crane. He might have looked silly, but he had an important job to do. Duff trained a flock of whooping crane chicks in Wisconsin to think he was their mother. "It's like becoming a bird yourself," he told *Weekly Reader*.

Joe Duff is the team leader of a group called Operation Migration. Members have been teaching "whoopers" to **migrate** to Florida since 2001. When animals migrate, they move from one place to another.

Operation Migration workers train young whoopers to follow **ultralight** aircraft, or very lightweight airplanes. Each aircraft is flown by a pilot in a whooping crane costume. In six months, the birds would be ready to follow the aircraft and migrate to Florida for the winter.

Bringing Back the Whoopers

The whooping crane is an endangered bird. In 1941, only one flock of whooping cranes lived

Moose on the Move

by Jeff Ives

Helicopters bring Utah's moose to their new home in Colorado.

It's a bird! It's a plane! Wait...it's a moose! Wildlife workers moved 24 moose from Utah to their new home in Colorado in 2007. The moose traveled part of the way hanging from helicopters. The helicopters safely **transported,** or moved, the animals to trucks for a six-hour drive.

More than 90 moose were brought to Grand Mesa, Colorado that way by the end of the 2000s. The idea for the project began when a Colorado man thought of bringing moose to Grand Mesa for the first time. "There was a big meadow full of willows, and it looked like there should be a moose standing there," Roger Shenkel told *WR News.* Shenkel shared his idea with officials at the Colorado Division of Wildlife (DOW).

The DOW spent years studying Grand Mesa's habitat. A habitat is the place where an animal or a plant naturally lives. When officials decided that the area was suitable for moose, the DOW workers set out to find some of the animals to live there.

Fair Trade

Utah needed more bighorn sheep, because their numbers had dropped. In **exchange,** or trade, for the 24 moose, Colorado sent 20 bighorn sheep to Utah. "Here in northern Utah, we have too many moose," Justin Dolling of the Utah DOW told *WR News.* "We made a trade."

Animal Swap

Name: _____ Date: _____

Use the article "Moose on the Move" to answer questions 1 to 2.

1. Animal overpopulation can cause animals to run out of food. How can wildlife officials help solve this problem?

_____

_____

_____

2. Why were moose and bighorn sheep swapped between Utah and Colorado?

_____

_____

_____

Use the article "Whoop It Up!" to answer questions 3 to 4.

3. What have members of Operation Migration been teaching whooping cranes to do?

_____

_____

_____

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"This is my house! I'll tell you what the rules are!" said Nicky.

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I was pretty proud myself. I made a great big checkmark in the GOOD column, and then drew a smiley face just for fun.

I turned around to see that my dad had been watching the entire time.

"Excellent work, little scientist," he said. "You recreated the experiment and found the solution to your sister's bike problem."

"And I saved us a trip to the bike shop!" I said.

"You sure did," Ariel said. And then she gave me a great big hug.

4. What is the purpose of the tests that the sales representative puts Julien through?

Use the articles "Fixing My Sister's Bike" and "Running Like a Pro" to answer questions 5 to 6.

5. How are the tests in "Fixing My Sister's Bike" and "Running Like a Pro" alike?

6. Based on the information in these stories, explain why having a purpose is important to doing a test. Support your answer with evidence from both texts.

Look Who's Talking!

sxc.hu

Each African elephant has a one-of-a-kind voice, say scientists. Why are scientists tuning

Why are scientists tuning in to elephant chats?

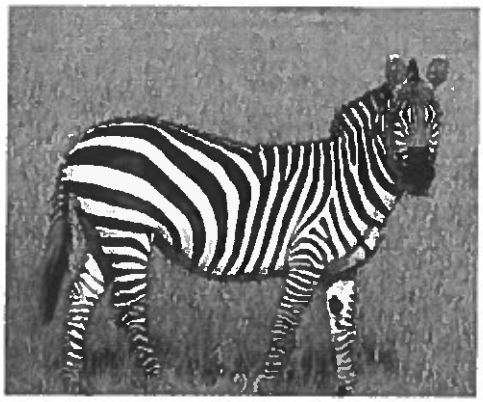
Many people have heard the loud trumpet sounds that elephants make. But did you know that elephants make a lot of other noises that humans can't hear?

Scientists have recently learned that each elephant has a unique voice. **Unique** means "one of a kind." Scientist Anne Savage told *Weekly Reader*, "Each person's voice is different. It's the same for elephants."

The scientists listened to the secret language of African elephants at Disney's Animal Kingdom in Florida. To hear the elephants, they used special equipment. Each elephant wore a radio collar fitted with a microphone. Then the sound was recorded and studied using a computer.

Saving African Elephants

Head Count



U.S. Fish and Wildlife Service

Zebra

As the tallest animals in the world, giraffes have a great view of the zoo. Scientists recently had an even better view--from 280 miles above Earth! Animals at the Bronx Zoo in New York City were tracked from outer space with a **satellite**. A satellite is a spacecraft that orbits a planet or moon.

The satellite took images of different species of zoo animals and sent the images back to Earth. These pictures showed many groups of plants or animals that are alike in certain ways. Scientists studied the images to see how well the satellite could spot different species.

Leigh Haeger

The Bronx Zoo is located in New York City.

So far, scientists are pleased with the results. They hope to use the satellite to track **endangered** animals in faraway places in the wild. Endangered animals are at risk of becoming extinct, or dying out completely. Currently, people track animals either by foot or by airplane. Scientists think that using a satellite to track animals will be both easier and cheaper.

Future Plans

"Taking a count is the first step in finding out if a species is in danger of extinction," scientist Scott Bergen told *Weekly Reader*. Along with counting endangered animals, scientists want to learn where they migrate. When animals migrate, they move from one place to another. Why do scientists want to learn where animals migrate? "[We want to know where to] create national parks and other protected areas for endangered animals," said Bergen.

4. How might scientists use a satellite to help endangered animals?

Use the articles "Head Count" and "Look Who's Talking!" to answer questions 5 to 6.

5. What general goal do the scientists in both texts share? Use evidence from both texts to support your answer.

6. Could scientists use a satellite to help African elephants? Why or why not? Support your answer using evidence from both texts.

Week 4

How do people give blood without running out of it?

Living things are made mostly of cells. Multicellular organisms have different cells that perform specialized functions.

This week students learn about the body's blood supply by first examining blood's function as part of the circulatory system. The circulatory system is made up of organs such as the heart and blood vessels, which include the arteries, veins, and capillaries. The heart pumps blood to the body, and blood vessels bring nutrients and oxygen to all of the body's cells. Blood is made up of plasma and cells. Liquid plasma contains dissolved nutrients and waste. Red blood cells deliver oxygen and remove carbon dioxide. White blood cells fight infection, and platelets help blood clot. However, although blood circulates in the circulatory system, it is actually produced in the bone marrow. Marrow produces stem cells, which become the cells in blood.

Day One

Vocabulary: *blood vessels, circulatory system*

Materials: page 27

Introduce the vocabulary. Point out that the word *vessel* can refer to a ship or to an object that holds food or drink. Ask students what these things have in common with blood vessels. (They all hold or carry something.) Remind students that blood carries nutrients from the digestive system and also picks up oxygen in the lungs, which are part of the respiratory system. After students have finished reading the passage, direct them to complete the activities. Review the answers together.

Day Two

Vocabulary: *plasma, platelets*

Materials: page 28

Introduce the vocabulary and inform students that plasma is made mostly of water. If necessary, review the term *connective tissue* before students read the passage. Tell them to refer to the illustrations as they read. After students have finished reading, have them complete the activity. Review the answers together.

Day Three

Vocabulary: *marrow, stem cells*

Materials: page 29

Introduce the vocabulary. Explain to students that stem cells have the potential to turn into any number of specialized cells, and not just blood cells. This is why scientists have such an interest in studying them. After students have read the passage, have them complete the activities. Review the answers together.

Day Four

Materials: page 30

Ask students if they know anyone who has ever given blood. Explain that only the blood of healthy people can be donated. This is so that diseases are not transmitted when the blood is used. After students finish reading, you may want to read the chart as a group before they complete the activity independently. Review the answers together.

Day Five

Materials: page 31

Have students complete the page independently. Then review the answers together.

Name _____

Daily Science
Big Idea 1
WEEK 4

Day 2

Weekly Question

How do people give blood without running out of it?

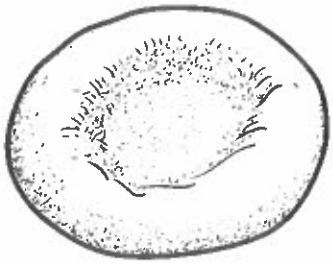
Blood is a liquid connective tissue made of cells suspended in a watery fluid called **plasma**. Plasma brings dissolved nutrients to cells and carries the cells' waste products away.

Blood contains three types of cells. Red blood cells, which give blood its color, account for 99% of all blood cells. Red blood cells transport oxygen to all body cells. White blood cells, on the other hand, are far fewer in number but have the important job of attacking infection. **Platelets**, which are the third type of blood cell, are not really cells at all but are fragments of larger blood cells. These small, irregularly shaped bodies collect at the site of an injury and help blood to clot, or form a scab.

Vocabulary

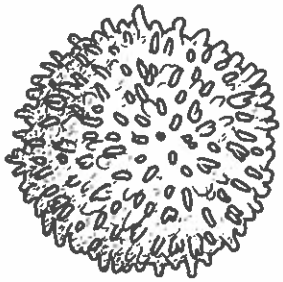
plasma
PLAZ-muh
fluid containing dissolved nutrients and waste

platelets
PLAYT-lits
particles in blood that help make blood clot



red blood cell

platelet



white blood cell

Answer the questions.

1. Which part of your blood transports nutrients? _____
2. Which cells help you get over a cold? _____
3. Which cells help heal a cut? _____
4. Why is blood red? _____
5. What would happen to someone without platelets? _____

_____

Name _____

Daily Science
Big Idea 1
WEEK 4

Day 4

Weekly Question

How do people give blood without running out of it?

Even though blood is constantly replenished in the body, losing too much blood suddenly can endanger a person's life. That's why people donate blood, which can be stored and used for such emergencies.

The human body contains about 5 quarts of blood. Blood donors typically give 1 unit, which is about 1 pint, or 10% of the blood they have. Their body is able to replace the blood fairly quickly. Liquid plasma is fully restored within a day or two. The blood cells take a few weeks to regenerate in the bone marrow and return to normal levels.

Donating blood gives the gift of health. For some people, it is the gift of life.

Use the chart to answer the questions about how donated blood is used.

Reason for Needing Blood	Blood Parts Needed		
	Red blood cells	Platelets	Plasma
Accident	4–100 units	none	none
Liver transplant	10–40 units	10–30 units	20–25 units
Open-heart surgery	2–6 units	1–10 units	2–4 units
Cancer treatment	10–20 units	10–15 units	none

1. Which part of donated blood is most frequently used? _____
2. Which medical event can require the most units of blood? _____
3. How many total units of blood parts does a liver transplant require? _____
4. What is the minimum number of blood parts needed for open-heart surgery? _____

Name _____

Daily Science
Big Idea 1
WEEK 5

Unit Review

Comprehension

Use Your Brain Cells

Fill in the bubble next to the correct answer.

1. What is the main function of muscle tissue?

Ⓐ to help the body move
Ⓑ to protect the body from disease
Ⓒ to help the body digest food
Ⓓ to support the body

2. What are the layers of the skin?

Ⓐ epithelial, thelial, dermothelial
Ⓑ callus, blood vessels, muscle
Ⓒ epidermis, dermis, hypodermis
Ⓓ tissue, dermis, epithelial

3. Villi in the _____ help move nutrients into the blood.

Ⓐ esophagus
Ⓑ large intestine
Ⓒ stomach
Ⓓ small intestine

4. Blood consists mostly of _____.

Ⓐ blood cells and tissue
Ⓑ plasma, red blood cells, and platelets
Ⓒ water, marrow, and platelets
Ⓓ oxygen, nutrients, and waste

5. Two organ systems that work together are the _____.

Ⓐ epithelial and connective systems
Ⓑ digestive and excretory systems
Ⓒ digestive and salivary systems
Ⓓ circulatory and plasma systems

6. What is the function of a cell's nucleus?

Ⓐ to act as a barrier
Ⓑ to cushion the cell
Ⓒ to direct the cell's actions
Ⓓ to form stem cells

7. The substance that washes off your skin after a long bath is _____.

Ⓐ epidermis
Ⓑ callus
Ⓒ epithelial tissue
Ⓓ sebum

Name _____

Daily Science
Big Idea 1
WEEK 5

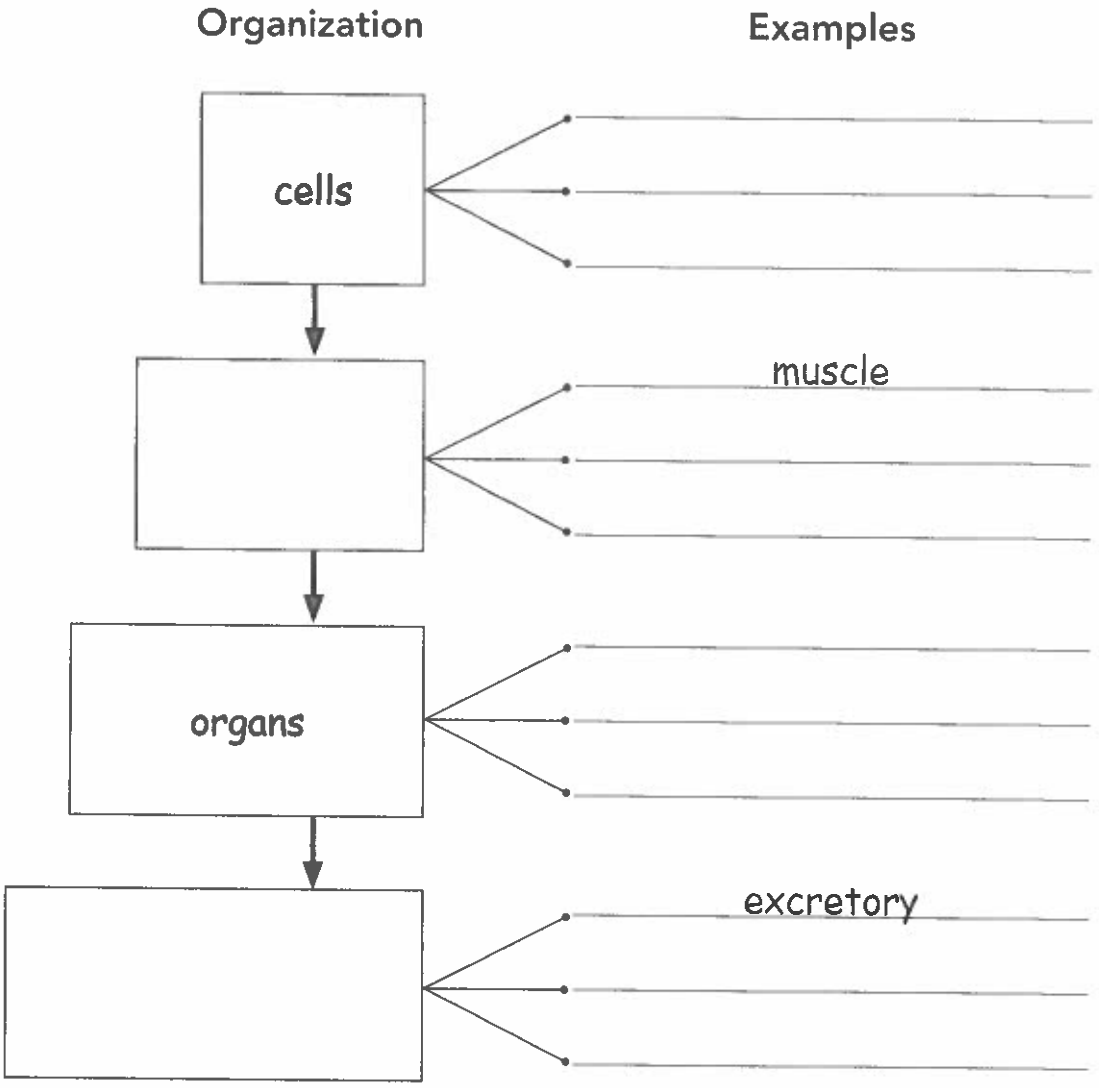
Unit Review

Visual Literacy

Tissues, Organs, & Systems

Complete the chart below with words from the box to show how the human body is organized and what it is made up of.

circulatory	digestive	heart	intestines
connective	epithelial	tissues	red blood cells
esophagus	platelets	systems	white blood cells



VE Day and VJ Day Riddles

Use information from the article to help you answer the riddles below.

1. I am the official notice calling for the surrender of Japan in World War II. What am I?

_____

2. I am the President who was having a birthday on VE Day. Who am I?

_____

3. I am the ship on which Japan formally surrendered in September of 1945. What is my name?

_____

4. I am the country that surrendered, leading to VE Day. What is my name?

_____

5. I am the country that surrendered, leading to VJ Day. What is my name?

_____

6. I am the year when VE Day and VJ Day happened. What year am I?

_____

Building a Strong Economy

Complete this worksheet while reading the article "Building a Strong Economy After WWII." Fill in the blanks based on what you have learned and then answer the questions at the end..

1. Soldiers returning home from this conflict had little help from the Government. _____

2. Term for the people who have fought in wars. _____

3. The lack of help and support for soldiers was one cause of this bad event. _____

4. The president who signed the Servicemen's Readjustment Act of 1944. _____

5. Where some veterans had to sleep when they had no support from the government. _____

6. The term that GI stands for. _____

7. This allowed veterans to get weekly payments while looking for a job. _____

8. What we now call the document that gives veterans opportunities after coming home from war.

_____

9. What are some of the main opportunities offered to veterans by the GI Bill?

_____

_____

10. Do you think the GI Bill got more people interested in joining the army? Would it cause you to be more interested?

_____

_____

6. The GI Bill was written as a result of SS5H4b
   A. soldiers returning from World War I to ensure they had jobs to support their families.
   B. all people wanting to go to college and needing the money to do so.
   C. servicemen returning from World War II. The bill enabled veterans to get a college education and higher paying jobs.
   D. World War II and the need for skilled workers.

7. Many people debate whether or not it was okay to bomb Japan because SS5H4c
   A. The atomic bombs were used to kill civilians, who had never held a weapon. Some say that such an attack was wrong and cruel.
   B. The atomic bombs did not bring an end to the war.
   C. Japan was about to surrender or die for their country.
   D. Atomic bombs killed many and only prolonged the war.

8. According to the map, how many miles of Hiroshima were completely devastated with all buildings destroyed? GA Map and Globe Skill 5 SS5H4b SS5H4c
   A. .5 miles
   B. 15 miles
   C. 1.5 miles
   D. 4.0 miles

9. Many citizens felt that President Truman did not have the right to bomb Japan with an Atomic bomb. Which of the following is a reason why people thought the U.S. shouldn't have bombed Japan? SS5H4b
   A. Japan was an ally of the United States until they bombed Pearl Harbor so they thought Japan would once again become an ally.
   B. The effects from the radioactive energy from the bombs lasted for many years after the bombs were dropped causing devastation for those who had never fought in the war.
   C. The bomb was not cost effective.
   D. Many of the people killed were soldiers who were fighting for their country.

10. What were some arguments for and against the bombing of Japan to end World War II? Support each side with evidence. SS5H4c SS5H4c

Citation

Name: _____ Date: _____

Georgia Studies Weekly

Worksheet 4 Week 20

Cold War Review

Use what you learned from reading the article "Bundle Up!" to complete this worksheet.

True or False: Decide if each statement is true (T) or false (F), then if the statement is false make a correction to make it true.

_____ A cold war is when people fight in trenches.

_____ The Cold War did not have bloody battles.

_____ Most of Western Europe sided with the Soviet Union.

_____ The Soviet Union and the U.S. fought against each other in WWII.

_____ The Soviet Union wanted to bring communism to the world.

_____ The United States wanted to promote dictatorships.

_____ The Iron Curtain is the wall built between East and West Berlin.

_____ The wall was built to keep people from escaping East Berlin.

Primary and Secondary Sources: Tell whether each item would be a primary (P) or secondary (S) source from the Cold War time period and explain why.

_____ a piece of the Berlin Wall

Explain: _____

_____ a letter from a soldier

Explain: _____

_____ a textbook article about the Cold War

Explain: _____

_____ a uniform from a air force pilot

Explain: _____

_____ a diary from a child of the time

Explain: _____

_____ a replica of a plane used at the time

Explain: _____

Word/Definition Match-Up

Read each of the definitions below. Find a word in the word bank to match with the definition and write it on the line. Not all of the words in the word bank will be used.

interest	services	stockholder
loan	goods	savings
wage	stock	consume
job	budget	household

1. money borrowed from the bank _____

2. a share of a business _____

4. things people buy _____

5. person who owns part of a company _____

7. family or group of people who live together _____

8. money that is paid to laborers _____

8. Why was the Space Race so important during the Cold War? SS5H6d

A. With the Soviet Union wanting to set up communist countries all around the world and the U.S. wanting to halt the spread of communism, both countries knew the importance of military technology that would result from the Space Race.

B. Winning the Space Race would give the citizens of the Soviet Union or the U.S. great pride.

C. The impact the Space Race would have on military technology would be small, but it would be an amazing accomplishment to be the first country to send a person into space.

D. With so many lives being lost during the Cold War, winning the Space Race would give citizens of the Soviet Union or the U.S. something to be happy about.

9. What can you infer about the effect that communist governments had on their citizens by the following statement? "In 1961, the communist East German government built the Berlin Wall, which was a barbed wire and concrete barrier between East and West Berlin. They wanted to keep people from escaping East Germany." SS5H5a

A. Citizens had national pride and needed the wall as a way of keeping people from invading their country.

B. The government wanted to protect its citizens.

C. Citizens needed the wall to protect them from the dangers of the Cold War.

D. Citizens disliked the loss of freedom under the communist government so much that they were willing to leave their homes and move to another country.

10. How did a free enterprise system help the growth of our nation after World War II? SS5E3a

Citation

collect

col · lect

Definition

verb

1. to gather together.

The teacher collected her students' work.

adjective & adverb

1. requiring payment for a telephone call from the person who receives the call.

I called her collect.

I made a collect phone call to my sister in Hawaii.

Advanced Definition

transitive verb

1. to gather together or assemble.

I collected the various papers that were lying on the desk.

2. to accumulate and make a collection of.

He collects stamps as a hobby.

3. to call for or obtain payment.

The landlord came to collect the rent.

4. to make (oneself) calm or prepared, esp. after being disturbed or disrupted.

Still shaken from the frightening incident, she tried to collect herself.

intransitive verb

1. to gather together or assemble.

People began to collect in front of the church.

2. to accumulate.

Snow will collect up to ten inches tonight.

3. to obtain payment (usu. fol. by on).

positive

pos · i · tive

Definition

adjective

1. sure.

I am positive that she lives on this street.

2. saying or meaning "yes."

I gave a positive answer to his question.

3. favorable; good.

All her extra effort brought positive results.

4. having to do with an amount greater than zero.

Jane keeps a positive balance in her bank account.

Advanced Definition

adjective

1. definite; certain.

He's positive that this is the right place.

2. marked by or showing affirmation.

I didn't really expect a positive answer, so I was surprised when she said "yes."

She got a positive result on her pregnancy test.

3. desirable, advantageous.

The extra studying brought positive results.

4. intending or likely to produce favorable results.

The mayor is truly making positive efforts to bring about reform.

5. approving or optimistic.

The client seemed to show a positive attitude toward our proposal.

The professor made a number of positive comments on my paper.

5. Technology can be fun and a **positive** way to learn, express yourself, and keep up with friends. But as Jake found out, it can also be used to hurt others.

6. Annabelle was furious. Auditions for the lead of the school ballet were only three weeks away, and she was nearly **positive** that Sally would snatch the part right from underneath her.

7. Nicole S., 16, of Edmore, N.D., used to be afraid of singing in front of people. One time, her friends convinced her to sing karaoke with them. She ended up having fun! "Now I will sing anywhere, even with people present. **Positive** peer pressure helped me face my fear," she says.

8. Of course, luck is only part of it, he thinks. Now it is up to him to take advantage of his opportunity and do something **positive**.

5. What is this story mainly about?

A. the importance of breakfast

B. the recipe for eggs and bacon

C. what a farmer does to prepare breakfast for himself

D. how to get a snake out of a chicken coop

6. Read the following sentence: "The farmer lifted his rough, powerful hands to his face and began to **rub away the last of his dreams**."

What does the author mean when he writes that the farmer began to **"rub away the last of his dreams"**?

A. The farmer was rubbing his face when he was sleeping.

B. The farmer was dreaming that he was rubbing his face.

C. The farmer felt like he was dreaming when he was awake.

D. The farmer rubbed his face to wake up and begin his day.

7. Choose the answer that best completes the sentence below.

The farmer found a snake in the chicken coop _____ he was able to get it out.

A. because

B. but

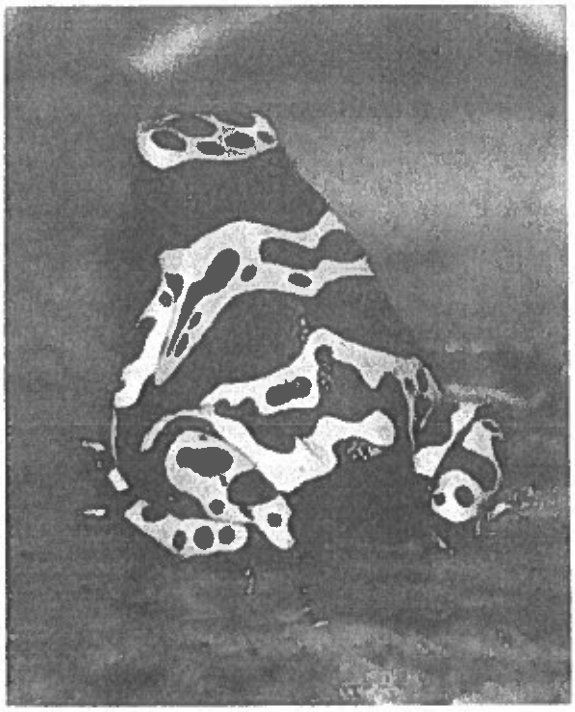
C. so

D. after

8. What did the farmer have to do in order to take the snake out of the chicken coop?

Magic in the Classroom

by ReadWorks



On her first day at school, Emma wore a tutu, a red cape, and a pair of swim goggles that she kept over her eyes. Mr. Stephens said we were not under any circumstances allowed to make fun of her. "Emma is different," he said in that exasperating tone adults use to explain things while not explaining them at all. "She needs your support and understanding, and I will not tolerate bullying in my classroom."

Of course that didn't stop Sarah, who, as everyone knows, is a bully. The other day, Sarah turned to me and said, "Oh, Samantha, you're the best writer in our class. I only wish I could write as well as you do." She smiled sweetly at Mr. Stephens, who just happened to be passing by with our homework assignments. As soon as he turned his back, though, she stuck her finger right between my ribs and wiggled it. "Teacher's pet," she said. And then she looked away, tossing her hair. I still have a bruise.

So I wasn't surprised when Sarah offered to take Emma on a tour of the school. I was sure that this was phase one of her full-on attack against Emma and that bizarre outfit.

Because Mr. Stephens is an adult and all adults think Sarah is perfect, he agreed. "Sarah, I

oor. Then, suddenly, Emma snapped her fingers and all of the frogs disappeared.

What'd you do to me?" Sarah asked fearfully.

Nothing," Emma shrugged.

What are you talking about, Sarah?" I giggled. "I didn't see anything."

Sarah went home from school early that day. She told Mr. Stephens she didn't feel well.

The next day, she came to school wearing a tutu, a red cape, and swim goggles. She turned o Emma with a smirk. "You're not the only one with tricks up your sleeves," she said.

Some things never change," I whispered to Emma. She smiled. I had a feeling this was going o be a great year.

magical

mag · i · cal

Definition

adjective

1. of or made by magic.

She loves to read stories about magical creatures.

Advanced Definition

adjective

1. mysterious and charming.

a magical smile

2. magic.

Spanish cognate

mágico: The Spanish word *mágico* means magical.

These are some examples of how the word or forms of the word are used:

1. If you could have one **magical** power of Harry's, what would it be?
2. Blaine's first deck of cards was old and yellowed. Blaine treasured the cards. He thought their old age made them **magical**.
3. "What do you mean, **magical**?" Luke's friend Tom asked one day. "Well, it's like this," said Luke. "My dad casts a spell, and soon enough the fruits and vegetables appear where there used to be bare dirt!"

. Emma tells Samantha that she likes to do magic for fun. What can be concluded bout Emma's statement based on the events in the story?

A. The statement is truthful.

B. The statement is not truthful.

C. The statement is not completely truthful.

D. The statement is misleading.

5. What is this passage mainly about?

A. a school year filled with magic

B. Emma's relationship with Sarah and Samantha

C. Emma's magical tricks on people

D. how Sarah's plan to bully Emma backfires

6. How can Samantha's tone throughout the passage best be described?

A. formal

B. conversational

C. disinterested

D. mysterious

7. Choose the answer that best completes the sentence below.

_____ Sarah offers to take Emma on a tour of the school, Samantha is sure that this is phase one of Sarah's full-on attack against Emma.

A. Instead

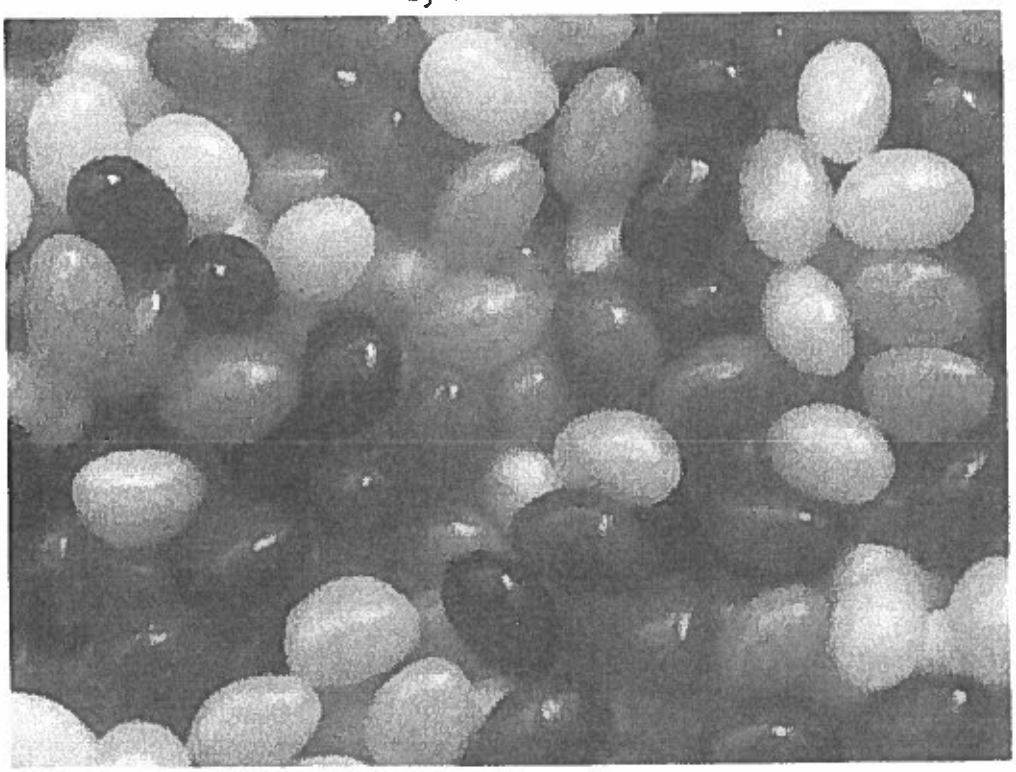
B. Therefore

C. Even though

D. Initially

A Kid In A Candy Store

by W.M. Akers



It wasn't the candy he wanted. It was the skateboard. Tommy had been staring at it for weeks, every day on his way home from school, admiring it through the window of the skate shop on Market Street. It was a longboard-a serious skateboard, not meant for tricks or speed, but for long rides down hills, on busy roads, or all the way across town. This was a skateboard that could change Tommy's life forever. No longer would his parents have to pick him up after school, or at the movies or the mall. The longboard would be able to take him home.

It was ocean blue, with chrome wheels and an elaborate drawing of a rocket ship on the underside. Each time he pressed his face against the glass of the skate shop, he felt himself fall into that picture, and his dreams of riding the longboard became mixed up with dreams of interstellar travel. He wasn't just going to the mall. He was going to Mars, to Alpha Centauri, to anywhere in the galaxy he felt like. He was going to conquer the stars.

Or he would have, anyway, if his dad weren't such a cheapskate. There's something about fathers that makes it impossible for them to understand skateboards.

"Dad," Tommy said. "It's the world's finest skateboard. It could change my life forever."

own since the dawn of time, and hadn't been updated much since. A dark, winding dungeon f a store, its shelves were filled with jars of weird, sticky gums and sucking candies so hard ney could crack your teeth. Over all of it stood Mr. Orson, a hard-eyed skeleton of a man vhose long grey hair and baggy clothes made him look like an out-of-work wizard.

Tommy didn't know how the confectionary stayed in business. He'd never seen a kid go in or ut, and he'd never heard anyone talk about buying something there. How could that store urn a profit? And why would a store with no customers need an extra employee? Tommy lidn't want to find out, but the skateboard demanded he try. He pushed on the creaky old loor, sucked in his breath, and plunged in.

How may I help you?" said Mr. Orson. He sounded like a snake with a cold.

I, uh, uh...I-"

'You're looking for sweets?"

'No, well, uh-"

'Some raspberry rope, perhaps?"

'No thank you. Actually, I-"

'A chocolate lover, are we? Perhaps you'd prefer a chunk of Carlsberg Chew? It's the finest dark chocolate made in Germany. It has real hazelnuts inside!"

'That sounds good, but actually-"

"I see," said Mr. Orson, and his eyes went wide. His mouth crinkled up like a dead leaf, and Tommy got the impression that he was either about to scream at him, or sneeze. "I understand completely now."

"Understand what?"

"You are a boy...with a sour tooth." He reached behind him, to the highest shelf on a rickety bookcase, and presented Tommy with a star-shaped, tiny yellow candy. "Try this. A Sunburst Express-a sour candy of my own design."

"Yeah?"

"Free of charge."

desperate

des · per · ate

Definition

adjective

1. having almost no way to escape from or solve.

   The people in the burning building were in a desperate situation.

2. having a great need.

   *She was **desperate for** water.*

Advanced Definition

adjective

1. having no regard for danger as the result of hopelessness or great need.

   She made a desperate attempt to enter the burning house and save the children.

2. almost hopeless; extremely serious; critical.

   The child's health was in a desperate state.

   The people trapped in the cave were in a desperate situation.

3. done as a last effort, without great hope of success.

   The long pass reflected a desperate attempt to score on the last play of the game.

4. possessed of an overwhelming need or desire.

   Because of war and famine, the people are desperate for food.

Spanish cognate

desesperado: The Spanish word *desesperado* means desperate.

These are some examples of how the word or forms of the word are used:

1. Though Congo's people are **desperately** poor, their land is stunningly rich in diamonds, gold, silver, tin, uranium, and a mineral called coltan.
2. There was barely ever time to rest. Factory machines never stopped running. Often, the machines were unsafe. Many workers were crippled and **desperately** poor.

experience

ex · pe · ri · ence

Definition

noun

1. something that a person has done or lived through.

   The war was a terrible experience for everyone.

2. understanding or skills from practice or activity.

   We need a worker with two years of computer experience.

   Captain Black has a lot of experience with that kind of boat.

verb

1. to feel or know.

   He experienced defeat for the first time.

   She experienced pain after the accident.

Advanced Definition

noun

1. a particular situation or event that one has encountered or lived through.

   Working in that factory was tough for those months, but it was a good experience for him.

   She never forgot the experience of being on stage for the first time.

2. the sum total of such situations and events in one's life.

   I know from my experience that to do this would be a mistake.

   Luxury had never been part of my grandparents' experience.

   In my experience, these problems usually have simple solutions.

3. the process of undergoing or encountering such situations and events.

   His experience of the war was quite different from those who served in the front lines.

hire

hire

Definition

verb

1. to give a job to.

The company hired many people to work in the new factory.

Advanced Definition

transitive verb

1. to take on as an employee for money or other reward.

The company is hiring workers for its new plant.

She was hired as a writer, but she's now working as an editor.

They hired a caterer for the anniversary party.

He hired someone to walk his dog in the afternoons.

2. to engage the use of in return for a fee; rent.

They hired a large hall for the wedding reception.

noun

1. the amount paid for temporary work, service, or use.

His hire for the job was less than he had anticipated.

2. the fact or condition of being hired.

These are some examples of how the word or forms of the word are used:

1. Eventually, Goya was **hired** by Spain's royal family. He painted scenes of everyday life for them.
2. In 1945, Rickey formed a plan to **hire** the game's first black player. Rickey chose Robinson.
3. They **hired** Italian sculptor Giuseppe Moretti to design a statue. They raised money by hosting balls and asking local businesses for donations.
4. Young men would apply, and then the Greersons would **hire** about a half-dozen hands every spring to help them run cattle. It was tough work, but Dennis and Mac felt lucky to be picked.

Name: _____ Date: _____

. What does Tommy think could change his life forever?

A. a piece of chocolate

B. a comic book store

C. a skateboard

D. a motorcycle

2. A problem in this story is that Tommy wants a skateboard but does not have the money to buy one. How does he try to solve this problem?

A. He tries to solve this problem by dreaming about a trip to Mars.

B. He tries to solve this problem by getting a job.

C. He tries to solve this problem by staring through the window of the skate shop.

D. He tries to solve this problem by going to the mall.

3. Tommy stares at the skateboard through the window of the skate shop for weeks. After his dad refuses to buy the skateboard for him, Tommy gets a job so that he can buy it himself.

What can be concluded from this information?

A. Tommy is serious about getting the skateboard and will work hard to do it.

B. Tommy is heartbroken and has given up all hope of getting the skateboard.

C. If Tommy does not make enough money at his job to buy the skateboard, he will steal it.

D. Tommy will lose interest in the skateboard a few weeks after starting his job.

4. What do Tommy and his dad have in common?

A. Both Tommy and his dad think raspberry rope is the best candy in the world.

B. As boys, both wanted a skateboard built for long rides on roads and down hills.

C. As boys, both wanted a motorcycle known as a Vincent Black Shadow

D. As boys, both wanted something that their fathers would not buy for them.

). Tommy asks how Mr. Orson knew he was looking for a job. What is Mr. Orson's eply?

10. How could Mr. Orson tell that Tommy was looking for a job? Support your answer with evidence from the passage.

"That's great," said Dad. "I'm all for kids having hobbies. But that's an expensive little toy, and -"

"It's not a toy!" Tommy felt himself about to lose his temper. If he shouted, he knew he would never come close to owning his board. He collected himself. "It's a whole new way of life. When you were my age, what was the thing you wanted more than anything else? The thing you dreamed about? The thing you promised yourself you would get, no matter what?"

"A Black Shadow."

"A what?"

"A Vincent Black Shadow-the world's finest motorcycle. A more beautiful piece of machinery has never been designed."

"So yeah, this board is like the Vincent Black Shadow for the 21st Century. So you see why I have to have it."

"You know what my dad told me when I asked for a Black Shadow?"

"What?"

"Nothing. I didn't ask him, because I knew he'd think it was nothing more than an expensive toy. I went out, got a job, and started saving."

"Man," said Tommy. "I was afraid you'd say something like that."

'Dads are the worst, aren't they?"

***

Tommy walked up and down Market Street looking for someplace to work. The pizzeria wasn't ıiring. The coffee shop said he was too young. The comic book store said he didn't have enough experience.

'But how can I get experience," Tommy asked, "if nobody will give me a job?!" The comic book clerk didn't answer. Tommy composed himself, said thank you, and left.

The only store with a "HELP WANTED" sign was the one he had been dreading most: Orson's Confectionaries. The candy store.

Whoever thinks that all kids love candy stores has never been to Orson's. It had been in the

Tommy licked his lips. If there was one thing in life he loved more than skateboarding, it was sour candy. The grosser the better, he thought. A candy wasn't any good unless it made you squeeze your face together, shut your eyes, and want to cry. That's how you knew it was nice and sour.

'It's pretty sour?"

'It will make your tongue turn inside out."

Tommy reached for the candy and popped it into his mouth. At first, he tasted nothing. But then, as he began to chew, it was like an oil tanker had spilled in his throat. His gums were on fire. His tonsils were tap-dancing. And his tongue...his tongue felt like it was about to turn itself inside out!

'Oh my goodness!" he gasped. "This is the best candy I ever tasted."

'Why thank you," said Mr. Orson. "Have a sip of Fizzberry Soda. It will ease the sensation. Now, you're looking for a job?"

'How did you know?"

"I could just tell. Desperate for a new toy, are you?"

"It's not a toy! It's...well, yes. That's right."

"The Sunburst was a test. I don't want anyone working here who doesn't love sour sweets."

"I love 'em more than anything!" Tommy remembered the skateboard. "Well, practically anything."

"Good," said Mr. Orson, as he handed Tommy an apron. "Then you'll be getting your new toy very soon indeed."

3. Apple is hesitant; she really does not want to upset the girl, but she couldn't be more **desperate** for a treat. She finally agrees to the plan.

4. She peered under bushes, behind the garbage cans, and in the secret corners inside the garage. Princess was nowhere to be seen. As she grew **desperate**, she even looked in the mailbox.

5. As Graham pretended to be interested in the whale, Sarah watched the seconds tick by on her mother's watch. Finally, she couldn't take the beluga any longer. She stomped away, her arms swinging at her side, looking **desperately** for something in the Ocean Life exhibit that wasn't ugly, boring or stinky.

4. the repeated practice, activity, or observations that result in skill, ability, or wisdom.

They're looking to hire someone with a few years of sales experience.

I have no experience as an actor, but I think I could play that part.

5. knowledge or wisdom gained from such practice, activity, or observation.

She uses her experience to solve problems on the job.

transitive verb

1. to undergo or encounter; feel or know.

He experienced defeat for the first time in that race.

She experienced great pain after the accident.

Spanish cognate

experiencia: The Spanish word *experiencia* means experience.

These are some examples of how the word or forms of the word are used:

1. The ride lets people **experience** what a trip to Mars might be like in the future.
2. What happens in your life affects who you are. No two babies have the exact same **experiences**.
3. His science teacher had asked the students to imagine living through an earthquake. Jonathan had found the **experience** terrifying as he thought of the walls around his bedroom crumbling and the ceiling above him crashing down.
4. Shyness is very common in children, teens, and adults. In fact, most people **experience** situations in which they feel shy.
5. He called for a national literature based on the American **experience**. But what was the American **experience**? Adventure. Nature. The West. All of these things were very American.

5. But that didn't stop seventh grader Andy Smith of Irmo, South Carolina, from asking Reagan for "federal funds to **hire** a crew to clean up my room." "Today my mother declared my bedroom a disaster area," Andy wrote.

6. To encourage Bell and to help rush his work along, the parent**hired** an electrician by the name of Thomas Watson to be Bell's assistant. He hoped that between Bell's clever ideas and Watson's practical skills, the two men would succeed quickly.

7. She had been **hired** three months ago to find the next "big thing," a young adult novel series that would sell more than Harry Potter and Hunger Games. The only problem was Ebony still hadn't discovered a single amazing break-out novel since she came to the company.

5. What is a theme of this story?

A. friendship

B. honesty

C. determination

D. giving up

3. Read the following sentences: "How could that store turn a profit? And why would a store with no customers need an extra employee? Tommy didn't want to find out, but **the skateboard demanded he try**."

What does the phrase "**the skateboard demanded he try**" mean?

A. Tommy wanted the skateboard so much that he decided to try.

B. The skateboard spoke to Tommy in a dream and told him to try.

C. Tommy has spent so much time thinking about the skateboard that he is starting to imagine things.

D. The skateboard has a recorder and speaker that can play voice messages.

7. Choose the answer that best completes the sentence below.

Tommy wants a skateboard; _____, he wants a longboard.

A. specifically

B. on the other hand

C. before

D. therefore

3. What kind of candy does Mr. Orson give Tommy to try?

_____

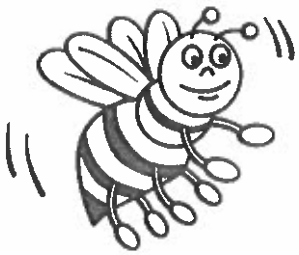
_____

_____

Name _____

Short Vowels: Pretest

Fold back the paper along the dotted line. Write the words in the blanks as they are read aloud. When you finish the test, unfold the paper. Use the list at the right to correct any spelling mistakes.



Review Words

Challenge Words

1. _____	**1.** jut
2. _____	**2.** nick
3. _____	**3.** tenth
4. _____	**4.** shrug
5. _____	**5.** stuff
6. _____	**6.** sense
7. _____	**7.** damp
8. _____	**8.** cot
9. _____	**9.** fling
10. _____	**10.** notch
11. _____	**11.** gush
12. _____	**12.** scan
13. _____	**13.** batch
14. _____	**14.** rough
15. _____	**15.** stump
16. _____	**16.** tough
17. _____	**17.** laugh
18. _____	**18.** guess
19. _____	**19.** lead
20. _____	**20.** dove
21. _____	**21.** past
22. _____	**22.** dock
23. _____	**23.** plum
24. _____	**24.** cinch
25. _____	**25.** blond

At Home: Help the student practice the words he or she missed to prepare for the Posttest.

Name _____

Short Vowels: Word Sort

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

Sort each spelling word by finding the sound and spelling pattern to which it belongs.

Short a spelled *a*

1. _____
2. _____
3. _____

Short a spelled *au*

1. _____

Short e spelled *e*

1. _____
2. _____

Short e spelled *ue*

1. _____

Short e spelled *ea*

1. _____

Short i spelled *i*

1. _____
2. _____

Short o spelled *o*

1. _____
2. _____

Short u spelled *u*

1. _____
2. _____
3. _____
4. _____
5. _____

Short u spelled *o*

1. _____

Short u spelled *ou*

1. _____
2. _____

Name _____

Short Vowels: Proofreading

Circle the misspelled words in the set of instructions. Write the words correctly on the lines below.

You will receive a list of ten words for the spelling bee. Before the contest begins, skain the list of words. The tinth word on the list is a bonus word. Its spelling is unusual and may stumpe you. You will get an extra point if you spell the bonus word correctly.

Here are some tips for the contest. If a word does not make cents to you, ask to hear it again. If you are not sure how to spell a word, take a gess. Last but not least, don't worry if your hands feel dap. That just means you are feeling a little nervous.

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

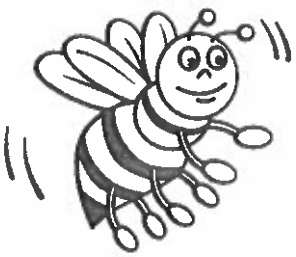
Writing Activity

Have you ever watched or taken part in a contest? Write a description of what happened or what you think might happen at a contest, using four spelling words.

Name _____

Long Vowels: Pretest

Fold back the paper along the dotted line. Write the words in the blanks as they are read aloud. When you finish the test, unfold the paper. Use the list at the right to correct any spelling mistakes.



Review Words

Challenge Words

1.	_____	**1.** paste
2.	_____	**2.** bride
3.	_____	**3.** shave
4.	_____	**4.** spice
5.	_____	**5.** greed
6.	_____	**6.** plead
7.	_____	**7.** greet
8.	_____	**8.** heap
9.	_____	**9.** paid
10.	_____	**10.** coach
11.	_____	**11.** theme
12.	_____	**12.** type
13.	_____	**13.** oak
14.	_____	**14.** growth
15.	_____	**15.** yolk
16.	_____	**16.** folks
17.	_____	**17.** aim
18.	_____	**18.** prey
19.	_____	**19.** tow
20.	_____	**20.** grind
21.	_____	**21.** tenth
22.	_____	**22.** damp
23.	_____	**23.** stuff
24.	_____	**24.** decay
25.	_____	**25.** lifetime

At Home: Help the student practice the words he or she missed to prepare for the Posttest.

Name _____

Long Vowels: Word Sort

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

Sort each spelling word by finding the sound and spelling pattern to which it belongs.

Write the words that have long *a* spelled:

ai	*a-e*	*ey*
1. _____	1. _____	1. _____
2. _____	2. _____	

Write the words that have long *e* spelled:

ee	*ea*	*e-e*
1. _____	1. _____	1. _____
2. _____	2. _____	

Write the words that have long *i* spelled:

i	*y*	*i-e*
1. _____	1. _____	1. _____
		2. _____

Write the words that have long *o* spelled:

o	*oa*	*ow*
1. _____	1. _____	1. _____
2. _____	2. _____	2. _____

Name _____

Long Vowels: Proofreading

Circle the misspelled words in the passage. Write the words correctly on the lines below.

America is in a hep of trouble. Halley's Comet has made our country its pray. The comet is speeding toward the earth. It is getting bigger every day. If it crashes into the planet, it will grynde everything into small pieces.

Only a special tip of man can stop the comet. That man is Davy Crockett. He lives far away in the mountains. We don't have to pled with him for help. As soon as news of the comet reaches him, he will be on his way. Pulling the tail off the comet won't be a problem for Davy Crockett. He won't even want to be pade for saving the world!

1. _____ 3. _____ 5. _____
2. _____ 4. _____ 6. _____

Writing Activity

Suppose that you were bigger than life, like Davy Crockett. What do you imagine you could do? Write a tall tale about yourself, using four spelling words.

Name _____

Sentence Types

- A **sentence** is a group of words that express a complete thought.
- A **sentence fragment** is a group of words that does not express a complete thought.
- Every sentence begins with a **capital letter** and ends with a **punctuation mark**.
- A **statement** is a sentence that tells something. It ends with a period.
- A **question** is a sentence that asks something. It ends with a question mark.

Read each group of words. Place a period on the line at the end if it is a sentence. If it is a sentence fragment, write an *F* on the line.

1. Sage missed vocabulary day because she had a cold _____
2. Finished defining the vocabulary words _____
3. Sage liked to make up her own definitions _____

Place a period on the line at the end of the sentence if it is a *statement*. Place a question mark at the end of the sentence if it is a *question*.

4. Is "Musical Performance" the theme for this week _____
5. She was looking forward to the Tenth Annual Vocabulary Parade _____
6. Starr went to the end of the line after she spelled the word correctly _____

Rewrite these sentences. Be sure to use the correct end mark.

7. Sage turned red when she heard everyone laughing

   _____

8. do you have a collection of unrelated objects

   _____

9. Mrs. Page asked the students to spell and define the words

   _____

10. why were they laughing

    _____

At Home: Write two statements and two questions about Sage's story.

Name _____

- Every **sentence** begins with a capital letter.
- A **statement** ends with a period.
- A **question** ends with a question mark.
- A **command** ends with a period.
- An **exclamation** ends with an exclamation mark.

Read each sentence. On the line, place a period if the sentence is a statement or command, an exclamation mark if it is an exclamation, or a question mark if it is a question. Circle any letters that should be capitals.

1. Write the vocabulary words on a sheet of paper _____
2. Forest is a boy in Sage's class _____
3. Oh no, Starr, you're late for baseball practice _____
4. her head felt as though it were stuffed with cotton _____
5. Have you seen her gigantic red dictionary _____
6. what does Miss Alaineus have to do with categories _____
7. Go get some of that long Italian bread and two sticks of butter _____
8. She was so excited to see Miss Alaineus _____
9. miss alaineus is not on the spaghetti box _____
10. Sage's mother had a great idea _____

Rewrite each statement or command below as a question.

11. We have many vocabulary words this week.

_____

12. Please pass me that eraser.

_____

13. We will see Miss Alaineus tomorrow.

_____

At Home: Choose a television program that you enjoy and write one statement, one question, and one command about it.

Name _____

Read each sentence. Write whether it is a statement, a question, a command, or an exclamation. Then rewrite the sentence so that its end mark and capitalization are correct.

1. _____ Why did Sage miss Vocabulary Day

_____

2. _____ call Starr and ask her for the words

_____

3. _____ Sage was propped up in bed with a box of tissues

_____

4. _____ How hard it is to study while you're blowing your nose

_____

5. _____ do you have a spork in your miscellaneous drawer

_____

6. _____ have you ever seen a fossil

_____

7. _____ Oh, I love your Vocabulary Parade costume

_____

8. _____ did you see the look on Mr. Bell's face

_____

9. _____ Ask Mrs. Page when the next parade is scheduled

_____

10. _____ what will your costume be

_____

Name _____

The **subject** of a sentence tells who or what the sentence is about. The **predicate** of a sentence tells what the subject does or is.

- The **complete subject** includes all of the words in the subject. It tells exactly who or what the sentence is about.
- The **simple subject** is the main word in the complete subject.
- The **complete predicate** includes all of the words in the predicate.
- The **simple predicate** is the main word in the complete predicate.

Read each sentence. Circle the simple subject, and underline the complete subject.

1. A brave man lived in the mountains.
2. Davy's pet bear danced in the forest.
3. The big, bad comet hurtled toward America.
4. Davy Crockett's red-hot enemy was discombobulated.
5. The beautiful Sally Sugartree married Davy.

Read each sentence. Circle the simple predicate, and underline the complete predicate.

6. The President received piles of letters.
7. Davy learned all the latest dances.
8. Sally climbed a 50-foot hickory tree.
9. Halley's Comet howled when it saw Davy.
10. The people elected Davy to Congress when he returned home.

At Home: Write four sentences about the story, and circle the simple subjects and simple predicates.

Name _____

- Use commas to separate three or more words in a series.
- Commas separate subjects, predicates, and adjectives in a series.
- Do not use a comma after the last word in a series.

Correct each sentence. Add commas where they are needed.

1. Davy needed a comb a rake and an ax.

2. The biggest scariest meanest ball of fire was called Halley's Comet.

3. Davy grabbed Halley's Comet spun it around and hurled it back into space.

4. He could drink the water from lakes rivers and oceans.

5. Sally Sugartree was friendly pretty and smart.

6. Davy's pet bear was so fast that rocks trees cows and snakes flew out from beneath its feet.

7. Every river tree and lake could be seen from the top of Eagle Eye Peak.

8. Halley's Comet shot out sparks lightning and thunder.

At Home: Write five sentences that each include a series of three or more words. Use commas correctly.

Name _____

Test: Subject and Predicate

Circle the letter for each correct answer.

1. Which of the following groups of words is a complete sentence?

   a. Davy's ax and rake.
   b. Was elected to Congress after saving the world.
   c. Davy could drink the Mississippi River dry.
   d. Very strong and brave.

2. Which of the following groups of words is a sentence fragment?

   a. The pretty girl was Sally Sugartree.
   b. The President's law that Halley's Comet couldn't crash into Earth.
   c. Death Hug liked to dance.
   d. Davy was fast.

3. In which sentence is the simple subject underlined?

   a. Davy enjoyed spending time in the <u>forest</u>.
   b. Sally <u>danced</u> better than anyone.
   c. <u>Davy</u> hurled Halley's Comet back into space.
   d. The President thanked <u>him</u> for his help.

Follow each direction below.

4. Underline the simple subject of this sentence.

   Davy saved the United States from trouble.

5. Underline the complete subject of this sentence.

   Sally Sugartree and Davy Crockett got married after the parade.

6. Underline the complete predicate in this sentence. Circle the simple predicate.

   Davy wears a coonskin cap on his head.

Name _____

Sentence Combining

- Two related sentences can be joined with a comma and *and*, *but*, or *or*.
- A sentence that contains two sentences joined by *and*, *but*, or *or* is called a **compound sentence**.

Read each pair of sentences. Rewrite them as a single sentence, using *and*, *but*, or *or* along with a comma.

1. Pakenham went searching for trees. He wrote a book about them.

_____

_____

2. General Sherman is the name of a person. It is also the name of a giant sequoia.

_____

_____

3. Would you like to visit a coniferous forest biome? Would you like to see a deciduous forest?

_____

_____

4. The fallen leaves enrich the soil. They allow all kinds of plant life to grow.

_____

_____

5. Oak, beech, ash, and maple trees are typical of a deciduous forest. Many types of insects and animals live in that habitat.

_____

_____

_____

At Home: Write pairs of sentences and ask a helper to combine them by using a comma and a conjunction.

Name _____

- Use a comma before *and*, *but*, or *or* when you join two sentences to form a compound sentence.
- Begin every sentence with a capital letter.
- When you form a compound sentence, do not begin the second part with a capital letter.

Read each group of words. Then write them as correct sentences on the lines. Be sure to use capital letters and commas in the correct places.

1. trees produce oxygen and they reduce the effects of carbon dioxide.

_____

_____

2. Trees should be planted in certain areas or the soil could be carried away by wind and water.

_____

_____

3. a stone wall might be an effective way to cut down noise but a row of trees is usually more attractive

_____

_____

4. arbor Day was successful in 1872 but it was even more successful in 2002.

_____

_____

5. trees are considered to be among nature's hardest workers and this is true in any climate.

_____

6. Could you identify the trees in your neighborhood by yourself or would you need some help?

_____

_____

At Home: Write four sentences about the story, and underline the complete subjects.

Name _____

Circle the letter for each correct answer.

1. Which of the following sentences has a conjunction?
   - **a.** What are the five most common trees in the United States?
   - **b.** I like black cherry trees.
   - **c.** We planted a black cherry tree, and it is doing very well.
2. Which of the following sentences uses a comma correctly?
   - **a.** Tiny bonsai trees are from Japan and they can be less than a foot tall.
   - **b.** Tiny bonsai trees are from Japan, and they can be less than a foot tall.
   - **c.** Tiny bonsai trees are from Japan and they, can be, less than a foot tall.
3. Which of the following sentences is a compound sentence?
   - **a.** Trees absorb carbon dioxide and keep it from harming the environment.
   - **b.** Trees absorb carbon dioxide, and keep it from harming the environment.
   - **c.** Trees absorb carbon dioxide, and this absorption keeps the carbon dioxide from harming the environment.
4. Which of the following compound sentences uses a conjunction correctly?
   - **a.** Deciduous trees lose their leaves, in the natural decaying enriches the soil.
   - **b.** Deciduous trees lose their leaves, or the natural decaying enriches the soil.
   - **c.** Deciduous trees lose their leaves, and the natural decaying enriches the soil.
5. In the space below, draw a picture of the type of forest you like best. Under the picture, write a compound sentence that explains why you like this type of forest.

Name _____

Topic 3
© Fluency
Practice/Assessment

Multiply Multi-Digit Whole Numbers

1.	65 × 57	**2.**	51 × 17	**3.**	71 × 34	**4.**	46 × 26
5.	413 × 94	**6.**	714 × 35	**7.**	144 × 69	**8.**	633 × 11
9.	1,452 × 14	**10.**	8,645 × 29	**11.**	5,177 × 12	**12.**	1,869 × 98
13.	47 × 60	**14.**	950 × 23	**15.**	564 × 80	**16.**	7,183 × 30

17. Insert one digit in each box to complete the multiplication problem. You will not use the same digit twice.

$$\begin{array}{r} \square 42 \\ \times \quad 3\square \\ \hline 5136 \\ +19\square\square \\ \hline 2\square,3\square 6 \end{array}$$

Name _____

Multiply Multi-Digit Whole Numbers

1.	49 × 87	**2.**	62 × 62	**3.**	91 × 28	**4.**	73 × 53
5.	884 × 95	**6.**	573 × 88	**7.**	535 × 28	**8.**	877 × 86
9.	4,764 × 36	**10.**	9,396 × 39	**11.**	8,976 × 58	**12.**	6,253 × 99
13.	88 × 20	**14.**	40 × 79	**15.**	719 × 90	**16.**	9,101 × 15

17. Insert one digit in each box to complete the multiplication problem. You will not use the same digit twice.

$$\begin{array}{r} 839 \\ \times \quad \square 7 \\ \hline \square 55\square \\ +587\square 0 \\ \hline 6\square,\square 81 \end{array}$$

Name _____

Multiply Multi-Digit Whole Numbers

1.	47 × 51	**2.**	61 × 59	**3.**	37 × 12	**4.**	48 × 13
5.	449 × 83	**6.**	779 × 78	**7.**	517 × 82	**8.**	812 × 26
9.	4,363 × 47	**10.**	5,853 × 38	**11.**	2,433 × 99	**12.**	2,835 × 58
13.	90 × 84	**14.**	703 × 92	**15.**	1,910 × 14	**16.**	3,613 × 30

17. Insert one digit in each box to complete the multiplication problem. You will not use the same digit twice.

$$\begin{array}{r} \square 85 \\ \times \quad 4\square \\ \hline \square 740 \\ +2740\square \\ \hline \square 0,\square 40 \end{array}$$

Name _____

Math and Science Activity
3-7

Our Water Footprint

Did You Know? It takes 55 gallons of water to produce 1 cup of milk! Cows drink water and eat grass. The grass the cows eat needs water to grow. Water is also needed to process and bottle the milk cows produce. Americans require about 2,000 gallons of water per day. Almost all of this water is hidden in our food, our clothing, and the energy we use. These hidden water costs determine the volume of water we use, our water footprint. We can conserve water by reducing our water footprint!

Hidden Water Costs	
1 Pound of chocolate 	= 3,170 gal
1 Ream of paper 	= 1,321 gal
1 Gallon of milk 	= 880 gal
1 Cotton t-shirt 	= 713 gal
1 Hamburger 	= 660 gal

Use the table above to solve each problem.

1. Estimate the number of gallons required to produce 22 T-shirts. Is your estimate an overestimate or an underestimate? Explain.

2. How many gallons of water are required to produce 15 pounds of chocolate? Write and solve an equation. Let g be the number of gallons.

3. **Extension** The owner of a company has a goal to reduce the company's water footprint by 100,000 gallons in one year. He estimates that if the company reduces its yearly need for paper by 80 reams, he will meet this goal. Could the owner have estimated correctly? Justify your answer.

Name _____

Reteach to Build Understanding
3-1

Vocabulary

1. A **power** is a product that results from multiplying the same number over and over again. A **power of 10** is the product of 10 multiplied by itself a certain number of times.

   $10^2 = 10 \times 10 = 100$

   $10^3 = 10 \times 10 \times 10 =$ _____

   $10^4 =$ _____ $\times$ _____ $\times$ _____ $\times$ _____ $=$ _____

   $10^5 = 10 \times 10 \times 10 \times 10 \times 10 =$ _____

2. The heaviest ball made by a bowling ball company weighs 16 pounds. Last week, the company shipped 10,000 of these balls. What was the total weight of the bowling balls?

   Multiply 16 by 1 to find the weight of 1 bowling ball.

   $16 \times 1 =$ _____ ones $=$ _____

   Then use a pattern to multiply 16 by 10, 100, 1,000, and 10,000.

   $16 \times 10 = 16$ tens $=$ _____

   $16 \times$ _____ $= 16$ _____ $= 1{,}600$

   $16 \times 1{,}000 =$ _____ thousands $=$ _____

   _____ $\times 10{,}000 = 16$ ten thousands $=$ _____

   So, the total weight of the bowling balls is _____ pounds.

3. The company charges $85 for each 16-pound bowling ball. Over the past several months, the company sold 100,000 bowling balls. How much did the company earn for these sales?

   _____ $\times 100{,}000 = 85 \times$ _____ $=$ _____

   The company earned $ _____ .

On the Back!

4. Find 23×10^3. Then find 230×10^3.

Name _____

Reteach to Build Understanding
3-2

Vocabulary

1. When you use numbers less than the actual factors to estimate a product, the estimate is less than the actual product. This is called an **underestimate**. For example, to estimate 82 × 204, round 82 to 80 and 204 to 200.

   80 × 200 = 16,000

   The rounded numbers are _____ the actual factors.

   The estimate of 16,000 is _____ the actual product.

2. When you use numbers greater than the actual factors to estimate a product, the estimate is greater than the actual product. This is called an **overestimate**.

   Estimate 685 × 28.

   700 × 30 = 21,000

   The estimate of 21,000 is _____ the actual product.

3. **Compatible numbers** are numbers that are easy to compute mentally.

   Estimate 23 × 406.

   Replace 23 with _____ and 406 with _____.

   25 × 400 = 10,000. So, 23 × 406 is about _____.

4. To estimate 192 × 18, you can round 192 to _____ and 18 to _____.

5. Now multiply the rounded numbers. _____ × _____ = _____

6. Is your estimate in Problem 5 an underestimate or an overestimate?

   _____

On the Back!

7. About how much would it cost to buy 86 laptop computers? Is this an overestimate or an underestimate?

Cost of Computers

Laptop	$392
PC	$196
Tablet	$632

Name _____

Reteach to Build Understanding
3-3

Vocabulary

1. **Partial products** are the products found by breaking one factor into ones, tens, and hundreds, and then multiplying each of these by the other factor.

```
   223
 ×  13
  669   ← Partial product from multiplying 223 by the ones in 13
+2,230   ← Partial product from multiplying 223 by the tens in 13
 2,899
```

The partial products are _____ and _____.

2. Multiply by the ones. Regroup as needed.

```
  346
×  12
  ___
```

2 × 6 ones = _____ ones or _____ ten and _____ ones

2 × 4 tens = _____ tens

_____ tens + 1 ten = _____ tens

2 × 3 hundreds = _____ hundreds

3. Multiply by the tens. Regroup as needed.

```
  346
×  12
  ___
 ____
```

10 × 6 ones = _____ ones or _____ tens and _____ ones

10 × 4 tens = _____ tens or _____ hundreds

10 × 3 hundreds = _____ hundreds

or _____ thousands

4. Add the partial products.

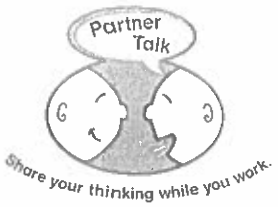
```
   346
×   12
  ____
+ ____
  ____
```

So, 346 × 12 = _____.

On the Back!

5. Use partial products to find 164 × 86. Estimate to check that your answer is reasonable.

Think Together



Get Started (1 or 2)

Put 1 2 3 4 in a bag.

Get paper and a pencil.

For Each Round

Choose A, B, C, D, E, or F.

Pick a tile. Pick two tiles if your group has only two students.

Find the missing factor next to your number.

Discuss: How can estimation help you to find a missing factor?

Decide: Which two-digit factor is the only one that is an odd number?

A The product is 12,960. Find the missing two-digit factor.

1	□□ × 405
2	□□ × 360
3	□□ × 288
4	□□ × 270

B The product is 15,552. Find the missing two-digit factor.

1	□□ × 648
2	□□ × 324
3	□□ × 486
4	□□ × 192

C The product is 16,200. Find the missing two-digit factor.

1	□□ × 324
2	□□ × 405
3	□□ × 300
4	□□ × 600

D The product is 15,120. Find the missing two-digit factor.

1	□□ × 840
2	□□ × 432
3	□□ × 216
4	□□ × 360

E The product is 5,040. Find the missing two-digit factor.

1	□□ × 240
2	□□ × 360
3	□□ × 120
4	□□ × 180

F The product is 45,360. Find the missing two-digit factor.

1	□□ × 567
2	□□ × 945
3	□□ × 720
4	□□ × 648

If you have more time

Make up a "Think Together" question for this multiplication lesson. Challenge your classmates to think together to answer your question.

Name _____

Reteach to Build Understanding
3-4

Vocabulary

1. The **Zero Property of Multiplication** states that when you multiply any number by zero, the product is zero.

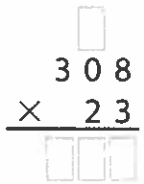
   Any number × 0 = 0 9 tens × 0 = _____ tens

2. The **Zero Property of Addition** states that when you add any number to zero, the sum is the original number.

   Any number + 0 = original number 6 tens + 0 = _____ tens

3. Estimate 308 × 23. _____

4. Multiply the ones. Regroup if necessary.



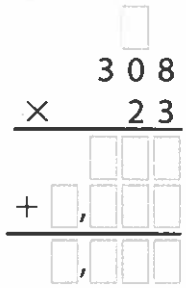
3 × 8 ones = _____ ones or _____ tens and _____ ones

3 × 0 tens = _____ tens

_____ tens + 2 tens = _____ tens

3 × 3 hundreds = _____ hundreds

5. Multiply the tens. Regroup if necessary. Then add the partial products.



20 × 8 ones = _____ ones or 1 hundred and 60 ones

20 × 0 tens = _____ tens or _____ hundreds

_____ hundreds + 1 hundred = _____ hundred

20 × 3 hundreds = _____ hundreds or _____ thousands

6. Look back at your estimate. Is your answer close to your estimate?

_____

On the Back!

7. Use a place-value chart to multiply 12 × 206. Record each partial product in the correct place in the chart.

Name ______________________________

Reteach to Build Understanding
3-5

Vocabulary

1. **Expanded form** is a way to write numbers to show the place value of each digit.

   $143 = (1 \times 100) + (4 \times 10) + (3 \times 1)$
   $143 = 100 + 40 + 3$

   The expanded form of 256 is ______ + ______ + ______.

Complete **2–4** to find $5 \times 3{,}512$.

2. Write 3,512 in expanded form.

   $3{,}512 = 3{,}000 +$ ______ + ______ + ______

3. Use mental math to find the partial products.

   $3{,}000 \times 5 =$ ______

   $500 \times 5 =$ ______

   $10 \times 5 =$ ______

   $2 \times 5 =$ ______

4. Add the partial products.

   ______ + ______ + ______ + ______ = ______

   So, $5 \times$ ______ = ______

5. A sports equipment store rents road bikes for $23 an hour. Over the summer, these bikes were rented for a total of 1,080 hours. How much money did the store make renting bikes?

   ____

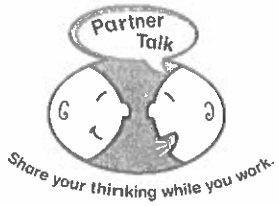
   ____

$$\begin{array}{r} 1\,0\,8\,0 \\ \times \quad 2\,3 \\ \hline \square\square\square\square \\ +\,\square\square\square\square\square \\ \hline \square\square,\square\square\square \end{array}$$

On the Back!

6. Find 265×7 using expanded form.

Toss and Talk



Get Started (or)

Get 10 squares in one color and 10 in another color.
Get two number cubes. Take turns with another player or team.
Talk about math as you play!

At Your Turn

Toss two number cubes. Add the dots. Find your toss below.
Follow the directions. Explain your thinking. Cover the answer.
If the answer is taken, you lose your turn. Have fun!

Toss	This number is a product. Find two factors that multiply to get this product. Use mental math and estimation to help you. Explain your choice.
2	74,704
3	85,440
4	61,054
5	55,955
6	23,056

7	92,862
8	55,016
9	104,682
10	54,999
11	48,528
12	55,714

1,068 × 80	873 × 63	1,434 × 73	589 × 95
626 × 89	2,096 × 11	1,206 × 77	873 × 63
1,206 × 77	2,022 × 24	1,246 × 49	2,096 × 11
589 × 95	1,288 × 58	1,196 × 46	626 × 89

How to Win

You win if you are the first to get four connected rectangles, like:

If you have more time

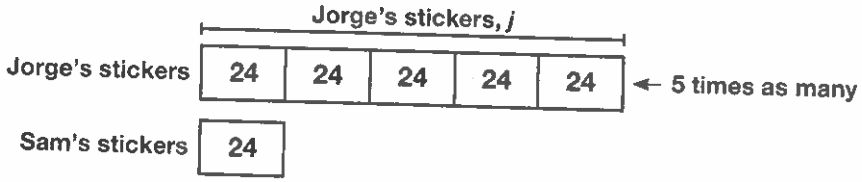
Play again!

Name _____

Reteach to Build Understanding
3-6

Vocabulary

1. A **bar diagram** can be used to solve multiplication comparison problems. A **variable** is a letter used to represent a quantity in an expression or equation.



How many stickers does Sam have? _____

What does the variable *j* represent? _____

How many stickers does Jorge have in all?

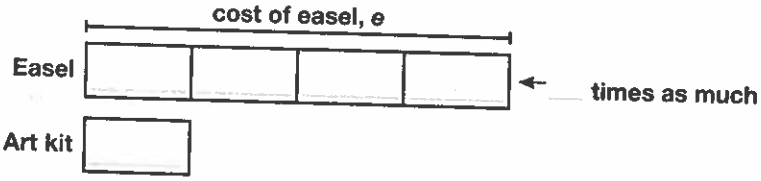
_____ × _____ = _____. Jorge has _____ stickers.

2. Omar bought an art kit for $14 and an easel that cost 4 times as much as the art kit. How much was the easel?

What do you know?

What do you need to find? _____

3. Draw a bar diagram to represent the problem.



4. Write an equation for the cost of the easel.

Let *e* = the cost of the _____

e = $14 × _____ = _____

On the Back!

5. A concert hall seats 1,765 people. An orchestra played 5 nights in a row at the hall. What is the total attendance for the orchestra if the concert hall was sold out each night? Draw a bar diagram and write an equation to solve.

Display the Digits

Get Started or

Pick a tile. Read the problem next to that tile number. Find the bar diagram that helps you to answer the question. Place your tile next to the bar diagram you choose. Explain how to complete the bar diagram with numbers. Write and solve an equation to answer the question. Display each 0 – 9 tile exactly once. If you have a partner, take turns.

0 How much will 8 window shades cost if each one costs $17?

1 How many inches of ribbon are there in 5 yards?

2 One sidewalk is 14 feet long. How many feet long is a sidewalk that is 9 times as long as the first one?

3 If 36 books fit on a shelf, how many books will fit on 6 shelves?

4 How many hours are there in 5 days?

5 How many apples are in a box that has 4 rows with 7 apples in each row?

6 How many months are there in 8 years?

7 A bag of coffee weighs 1 pound. How many ounces of coffee are in 7 of those bags?

8 If someone earns $250 each week, how much is earned in 4 weeks?

9 What is the total weight of 5 containers that each weigh 56 pounds?

a. ☐ ← Amount for one

☐ ☐ ☐ ☐

b. ☐ ← Amount for one

☐ ☐ ☐ ☐ ☐

c. ☐ ← Amount for one

☐ ☐ ☐ ☐ ☐ ☐

d. ☐ ← Amount for one

☐ ☐ ☐ ☐ ☐ ☐ ☐

e. ☐ ← Amount for one

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

f. ☐ ← Amount for one

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

If you have more time

Make up other questions and bar diagrams like these.
Ask your partner to use your bar diagrams to answer your questions.

Name _____

Reteach to Build Understanding
3-7

Vocabulary

1. An **overestimate** is an estimate that is greater than the exact answer. An **underestimate** is an estimate that is less than the exact answer.

   Estimate the product of 700×87.

   $700 \times 90 = 63{,}000$

   $90 > 87$, so the estimate is an overestimate.

   Estimate the product of 520×34.

   $500 \times 30 = 15{,}000$

   500 ☐ 520 and 30 ☐ 34, so the estimate is an underestimate.

   Estimate the product of 19×165.

   $20 \times 170 = 3{,}400$

   20 ☐ 19 and 170 ☐ 165, so the estimate is an _____.

A drama club needs to buy 33 scripts for all of the actors and crew people. The scripts cost $12 each. Kelli said, "$300 should be enough to buy the scripts because $12 rounds to $10 and 33 rounds to 30. $10 \times 30 = \$300$." Does Kelli's reasoning make sense?

2. Was Kelli's estimate an overestimate or an underestimate? _____

3. Find the actual cost of the scripts. _____ × $ _____ = $ _____

4. Did Kelli's estimate include enough money to purchase the scripts? Explain.

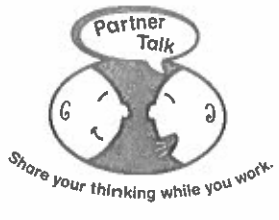
_____

_____

On the Back!

5. Ms. Marcus' bulletin board is 7 feet long and 4 feet high. She has 26 feet of border to use. Ms. Marcus multiplies $7 \times 4 = 28$ to find the exact amount of border she needs. She concludes that she does not have enough border for the bulletin board. Do you agree?

Display the Digits



Get Started or

Get number tiles from 0 to 9.
Choose a row of numbers. Look at the numbers in the list.
Describe the pattern. Explain how to find the missing digits.
Display each 0 – 9 tile exactly once. If you have a partner, take turns.

0.56, 0.67, 0.7 [a], 0.89

0. [c] 1, 0.82, 0.73, 0.64, 0.5 [j]

0.010, 0.009, 0.008, 0.00 [d], 0.006

90, 90.2, 90. [e], 90.6, 90.8

28.8, 28. [f], 28.4, 28. [g], 28.0

0.9, [h].8, 2.7, [i].6, 4.5, 5.4

0.44, 0.35, 0.26, 0.17, 0. [b]8

a	b	c	d	e
f	g	h	i	j

If you have more time

Make up other lists that show patterns with decimal numbers.
Ask your partner to display the missing digits with 0 – 9 tiles.

Name _____

Reteach to Build Understanding
1-7

Vocabulary

Katie made a hundredths decimal chart. Some numbers got erased.

0.11	0.12	0.13	0.14	0.15		0.17	0.18	0.19	
				0.25		0.27	0.28		0.3
0.31	0.32	0.33	0.34	0.35		0.37		0.39	0.4

Use the decimal **place-value** system to determine the value of a digit by its position in the decimal number.

1. Moving across the rows from left to right, how do the numbers change?

2. How does the pattern change in the last square of each row?

3. Moving down the columns, how do the numbers change?

4. Use the patterns to write the missing numbers in the chart above.

On the Back!

5. Katie wants to add to the chart. Write the missing numbers in the row and column below.

0.41									
					0.66				

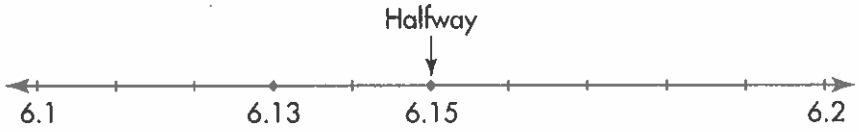
Name _____

Reteach to Build Understanding
1-6

Vocabulary

1. **Rounding** replaces one number with another number that tells about how many or how much.

   Round 6.13 to the nearest tenth.



   6.13 is between 6.1 and 6.2. It is closer to 6.1. So, 6.13 rounded to the nearest tenth is 6.1.

   Use the number line to write a number that rounds to 6.2.

   _____

2. Round the decimal 17.46 to the nearest tenth.

   17.46 Draw a line under the rounding place. Circle the digit to the right.

3. If the circled digit is 5 or greater, increase the underlined digit by 1. If the circled digit is less than 5, the underlined digit stays the same.

   What is the circled digit? _____

   Is the circled digit 5 or greater or is it less than 5? _____

   What do you do with the underlined digit?

   _____

4. Drop any digits to the right of the rounding digit.

   So, 17.46 rounded to the nearest tenth is _____

5. Round 17.46 to the nearest whole number: _____

On the Back!

6. What is 8.545 kilograms rounded to the nearest hundredth? to the nearest tenth?

Name _____

Reteach to Build Understanding
1-5

Vocabulary

Compare 0.40 and 0.04 using $<$, $>$, or $=$.

Line up the decimal points.	0.40
Start at the left and compare digits of the same place value.	0.04

$<$ is less than
$>$ is greater than
$=$ is equal to

Both numbers have zero ones.
0.40 has four tenths, but 0.04 has zero tenths.

So, $0.40 > 0.04$.

Compare each pair of decimals using $<$, $>$, or $=$.

1. 0.770 ◯ 0.707 0.080 ◯ 0.08 0.005 ◯ 0.050 0.60 ◯ 0.6

2. Write the numbers 4.25, 4.312, and 4.241 in the chart, lining up the decimal points.

4	.	2	5	
	.			
	.			

Order the numbers from least to greatest. Start at the left.

Find the first place where the digits are different.
4.312 has 3 tenths, so it is the greatest number.
Both 4.25 and 4.241 have only 2 tenths.
So, look at the hundredths place.

3. Compare the digits in the hundredths place of 4.241 and 4.25.

4 is less than 5, so 4.241 is _____ 4.25.

4. Write the numbers from least to greatest: 4.241, _____, _____

5. Order the decimals from least to greatest: 0.312, 0.032, 0.203.

_____, _____, _____

6. Order the decimals from greatest to least: 9.708, 9.087, 9.78.

_____, _____, _____

On the Back!

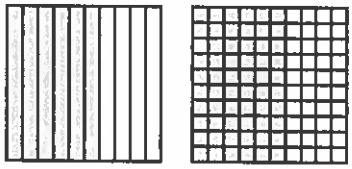
7. Order 241.055, 241.901, and 241.099 from greatest to least.

Name _____

Reteach to Build Understanding
1-4

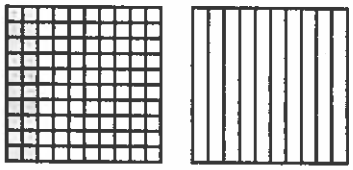
Vocabulary

1. **Equivalent decimals** name the same amount.



0.6 = 0.60

Shade the tenths decimal model to show an equivalent decimal. Write the equivalent decimal.



0.20 = _____

2. Write a decimal that is equivalent to 1.2. _____

3. Complete the place-value chart for 8.542.

4. Write 8.542 in expanded form. Use the chart to help.

$(\quad \times \quad) \quad (5 \times \_\_\_) + (4 \times \_\_\_) + (2 \times \_\_\_)$

5. Write the number name for 8.542. What is the value of the digit 4?

_____

_____

On the Back!

6. Use a place-value chart to write the number name for 3.2<u>5</u>2 and tell the value of the underlined digit.

Toss and Talk

Partner Talk

Share your thinking while you work.

Get Started or

Get 10 squares in one color and 10 in another color.
Get two number cubes. Take turns with another player or team.
Talk about math as you play!

At Your Turn

Toss two number cubes. Add the dots. Find your toss below.
Follow the directions. Explain your thinking. Cover the answer.
If the answer is taken, lose your turn. Have fun!

Toss	Read the question. Explain how to answer the question.
2	Is 0.560 the same as $\frac{56}{1,000}$?
3	What is 0.256 as a fraction?
4	What is $\frac{56}{1,000}$ as a decimal?
5	Is 0.560 the same as $\frac{560}{1,000}$?
6	If 256 acres of a farm are used to grow corn and the farm has 1,000 acres, what part of the farm grows corn? Express your answer as a decimal.
7	What is 0.250 as a fraction?
8	Is 0.056 the same as $\frac{56}{1,000}$?
9	What is the decimal for $\frac{25}{1,000}$?
10	What is $\frac{5}{1,000}$ as a decimal?
11	What is $\frac{506}{1,000}$ as a decimal?
12	Is $\frac{56}{100}$ the same as 0.056?

$\frac{256}{1,000}$	0.256	0.005	$\frac{250}{1,000}$
YES	YES	0.025	NO
0.056	0.025	0.256	$\frac{250}{1,000}$
NO	0.506	YES	YES

How to Win

You win if you are the first to get four connected rectangles, like:

If you have more time

Play again!

Name _____

Reteach to Build Understanding
1-3

Vocabulary

One **thousandth** is one out of 1,000 equal parts of a whole.

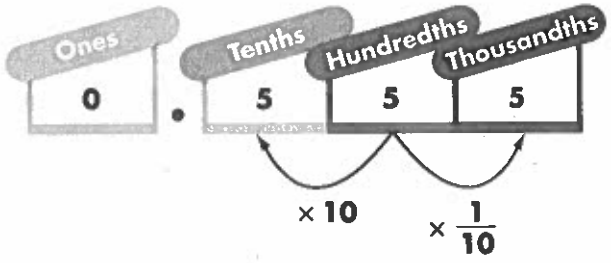
1. Write six thousandths in standard form. _____

2. A decimal place-value chart can help you write a decimal as a fraction. The place farthest to the right that contains a digit tells you the denominator of the fraction. The number written in the decimal place-value chart tells you the numerator of the fraction.

Write 0.025 as a fraction. _____

3. Write $\frac{11}{1,000}$ as a decimal. _____

4. Fill in the blanks to show how the values of each place-value position are related.



The middle 5 in 0.555 is $\frac{1}{10}$ the value of the 5 to its _____.

The middle 5 in 0.555 is 10 times the value of the 5 to its _____.

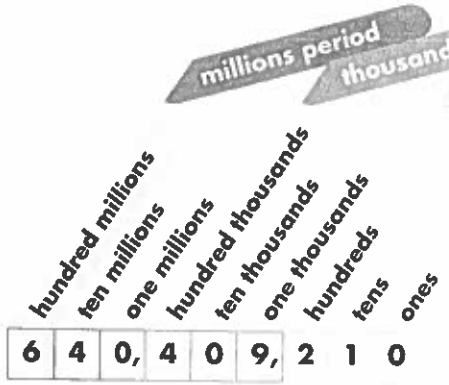
On the Back!

5. Write the decimal that is 10 times as great as 0.009.

Name _____

Reteach to Build Understanding
1-2

Vocabulary



The **number name** for this number is six hundred forty million, four hundred nine thousand, two hundred ten.

1. **Expanded form** is a way to write a number as the sum of each digit multiplied by its place value. Fill in the blanks to write the number in expanded form.

   $6 \times$ _____ $+ 4 \times$ _____ $+ 4 \times$ _____ $+ 9 \times$ _____ $+ 2 \times$ _____ $+ 1 \times$ _____

2. Use your work in Exercise 1 to write the number in expanded form using powers of 10 with exponents.

   6×10 ___ $+ 4 \times 10$ ___ $+ 4 \times 10$ ___ $+ 9 \times 10$ ___ $+$

   2×10 ___ $+ 1 \times 10$ ___

3. Write the **value** of the underlined digit in 42,980,005. _____

4. What is the relationship between the value of the two 5s in 1,550,304?

   The first 5 is in the hundred thousands place, so the value is _____.

   The second 5 is in the ten thousands place, so the value is _____.

   How many times as great as the value of the first 5 is the value of the second 5?

   _____

On the Back!

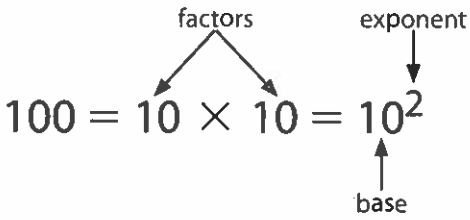
5. Write 4,007,603 in expanded form using powers of 10 with exponents.

Name _____

Reteach to Build Understanding
1-1

Vocabulary

The number 100 can be written as a **power** of 10 using 10 as the base and 2 as the exponent.



1. An **exponent** is a number that tells how many times to use the base number as a factor.

   Which number is the exponent in 10^5? _____

2. When a number is written with an exponent, the **base** is the number that is used as a factor.

   In the expression 2×10^4, which base is used as a factor 4 times? _____

3. When we write 1,000 as a **power** of 10, we can find the value of the exponent by counting the number of zeros in 1,000.

   1,000 written as a power of 10 is equal to $10^{\_\_}$.

4. 10,000 written as a power of 10 is equal to _____.

5. One bee colony on Mr. Gordon's farm contains 60,000 bees. Complete the pattern to write 60,000 using an exponent.

   $6 \times 10^1 = 6 \times 10 =$ _____

   $6 \times 10^2 = 6 \times 10 \times 10 =$ _____

   $6 \times 10^3 = 6 \times$ _____ $\times$ _____ $\times$ _____ $=$ _____

   $6 \times 10^4 = 6 \times$ _____ $\times$ _____ $\times$ _____ $\times$ _____ $=$ _____

   So, 60,000 written with an exponent is _____.

On the Back!

6. Write $10 \times 10 \times 10 \times 10 \times 10$ with an exponent.

Name _____

Home-School Connection
Topic 16

Geometric Measurement: Classify Two-Dimensional Figures

Topic 16 Standards

5.G.B.3., 5.G.B.4

See the front of the Student's Edition for complete standards.

Dear Family,

In this topic, your student is continuing to develop his or her understanding of geometry. Your student will be able to classify two-dimensional shapes in a hierarchy based on properties. He or she will understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.

Help your student reinforce his or her ability to identify two-dimensional shapes by completing the following activity together.

The Presence of Polygons


triangle


square


rectangle


rhombus


parallelogram


trapezoid

Step 1 Discuss the properties of the six polygons shown. Have your child identify pairs of parallel sides, number and types of angles, and then discuss what makes each figure unique.

Step 2 Have your child find an example of each polygon inside or outside of your home.

Step 3 Have him or her place a checkmark on the figure on this page to record that the polygon has been found. Below each figure, ask him or her to briefly describe where the example of the polygon was found. Continue this activity until all the polygons are checked.

Observe Your Child

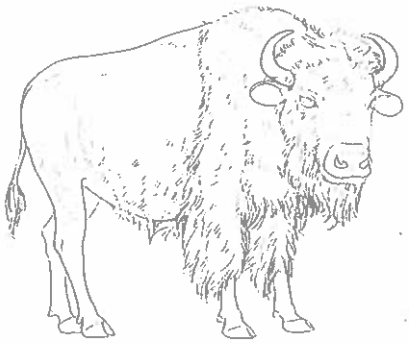
Focus on Mathematical Practice 7
Look for and make use of structure.

Help your child become proficient with Mathematical Practice 7. As you look for and identify real-world objects that resemble each polygon, compare selected items. For example, hold up objects that resemble a square and a trapezoid. Discuss how these shapes are similar to and different from each other.

Name _____

Bison Ranching

Did You Know? Humans and animals cause both negative and positive changes in ecosystems. In the 1800's, fur traders hunted the bison almost to extinction. Since then, Yellowstone National Park has protected bison from illegal hunting, called *poaching*. Today, Yellowstone is home to about 3,000 bison.



Rancher "Buff" A. Lowe raises 30 bison on 120 acres of fenced land. Each bison needs at least 2 acres of land to graze for food. Look at the land map below and answer the following questions.

1. What shape is Mr. Lowe's ranch? What shape is the Lucky Clover Farm? Explain how you know.

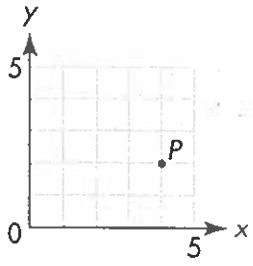
2. Mr. Lowe wants to fence his bison into one area. How much land does Mr. Lowe need to feed his bison? Draw a vertical line on the map to show approximately where Mr. Lowe should put the fence line. What shape is the new area for the bison?

3. **Extension** After 3 months, the bison's overgrazing has damaged the ecosystem. They have eaten all of the grass and damaged the soil. It will take 6 months for the plants to regrow and the soil to recover. Mr. Lowe decides to buy the Run-About Ranch. What shape is Mr. Lowe's land now? Make a plan for how Mr. Lowe might manage his land so that the bison do not damage the ecosystem.

Name _____

Daily Common Core Review
16-1

1. Which is the correct ordered pair for point *P*?



Ⓐ (5, 3)

Ⓑ (3, 5)

Ⓒ (2, 4)

Ⓓ (4, 2)

2. Find the product.

$\left(\frac{4}{5} - \frac{1}{10}\right) \times \frac{2}{3}$

Ⓐ $\frac{1}{5}$

Ⓑ $\frac{2}{5}$

Ⓒ $\frac{7}{15}$

Ⓓ $2\frac{1}{7}$

3. A copy machine can make 742 copies in 53 minutes. At this rate, how many copies can the machine make in 1 minute?

Ⓐ 11

Ⓑ 14

Ⓒ 104

Ⓓ 114

4. What is the value of the expression?

$\{4 \times [6 + (18 - 7)]\} \div \frac{1}{3}$

5. What is the volume of a moving crate with a length of 3 feet, a width of 2 feet, and a height of 5 feet?

6. On Monday, the price of one share of Webb Company stock was $24.85. By Friday, the price was $25.04. By how much did the price change from Monday to Friday?

7. Complete the table to show equivalent measures.

m	5.8		43
cm		29	

8. How many zeros will there be in the product of 853×10^3? _____

How many zeros will there be in the product of 890×10^3? _____

Name _____

Daily Common Core Review
16-2

1. Select all of the following that could describe a triangle.

   - ☐ acute, right
   - ☐ obtuse, scalene
   - ☐ right, equilateral
   - ☐ right, isosceles
   - ☐ acute, scalene

2. The product below is shown without the decimal point. Use number sense to place the decimal point correctly.

   $4.83 \times 25.9 = 125097$

   Ⓐ Place the decimal point between 2 and 5.

   Ⓑ Place the decimal point between 5 and 0.

   Ⓒ Place the decimal point between 0 and 9.

   Ⓓ Place the decimal point between 9 and 7.

3. The school choir is going on a field trip to see an opera. There are 34 students and 5 teachers going on the trip. If each ticket costs $9.50, about how much money do they need to raise to pay for the cost of the trip?

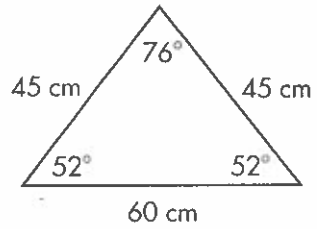
   Ⓐ about $300

   Ⓑ about $400

   Ⓒ about $500

   Ⓓ about $600

4. Circle *two words* from the list below that tell what kind of triangle this is.



acute	equilateral
isosceles	obtuse
right	scalene

5. Fill in the blanks to complete the table.

$970 \div 10^0$	=	
$970 \div 10^1$	=	
$970 \div 10^2$	=	
$970 \div 10^3$	=	
$970 \div 10^4$	=	

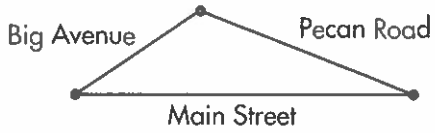
6. Find $\frac{3}{45} + \left(\frac{5}{9} - \frac{2}{5}\right)$.

7. What is the volume of a rectangular prism that is 8 inches long, 5 inches wide, and 9 inches high?

Name _____

Daily Common Core Review
16-3

1. The map shows three streets that intersect to form a triangle.



Big Avenue and Pecan Road make a 130° angle. The angle of Pecan Road and Main Street is 20°. What kind of triangle do the three streets form?

Ⓐ Obtuse triangle
Ⓑ Acute triangle
Ⓒ Right triangle
Ⓓ Equilateral triangle

2. James made a design with several different types of quadrilaterals. In all the figures, both pairs of opposite sides were parallel. Which figure could NOT have been in his design?

Ⓐ Square
Ⓑ Rectangle
Ⓒ Trapezoid
Ⓓ Rhombus

3. Jane buys a set of 17 spiral notebooks. Each notebook has 95 pages. What is the total number of pages?

Ⓐ 1,615
Ⓑ 1,605
Ⓒ 615
Ⓓ 605

4. A library charges $0.15 per day for overdue books. Antonio has 2 books that are 12 days overdue. How much will he pay in fines?

5. A bookstore has 986 paperback books. Each display shelf can hold 50 paperback books. How many shelves does the store need to display all the books?

6. Maria's vegetable garden measures $5\frac{2}{3}$ feet by $6\frac{5}{6}$ feet. What is the area of the garden?

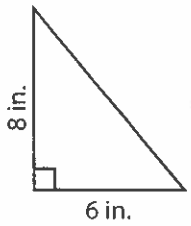
7. How many 4-fluid ounce servings are in $\frac{1}{2}$ gallon of milk?

8. Jacob poured $\frac{5}{6}$ cup of orange juice and $\frac{5}{8}$ cup of cranberry juice into a pitcher. He drank $\frac{1}{2}$ cup of the juice in the pitcher. How many cups of juice are left in the pitcher?

Name _____

Daily Common Core Review
16-4

1. Which terms describe the triangle?



Ⓐ scalene, acute

Ⓑ scalene, right

Ⓒ isosceles, right

Ⓓ isosceles, obtuse

2. The proceeds of a fundraising event are equally shared among 24 charities. If $18,822 is raised what is the best estimate of each charity's share?

Ⓐ $80

Ⓑ $600

Ⓒ $800

Ⓓ $1,000

3. Select all the statements that are true.

☐ Every rectangle has 4 equal sides.

☐ Every rhombus has 4 right angles.

☐ Every parallelogram has two pairs of opposite sides that are parallel and equal in length.

☐ Every square has 4 equal side lengths and 4 equal angles.

☐ Every trapezoid has two pairs of opposite sides that are parallel.

4. A hotel charges $119 per night for a room, including tax. What is the cost of the room for 14 nights?

5. The 1,053 students that attend a school will be placed as evenly as possible into each classroom. The school has 36 classrooms. At most, how many students will be in a classroom?

6. Luisa cut a ribbon that was $\frac{1}{2}$ yard long into 6 equal pieces. How long is each piece?

7. At a track meet, Travis jumps 1.03 meters in the high jump. Andrew jumps 1.32 meters. How much higher does Andrew jump?

8. Frank threw a ball $14\frac{1}{3}$ yards. His younger brother threw the ball $5\frac{7}{8}$ yards. Estimate the total distance the ball was thrown. Then find the actual distance.

$5\frac{7}{8} + 14\frac{1}{3}$

Estimate: _____

Actual sum: _____

Name _____

Daily Science
Big Idea 6
WEEK 5

Unit Review

Hands-on Activity

Penny for Your Thoughts

When copper pennies are first made, they look shiny and new. But after a while, the copper becomes oxidized. Complete the experiment to see what happens when an oxidized penny is placed in an acidic solution. The results are priceless!

What You Need

- ½ cup white vinegar
- 2 teaspoons salt
- 1 shallow clear glass or plastic bowl
- 1 spoon (not metal)
- 20 dull pennies
- 1 clean steel nail
- paper towels

1. Pour the salt and vinegar into the bowl and stir until the salt dissolves.
2. Dump 15 of the copper pennies into the bowl so that they are fully covered in solution.
3. After 10 minutes, remove five pennies from the solution. Rinse them in water and put them on the paper towels to dry.
4. While the rest of the pennies are reacting with the vinegar and salt solution, place the nail halfway into the solution.
5. After 30 minutes, remove the pennies and the nail from the solution. Rinse them and place them on the paper towels to dry.

What Did You Discover?

1. What did you observe when you placed the pennies in the solution?

_____

2. What did the first batch of pennies look like when you removed them from the solution and dried them off? How did they compare to the untreated pennies?

_____

3. What did the nail look like when you removed it from the solution?

_____

Name _____

Daily Science

Big Idea 6

WEEK 5

Unit Review

Vocabulary

React to This!

Write the vocabulary word that matches or completes each clue.

1. When a material is _____, it enters easily into a chemical reaction.
2. able to be dissolved _____
3. cannot be reversed _____
4. to catch on fire _____
5. end material in a chemical reaction _____
6. qualities that determine how a substance reacts with other substances _____
7. This chemical reaction produces a flame. _____
8. This generates heat by rubbing. _____
9. a mixture that is a liquid _____
10. The temperature at which liquid changes into a gas is a substance's _____.
11. Substances in a _____ can be separated.
12. not very reactive _____
13. The temperature at which liquid changes into a solid is a substance's _____.
14. starting material in a chemical reaction _____
15. Rusting metal is a sign of this. _____

boiling point
chemical properties
combustion
corrosion
freezing point
friction
ignite
irreversible
mixture
product
reactant
reactive
soluble
solution
stable

Name _____

Day 5

Weekly Question

Why can't you light a match more than once?

A. Use the words in the box to complete the paragraph.

combustion	**friction**	**ignites**
irreversible	**reactive**	**stable**

A match _____ when substances on the match tip combine with oxygen in the air. Early matches used substances that were too _____, which resulted in sudden, unexpected _____ of the matches. In order to create a safe and effective match, inventors needed to find reactants that were more _____. But these reactants didn't light as easily, so one inventor had the idea of using _____ to momentarily heat the substances and start the reaction. To this day, however, no one has invented a match that can be used more than once. This is because the reaction is _____. Once all of the reactants on a match have been used up, it can't light again.

B. Name two ways that people tried to make matches safer.

1. _____

2. _____

Name _____

Daily Science

Big Idea 6

WEEK 4

Day 3

Weekly Question

Why can't you light a match more than once?

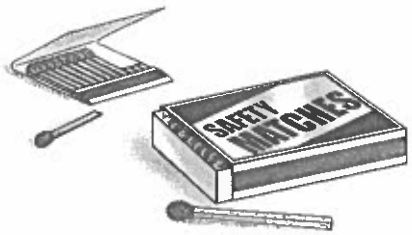
The friction match invented by John Walker was a kind of "strike-anywhere" match. It was called this because the match would ignite after being struck on almost any surface. But the match had a bad smell, so a few years later a new type of match was developed by a chemist who put an odorless chemical called phosphorus into the reaction mix. These matches became popular, but they were dangerous because the phosphorus was very **reactive**.

Finally, in 1844, the "safety match" was created by Swedish inventors. They put a chemical called potassium chlorate on the tip of the match and moved the phosphorus to a strip alongside the matchbox. In this way, the reactants didn't come together until the match was struck against the strip. And the match didn't smell as bad.

Vocabulary

reactive
ree-AK-tiv
able to easily enter into a chemical reaction

Strike-anywhere matches have a white tip.



Safety matches can be made of either wood or cardboard.

A. Explain the difference between a strike-anywhere match and a safety match.

_____

_____

B. Complete the analogy.

Match tip is to **potassium chlorate** as **matchbox strip** is to _____.

C. Cross out the incorrect word and write the correct one above it to make the statement true.

Phosphorus matches were popular, but they were too stable.

Name _____

Daily Science
Big Idea 6
WEEK 4

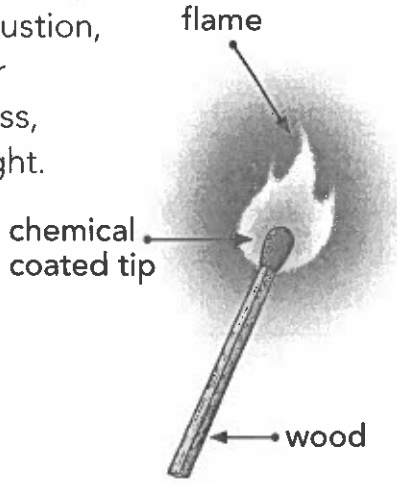
Day 1

Weekly Question

Why can't you light a match more than once?

Imagine trying to start a campfire without a match—it's very hard to do! In fact, before matches were invented, it was often difficult to get a fire going or even light a candle. But by the 1800s, people knew that mixing certain substances together could produce a flame. They applied these chemicals to the ends of sticks to create some of the first matches.

A match produces a flame through a chemical reaction called **combustion**. During combustion, substances combine with oxygen in the air to make new substances and, in the process, produce energy in the form of heat and light.



The first matches that were made could produce a flame, but they had one problem. The chemicals that were put on the match tips sometimes reacted too easily! Early matches could unexpectedly **ignite**, bursting into flames or exploding.

Vocabulary

combustion
kum-BUSS-chun
the oxidation or burning of a substance

ignite
ig-NYT
to catch on fire

A. Use the vocabulary words to complete the sentences.

1. Chemical substances applied to the ends of sticks cause them to _____.

2. A kind of reaction called _____ results in the oxidation of a substance.

B. The first matches were stored in airtight boxes to keep them from igniting suddenly on their own. Why do you think this worked?

_____

_____

Name _____

Daily Science

Big Idea 6

WEEK 3

Day 5

Weekly Question

Why do batteries die?

A. Use the words in the box to complete the sentences.

chemical properties	**electrodes**	**acid**
electrochemical	**current**	

1. Batteries generate electricity through _____ reactions that take place on _____.
2. An _____ is a substance that generates a form of hydrogen when it dissolves in water.
3. The way a substance reacts or combines with other substances to create new substances is determined by its _____.
4. Different kinds of materials used in batteries result in different amounts of electric _____ produced.

B. Write *true* or *false*.

1. The chemical properties of a substance are determined by its chemical composition. _____
2. The chemical reactions that power a car battery are irreversible. _____
3. All batteries have the ability to produce a flow of electrons. _____
4. When a battery's reactants are used up, it no longer produces electricity. _____
5. All electrochemical reactions produce light. _____

Name _____

Daily Science
Big Idea 6
WEEK 3

Day 3

Weekly Question

Why do batteries die?

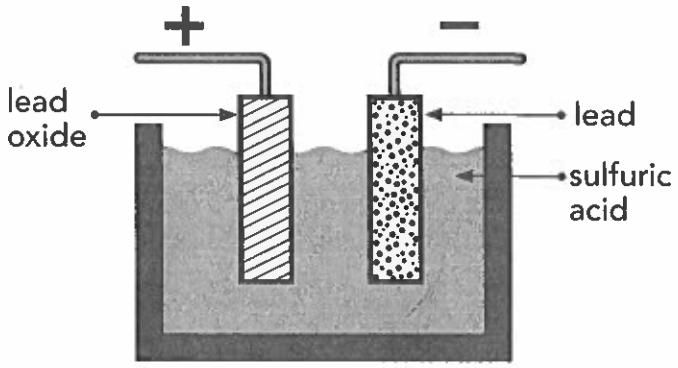
Think of a battery as a reaction chamber filled with chemicals. For example, a typical car battery consists of a series of compartments, each containing a pair of **electrodes** immersed in a kind of acid called sulfuric acid. One electrode is made of lead, and the other electrode is made of lead oxide. Electrodes are where a battery's electrochemical reactions take place, and different reactions take place on different electrodes.

On the lead electrode of a car battery, the lead reacts with sulfuric acid to form a new compound called lead sulfate. This reaction produces electrons, and negative charges build up on the lead electrode.

On the lead oxide electrode, the material also reacts with sulfuric acid to produce lead sulfate. However, this reaction removes electrons from the electrode. As a result, positive charges collect on the lead oxide electrode. When the two electrodes are connected in an electrical circuit, electrons flow from the negatively charged electrode to the positively charged electrode, and electricity is produced.

Vocabulary

electrode
ee-LEK-trohd
a metal rod or plate that can conduct electricity into or out of a battery



lead-acid battery

A. Complete the analogy.

Sulfuric acid is to **reactant** as **lead sulfate** is to _____.

B. Use words from the passage to complete the paragraph.

The lead electrode in a car battery reacts with the acid solution to form _____, and this reaction _____ electrons. The lead oxide electrode reacts with the solution to form the same compound, but this reaction _____ electrons.

Name _____

Daily Science
Big Idea 6
WEEK 3

Day 1

Weekly Question

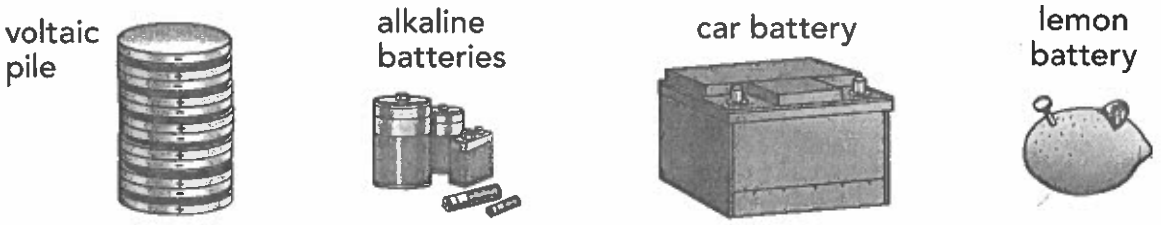
Why do batteries die?

Many materials—from potatoes and lemons to stacks of metal coins—can be used to make a battery. All you need is a material that has the ability to produce a flow of electrons. The first battery, demonstrated by Count Alessandro Volta in 1800, was a stack of discs made of alternating kinds of metal separated by paper soaked with salt water. It was that simple.

Today, batteries come in a variety of materials with different properties. Batteries can be disposable or rechargeable, and they can be made of various compounds such as lithium ion, nickel cadmium, or metal hydride. The different materials used to construct batteries result in differences in the amount of electric **current** produced, the size and cost of the battery, and the lifetime of the battery. But no matter what material is used, eventually every battery "dies" and stops producing electricity.

Vocabulary

current
KUR-int
the flow of electricity through a conductor



Different Kinds of Batteries

A. Write *true* or *false*.

1. Only metals can be used to make a battery. _____
2. Eventually, a battery stops producing electricity. _____
3. Batteries have the ability to generate a flow of electrons. _____

B. Name four ways that batteries can differ from one another, depending on the different materials used to construct them.

1. _____
2. _____
3. _____
4. _____

Name _____

Daily Science
Big Idea 6
WEEK 2

Day 5

Weekly Question

Why does metal rust?

A. Use the words in the box to complete the paragraph.

oxidized	**reactants**	**compound**	**reduced**
product	**corrosion**	**chemical reaction**	

New substances created through a _____ have properties that are different from the starting materials, and one example of this is rust. In the reaction that creates rust, iron and oxygen are the _____, and a _____ called iron oxide is the _____. During the reaction, electrons move from the metal atoms to the oxygen atoms. When the metal atoms lose electrons, they are _____. When the oxygen atoms gain electrons, they are _____. The result of this process is the _____ of metal.

B. Write *true* or *false*.

1. One way to keep metal from rusting is to paint it. _____
2. Exposure to air and water can cause iron to break down. _____
3. Electrons can't be shared or moved between atoms. _____
4. Rust is created by the oxidation of iron. _____
5. Antioxidants cause food to spoil faster. _____

Name _____

Day 3

Weekly Question

Why does metal rust?

Big Idea 6

WEEK 2

As with any chemical reaction, the formation of rust involves the transfer of electrons. When iron reacts with oxygen and forms the new compound iron oxide, the reaction occurs because electrons move from the metal atoms to the oxygen atoms. In other words, the iron that loses electrons is **oxidized**. In the same reaction, oxygen gains electrons from the iron and is **reduced**. For every electron that is lost by a substance in a chemical reaction, an electron is gained by another substance.

The oxidation and reduction process happens all around us, all the time. In fact, many cleaning products contain substances that oxidize. Household bleach, for example, removes stains by oxidizing them.

In other situations, oxidation isn't such a positive thing. For instance, air can oxidize food, causing it to spoil or go stale. This is why some foods include substances called *antioxidants*. Antioxidants give up their electrons very easily, so they satisfy the appetite of "electron-hungry" oxygen atoms and protect the food.

Vocabulary

oxidized
OX-ih-dyzd
to have lost electrons

reduced
ree-DOOST
to have gained electrons

A. In each reaction described below, underline the substance that gets oxidized.

1. An apple turns brown after reacting with air.
2. Bleach removes a stain.
3. Oxygen picks up electrons found in food.
4. An iron key rusts in the rain.

B. Fill in the bubble next to the activity that slows down oxidation.

Ⓐ removing the lid from a jar of food
Ⓑ keeping a car in a dry garage
Ⓒ peeling an apple
Ⓓ adding bleach to a stain

Name _____

Daily Science
Big Idea 6
WEEK 2

Day 1

Weekly Question

Why does metal rust?

You know what rusty metal looks like, but have you ever wondered why you've never seen rust on a piece of wood or plastic? Rust is a sign of **corrosion**, which occurs when metal is exposed to air and moisture. Metal that is rusted may be crumbly, have holes in it, or have rough, reddish-brown patches on it.

Corrosion in metals arises from a **chemical reaction**, which is a process in which substances react to form new substances. A chemical reaction is different from a physical change. When you scratch metal, the chemical makeup of metal stays the same, even if its appearance changes. But when metal rusts, a chemical reaction takes place between water, oxygen, and iron that changes the metal into a whole new substance.

Vocabulary

chemical reaction
KEM-ih-kul ree-AK-shun
a change in which one or more new substances are formed

corrosion
kuh-ROH-zhun
a chemical wearing away of a material

A. Use the vocabulary words to complete the sentences.

1. One way to protect a car from _____ is to keep it inside a garage.

2. A _____ can occur when substances are exposed to air and moisture.

B. Explain in your own words how a chemical reaction is different from a physical change.

_____

_____

Name _____

Daily Science
Big Idea 6
WEEK 1

Day 5

Weekly Question

What puts the fizz in soda?

A. Use the words in the box to complete the sentences.

boiling point	**solution**	**carbonated**
freezing point	**mixture**	

1. A soft drink is a _____ of gas, sugar, and water, but it is also a _____ because the gas and sugar are dissolved in the water.
2. Carbon dioxide's _____ is very low, which is why it is a gas at room temperature.
3. Carbon dioxide gas is what makes a soft drink _____.
4. The _____ of soda is lower than that of pure water.

B. Cross out the incorrect word in each sentence and write the correct word or words above it to make the statement true.

1. Water is a solid at room temperature.
2. Carbonation involves mixing oxygen gas into a beverage.
3. The freezing point of water increases when salt is added.
4. Oil forms a solution with the water and vinegar in salad dressing.

C. Fill in the bubble next to the words that complete the analogy.

Boiling point is to **gas** as _____.

Ⓐ **freezing point** is to **liquid**
Ⓑ **freezing point** is to **solid**
Ⓒ **liquid** is to **solid**
Ⓓ **solid** is to **liquid**

Name _____

Daily Science
Big Idea 6
WEEK 1

Day 3

Weekly Question

What puts the fizz in soda?

Soda is more than just a mixture of liquid and gas. It is also a **solution**, meaning it is a liquid that contains substances that have been dissolved. Soda is made mostly of water, which can dissolve many substances. Carbon dioxide gas, for instance, is **soluble** in water. Soft drinks also contain dissolved solids, such as sugar.

Not all substances are soluble in water. For example, oil does not dissolve well in water. So when you shake a bottle of salad dressing that contains oil, water, and vinegar, the liquids mix together only temporarily. After a while, the oil separates from the vinegar and water and floats to the top of the liquid mixture.

Vocabulary

soluble
SOL-yoo-bul
able to be dissolved

solution
suh-LOO-shun
a mixture, usually liquid, in which all the components are mixed evenly

A. *Solubility* is a physical property. The table below shows the solubility of various substances in water. The higher the number, the more soluble the substance is. Use this information to answer the questions.

	Solubility (per gram of water)
Oxygen	0.0000434 gram
Carbon dioxide	0.00145 gram
Sugar	2.0 grams
Salt	0.36 gram

1. Which substance dissolves best in water? _____

2. Which gas dissolves more easily in water—oxygen or carbon dioxide? _____

3. Which substance is the least soluble in water? _____

B. If you mixed peanut butter with water, do you think it would make a solution? Explain why or why not.

_____

Name _____

Daily Science
Big Idea 6
WEEK 1

Day 2

Weekly Question

What puts the fizz in soda?

When you think of a boiling mixture, you probably don't picture an ice-cold soda. But, in fact, that's just what is happening when you see bubbles in your soft drink. Carbon dioxide gas is, in effect, "boiling" out of your cold soda. Unlike water, which has a **boiling point** of 100°C (212°F), carbon dioxide changes from liquid to gas at −57°C (−70°F). So even at the temperature of a chilled soda, CO_2 is still a gas, and it bubbles out of the liquid.

Boiling point and **freezing point** are physical properties of a substance. Physical properties may include color, hardness, texture, or many other characteristics of matter that can be measured or seen. The freezing point of carbon dioxide gas is −78°C (−109°F). At this temperature, CO_2 becomes a solid, taking the form of dry ice. But in the same way that the boiling point of a substance doesn't have to be terribly hot, the freezing point doesn't have to be very cold, either. Liquid gold, for example, "freezes" at 1,064°C (1,947°F).

Vocabulary

boiling point
BOY-ling POYNT
the temperature at which a liquid changes into a gas

freezing point
FREE-zing POYNT
the temperature at which a liquid changes into a solid

Room temperature is approximately 20°C (68°F). Use the information in the table below to answer the questions.

	Freezing Point	Boiling Point
Water	0°C	100°C
Nitrogen	−210°C	−196°C
Mercury	−39°C	357°C
Gold	1,064°C	2,856°C

1. Which substance has the highest boiling point? _____
2. Which substance has the lowest freezing point? _____
3. Which substance is a solid at room temperature? _____
4. Which two substances are liquids at room temperature? _____

Week 1

Where does lightning come from?

Electricity can exist as static electricity or travel as a current through a conductor.

This week, students learn that lightning is a dramatic example of static electricity caused by atoms in storm clouds gaining and losing electrons. Atoms that gain electrons gain a negative charge, which then discharges in a spark of electricity that we see as lightning. The shock you sometimes get when you touch metal is also an example of static electricity. The strength of the shock is actually quite strong, but since it is so brief, it is only annoying, not dangerous.

Day One

Vocabulary: *electricity*

Distribute page 159 and introduce the vocabulary word. Have volunteers read the introduction aloud. Then have students complete activity A. Invite volunteers to share their responses. Then have students complete activity B independently. For activity C, pair students or complete the activity as a group, if needed. Review the answers together.

Day Two

Vocabulary: *atom, electron, proton*

Distribute page 160, introduce the vocabulary, and have volunteers read the introduction aloud. Use the diagram on the page to point out how protons and electrons are often represented by plus and minus signs. Then have students complete the activities independently. Review the answers together.

Day Three

Vocabulary: *charge, static electricity*

Distribute page 161 and introduce the vocabulary. Then have volunteers read the introduction aloud. Confirm students' understanding of how something gains or loses a charge before having them complete the activities. Review the answers together.

Day Four

Activate prior knowledge by asking students if they have ever gotten a shock when they touched something metal. Distribute page 162 and have volunteers read the introduction aloud. Then have students complete the activities. Invite volunteers to share their responses to activity B.

Day Five

Tell students they will review everything they have learned about lightning and static electricity. Have them complete page 163. Go over the answers together.

Name _____

Daily Science

Big Idea 6

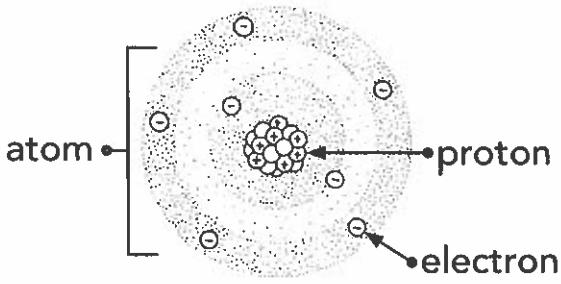
WEEK 1

Day 2

Weekly Question

Where does lightning come from?

Electricity comes from **atoms.** Atoms are so small that you can't see them. And they are made up of even tinier parts called **protons** and **electrons**. Protons and electrons pull on each other. Sometimes the electrons will move from one atom to another.



Vocabulary

atom
the smallest whole piece of matter

electron
a part of an atom that is the opposite of a proton

proton
a part of an atom that is the opposite of an electron

A. Use vocabulary words to complete the sentences.

1. _____ have protons and electrons.
2. Electrons pull on _____.
3. Sometimes _____ from one atom will jump to another atom.

B. Check the box next to the words that complete each sentence.

1. Protons are found _____ atoms.

❒ in the middle of ❒ spinning around ❒ next to

2. Electrons are _____ atoms.

❒ bigger than ❒ smaller than ❒ the same size as

Name _____

Daily Science

Big Idea 6

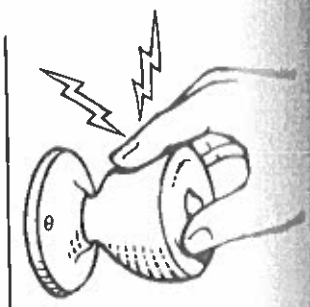
WEEK 1

Day 4

Weekly Question

Where does lightning come from?

All static electricity comes from the buildup of electrons in one place. But it doesn't always produce giant bolts of lightning. Have you ever touched a doorknob and received a shock? When you walk across carpet or sit on a couch or chair, you pick up electrons. You build up a negative charge! Then when you touch a doorknob, the electrons jump from your hand to the knob. This creates a shock and a spark, just like a tiny lightning bolt.



A. Answer each question.

1. What kind of electricity gives you a shock when you touch a metal doorknob? _____

2. What part of an atom do you pick up from walking across carpet? _____

B. Draw a picture that shows how electrons travel from the carpet, through your body, and to a doorknob, producing a spark. Then write a caption below the picture to explain it.

Week 2

Why do electrical cords have metal plugs?

Electricity can exist as static electricity or travel as a current through a conductor.

This week, students learn the differences between static electricity and electric current, as well as the role that conductors and insulators play in how electricity travels. Unlike static electricity, an electric current is not a single discharge; it is always flowing. The metal plug of a power cord is a conductor that is connected to other metal wires wrapped in the plastic or rubber coating. The coating insulates the wires, so as electricity flows through them, it is impeded by the surrounding insulators. This week's lesson offers several opportunities to talk about safety issues, such as not sticking objects other than plugs into electrical outlets and keeping away from downed power lines.

Day One

Vocabulary: *appliance, current*

Distribute page 165. Introduce the vocabulary by asking students to think of some appliances they have seen or used and then think of things that move in a current. (water, air) Then have volunteers read the introduction aloud. Have students complete the activities, and then review the answers together.

Day Two

Vocabulary: *conductor*

Distribute page 166 and introduce the vocabulary word. Have volunteers read the introduction aloud. Then direct students to complete the activities independently. Invite volunteers to read their completed sentences for activity B aloud.

Day Three

Vocabulary: *insulator*

Materials: electrical wire

Distribute page 167 and introduce the vocabulary word. Show students the wire and explain that the metal part is a conductor and that the rubber coating is an insulator. Ask students to predict what might happen if the wire didn't have the rubber coating around it. (You might get shocked if it was used to conduct electricity.) Have volunteers read the introduction aloud. Then have students complete the activities. Invite volunteers to share their responses and explain their thinking for activity B.

Day Four

Distribute page 168 and have volunteers read the introduction aloud. Have a volunteer read the labels below the picture and explain what the arrows show. (how electricity travels) Then direct students to complete the activities. Invite students to share their responses and explain their thinking for activity B.

Day Five

Tell students they will review what they have learned about conductors and insulators. Have them complete page 169. Go over the answers together.

Name _____

Daily Science

Big Idea 6

WEEK 2

Day 2

Weekly Question

Why do electrical cords have metal plugs?

Remember that electricity is the flow of electrons. Some materials allow electrons to flow through them easily. These materials are known as **conductors**. Metals such as copper, gold, and silver are good conductors. They allow electrons to flow through them easily. That's why electrical wires and plugs are made from metal.

Vocabulary

conductor
a material that allows electricity to flow through it

A. Write true or false.

1. Electricity flows easily through everything. _____
2. Metals are good conductors. _____
3. Electrical wires are made from electrons. _____
4. Electrons pass easily through copper. _____

B. Use the words in the box to complete the sentences.

copper **plug** **conducts**

1. The lamp had a cord with a metal _____ at the end.
2. James used _____ wire to make a conductor.
3. A metal pole _____ electricity better than a wooden one.

Name _____

Daily Science
Big Idea 6
WEEK 2

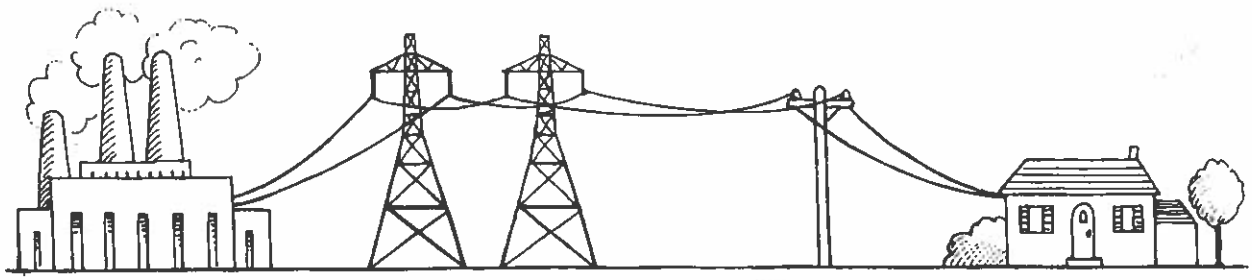
Day 4

Weekly Question

Why do electrical cords have metal plugs?

The electricity in your home comes from power stations in the city or town where you live. It travels through giant wires that are buried underground or attached to poles high above the ground. The wires are made of metal.

Sometimes, during storms or accidents, these wires will fall to the ground. If you ever see a fallen power line, stay far away from it! Your body is a good conductor, so electricity from the wires could flow through you and injure you.



A. Write **true** or **false**.

1. Electrical wires that are not covered can be dangerous. _____
2. Power stations use giant wires to conduct electricity. _____
3. Your house makes its own electricity. _____

B. Ocean water is a better conductor than fresh water is. Your skin isn't the best conductor, but your blood, which contains water and salt, is better. What do you think the "secret ingredient" is that makes ocean water and blood good conductors?

_____

Week 3

How does flipping a switch light up a light bulb?

Electricity can exist as static electricity or travel as a current through a conductor.

This week, students will learn about circuits, switches, and how light bulbs convert electrical energy into light and heat. Electric current requires a circuit to flow, and all circuits must be closed loops. The light switch on the wall completes or breaks the circuit, depending on whether the switch is on or off. When electricity makes contact with a light bulb, another switch is activated, and the bulb converts the electricity into light and sometimes into heat as well.

Day One

Vocabulary: *circuit, outlet*

Distribute page 171 and introduce the vocabulary. Develop *outlet* by explaining how the word can be used in relation to other things besides electricity. For example, ask: **What is a good outlet when you think something is funny?** (laughter) Invite volunteers to think of other good examples of outlets for different things. Then have volunteers read the introduction aloud. Have students complete the activities. Invite volunteers to share their responses and explain their thinking for activity B.

Day Two

Vocabulary: *source*

Distribute page 172 and introduce the vocabulary word. Have volunteers read the introduction aloud. Then have students complete the activities independently. Invite volunteers to share their responses and explain their thinking for activity B.

Day Three

Vocabulary: *switch*

Distribute page 173 and introduce the vocabulary word. Have volunteers read the introduction aloud, and then invite students to name other kinds of switches. Have students complete the activities. Invite volunteers to share their answers and explain their thinking for activity B.

Day Four

Materials: different kinds of bulbs (optional)

Distribute page 174 and have volunteers read the introduction aloud. If you brought bulbs, show them to students. Have students complete activity A independently. For activity B, if you have the bulbs, consider letting students compare and contrast the different kinds of bulbs based on information in the paragraph and their own observations. Go over the answers together.

Day Five

Tell students they will review what they learned about circuits and switches. Have them complete page 175. Go over the answers together.

Name _____

Daily Science

Big Idea 6

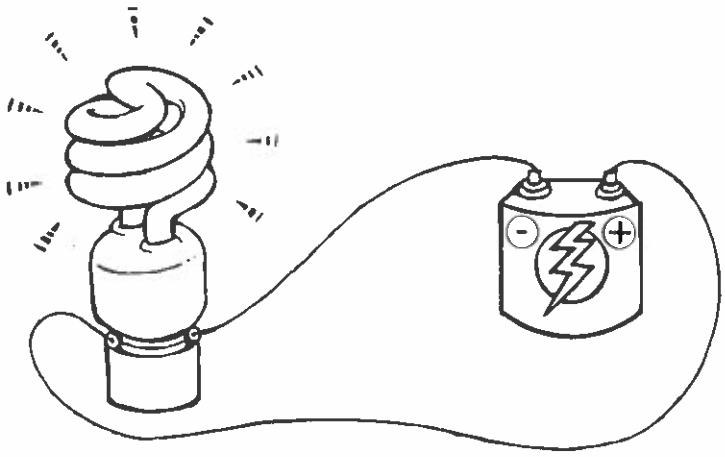
WEEK 3

Day 2

Weekly Question

How does flipping a switch light up a light bulb?

All circuits have a source, a conductor, and a device that uses the electricity. Look at the circuit below. The wires are conductors that allow the electric current to flow from the battery, which is the **source**, to the bulb. When the circuit is complete, the bulb lights up.



Vocabulary

source
a thing that produces electricity

A. Write **true** or **false**.

1. If Lisa removes one of the wires, the bulb will still shine. _____

2. If Gary replaces the battery, the bulb will still shine. _____

3. If Sarah replaces the bulb with an electric clock, the circuit will still be complete. _____

B. If power stations send electric current to your house, are they using circuits? Explain your answer.

_____

_____

Name _____

Daily Science

Big Idea 6

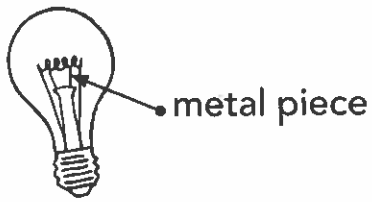
WEEK 3

Day 4

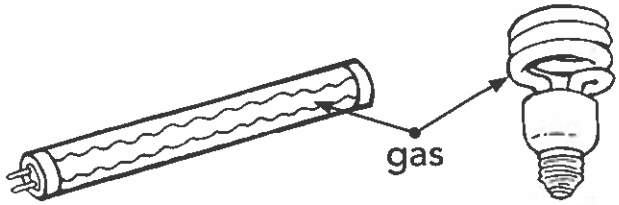
Weekly Question

How does flipping a switch light up a light bulb?

You know that when an electrical current flows into a light bulb, it lights up. But where does the light come from? Electrical energy can be turned into other types of energy, including light and heat. When electric current reaches a tiny piece of metal inside some light bulbs, the metal gets very hot. It starts to glow and produce light. Other bulbs have a special gas inside of them. When electricity reaches the gas, the gas changes the electrical energy into light.



incandescent bulb



fluorescent bulbs

A. Use the words in the box to complete the paragraph.

light bulb
heat
electricity
light

In 1800, Humphry Davy discovered how to use _____ to create light. Then, in 1879, Thomas Edison invented the first _____. It had a tiny piece of metal that turned electricity into _____ and _____.

B. Compare and contrast an incandescent bulb with a fluorescent bulb. Name one way they are alike and one way they are different.

_____

Week 4

How does a battery make electricity?

Electricity can exist as static electricity or travel as a current through a conductor.

This week, students will learn about batteries. Batteries convert chemical energy into electrical energy. When a battery is connected to a circuit, chemicals inside the battery react to release electrons, which flow through the rod inside the battery and through the circuit. After a while, many batteries are incapable of producing more chemical reactions to release electrons. But some batteries can be recharged, and they are capable of producing electricity many more times.

Day One

Vocabulary: *battery*

Materials: batteries of various sizes (optional)

Activate prior knowledge by asking students to describe what batteries are and what they do. If you have them, show students the batteries you brought. Distribute page 177 and introduce the vocabulary word. Have volunteers read the introduction aloud. Then have students complete activities A and B independently. For the oral activity, consider pairing students or completing the activity as a group.

Day Two

Distribute page 178 and have volunteers read the introduction aloud. Activate prior knowledge by reviewing what happens when an atom gains electrons. (It builds up a negative charge.) Point out the diagram of the battery and explain that the negative side of a battery is where the electrons build up. Explain that a battery produces an electric current, not static electricity, but scientists use the same terms, *positive* and *negative*, to talk about electricity. Direct students to complete the activities.

Day Three

Materials: flashlight with batteries

Distribute page 179 and have volunteers read the introduction aloud. If you have it, show students the flashlight. Demonstrate putting the batteries in the flashlight incorrectly and ask students to surmise why the flashlight doesn't work. (The circuit isn't correct and the electric current cannot flow.) Then have students complete the activities. Invite volunteers to share their responses and explain their thinking for activity B.

Day Four

Vocabulary: *recharge*

Distribute page 180 and introduce the vocabulary word. Develop *recharge* by explaining that the prefix *re-* means to do something again. Have volunteers read the introduction aloud. Then have students complete the activities. Invite volunteers to share their responses and explain their thinking for activity B.

Day Five

Tell students they will review what they have learned about batteries. Have them complete page 181. Go over the answers together.

Name _____

Daily Science

Big Idea 6

WEEK 4

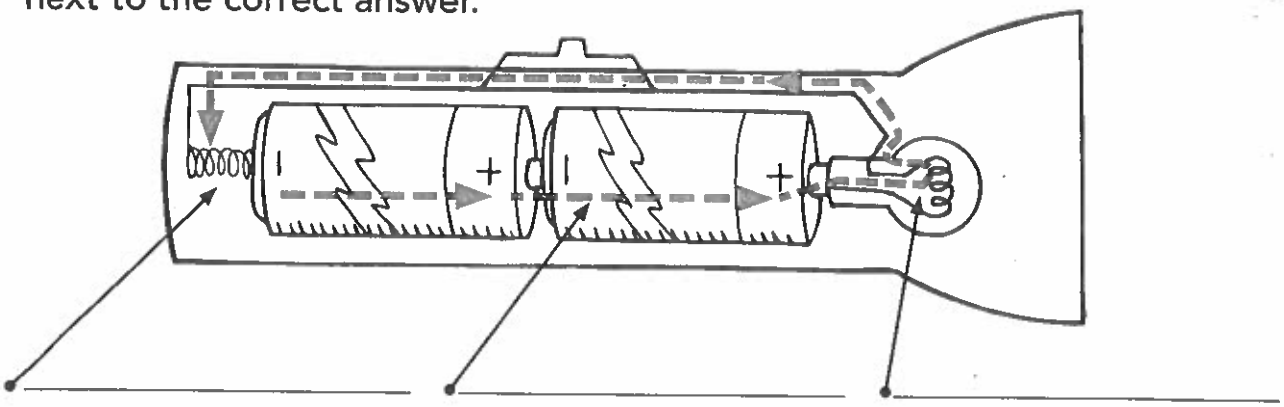
Day 3

Weekly Question

How does a battery make electricity?

Remember that a circuit needs both a source and a conductor in order for electricity to flow. Inside a flashlight there are wires, or conductors, that carry electricity to the light bulb. The battery is the electrical source. When the positive and negative ends of the battery are connected to the wires, they complete the circuit. The battery creates an electric current that flows to the bulb, and the flashlight shines!

A. Look at the diagram below. Label the source, the conductor, and the bulb. Then read each question and check the box next to the correct answer.



_____ _____ _____

1. Which way does electricity flow through the battery to the bulb?

❒ from negative to positive ❒ from positive to negative

2. Which of these creates electricity?

❒ the switch ❒ the light bulb ❒ the battery

B. Why does it make more sense for a flashlight to have a battery than a cord that plugs into a wall? Explain your answer.

_____

Name _____

Daily Science

Big Idea 6

WEEK 4

Day 5

Weekly Question

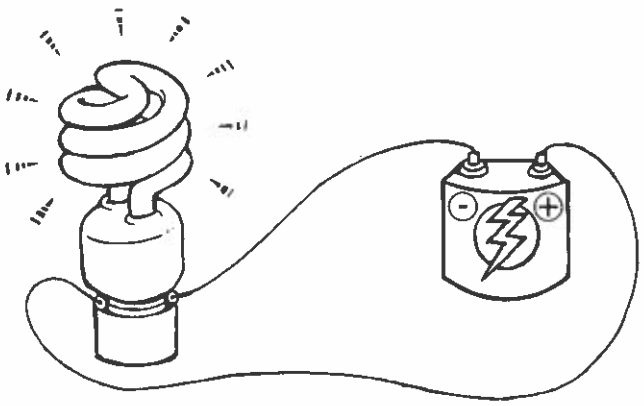
How does a battery make electricity?

A. Use words from the box to complete the sentences.

battery	negative	positive	recharged

1. A _____ has chemicals that create electricity.
2. Car batteries can be _____.
3. Batteries have a _____ and a _____ end.

B. Circle the electrical source for this circuit. Then draw arrows to show which way the electricity is flowing.



C. Write **true** or **false**.

1. A battery makes static electricity. _____
2. All batteries can be recharged. _____
3. In circuits, batteries are the electrical source. _____
4. In batteries, electricity flows from the negative end to the positive end. _____

Name _____

Daily Science

Big Idea 6

WEEK 5

Unit Review

Vocabulary

Electric Words

Recharge your vocabulary! Use words from the boxes to complete the paragraphs.

Lightning is a giant spark of _____ electricity. It is made when _____ gain or lose electrons and build up positive and negative _____. Static electricity is different from electricity that flows in a _____. This kind of electricity flows through metal wires and other _____.

current
static
charges
conductors
atoms
insulator

Do you know how a flashlight works? Flashlights use batteries, which are _____ of electricity that are easy to carry. Electricity from the _____ flows through wires to the light bulb in a path called a _____. The button on a flashlight is a _____. It completes or breaks the circuit, turning the flashlight on and off.

batteries
switch
outlets
sources
electrons
circuit

Name _____

Daily Science
Big Idea 1
WEEK 1

Day 1

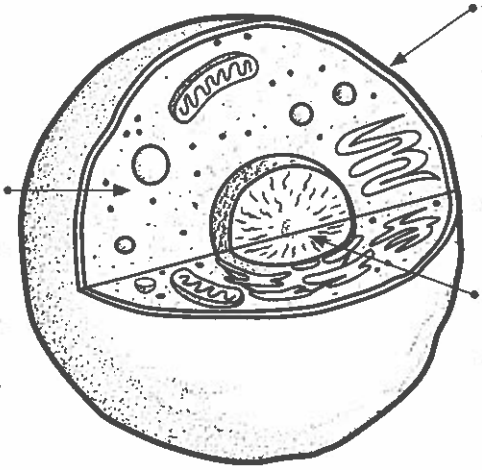
Weekly Question

Why are bones hard and muscles soft?

All organisms are made up of **cells**. A cell is the smallest unit of living matter. Cells grow, reproduce, use energy, and produce waste. Nearly all the cells in your body have the same three parts. The first is the **cell membrane**, which surrounds the cell and acts as a barrier between the cell and the outside world. Inside the cell, a central **nucleus** controls the cell's activities. Between the membrane and the nucleus is the **cytoplasm**, a jelly-like substance that contains the materials and structures necessary for cells to do their job.

Although the cells in your body have similar parts, many of the cells do specific jobs. In order to do these jobs well, the cells look and act different from each other. The cells that make up your muscles are shaped differently and behave differently from those that make up your bones.

A. Use the vocabulary words to label the parts of the cell. Briefly describe what each part does.



B. What do you think the function of muscle cells is? What do you think the function of bone cells is?

_____

Vocabulary

cell
sel
the basic unit of structure and function in living organisms

cytoplasm
SY-toh-PLAZ-um
the jelly-like substance inside a cell

cell membrane
MEM-brain
the thin sack that surrounds a cell

nucleus
NEW-klee-us
the part of the cell that directs all of its activities

Name _____

Daily Science
Big Idea 1
WEEK 1

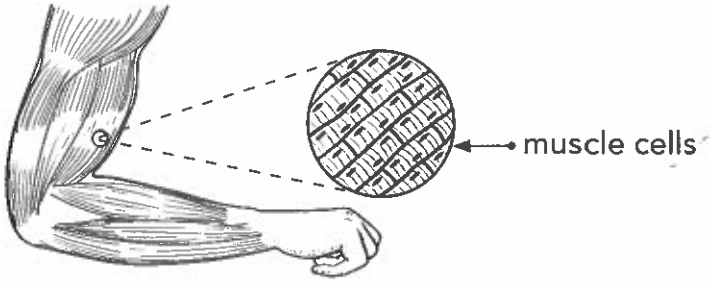
Day 3

Weekly Question

Why are bones hard and muscles soft?

There are three types of muscle tissue that make up the muscles in your body. One type forms the muscles in your organs. Another type forms your heart muscle. The third type forms the muscles that attach to your skeleton. This skeletal muscle tissue is made up of long, thin cells that look like threads. Unlike most other cells, skeletal muscle cells have more than one nucleus. Muscle cells bundle together to form long, rope-like cords of tissue.

Every time you move, muscle tissue contracts and relaxes. When you "make a muscle" in your arm by flexing, you are actually contracting the muscle tissue, making it shorter and thicker. When you stop flexing, the muscle tissue releases, becoming longer and thinner.



A. Rewrite each sentence, changing a word or phrase to make the statement true.

1. The muscle tissue in your heart is made up of long, thin cells.

_____

2. Skeletal muscle cells have a nucleus and many cell membranes.

_____

3. When you flex your arm, the muscle tissue becomes longer and thinner.

_____

B. Our bodies have some muscles that we can move voluntarily and some that move involuntarily (without us thinking about it). Name an example of each.

Voluntary: _____ **Involuntary:** _____

Name _____

Daily Science
Big Idea 1
WEEK 1

Day 5

Weekly Question

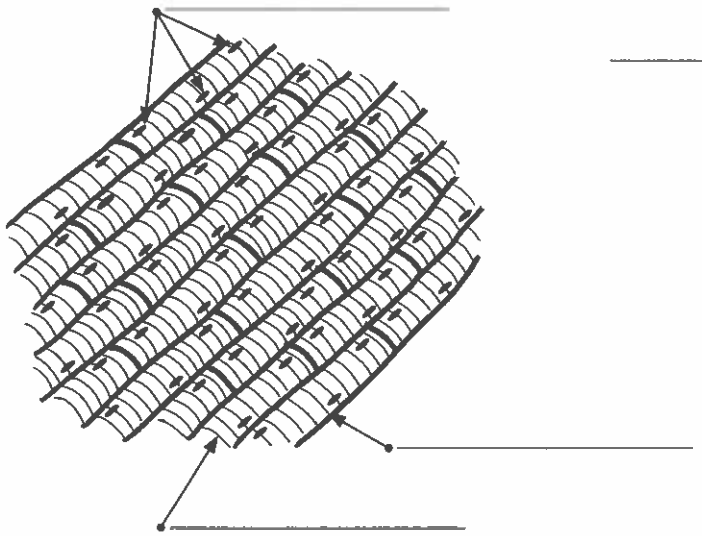
Why are bones hard and muscles soft?

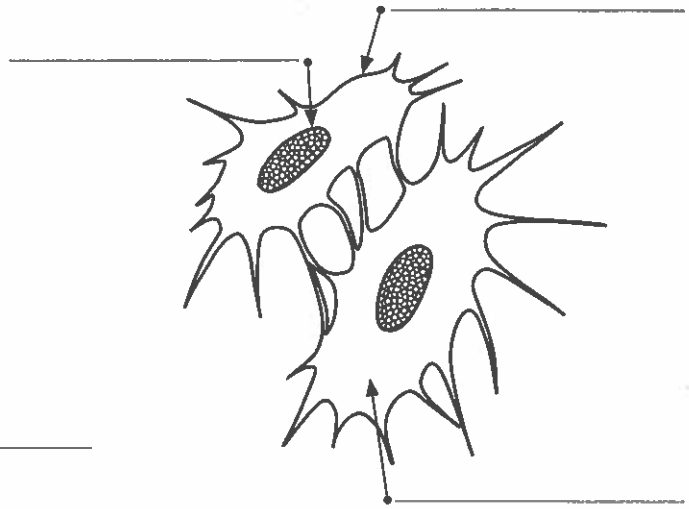
A. Use the words in the box to complete the paragraph.

membrane	**nucleus**	**muscle tissue**	**cell**
cytoplasm	**tissue**	**connective tissue**	

The smallest unit of life is a _____. It contains a _____ that directs all of the cell's activities. It also has a _____ that acts as a barrier between the cell and the outside world. Inside the cell, there is a jelly-like substance called _____. Cells that group together to carry out a specific function are called _____. _____ supports the body. _____ helps us move.

B. Label the *nucleus* (or *nuclei*), *cytoplasm*, and *cell membrane* of the muscle cells and bone cells.





Name _____

Daily Science

Big Idea 1

WEEK 2

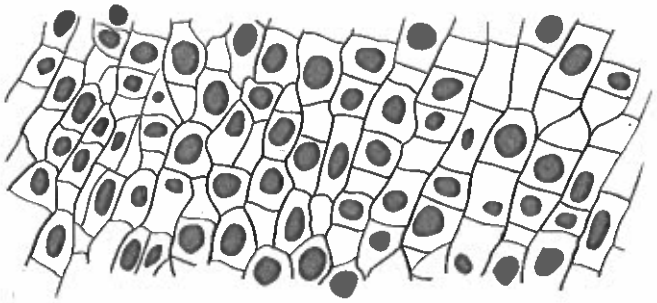
Day 1

Weekly Question

Why does skin wrinkle in the bathtub?

You may not think of your skin as an **organ**, but it is. In fact, it is the largest organ of your body. As an organ, your skin keeps your body from drying out, helps to keep your temperature constant, and acts as a barrier to disease.

Your skin is made up of two types of tissue: **epithelial tissue** and connective tissue. When you look at your skin, you are seeing epithelial tissue. Epithelial tissue protects your body from the outside world. It does the work of moving materials in and out of the body. It also secretes sweat that keeps us cool.



Vocabulary

epithelial tissue
EP-ih-THEEL-ee-ul TIH-shoo
tissue that covers the inside and outside surfaces of the body

organ
OR-gun
a group of tissues that perform specific functions

A. Name the two types of tissue that form your skin.

1. _____ 2. _____

B. What are the main jobs of epithelial tissue?

_____

_____

C. Check the box next to the phrase that completes the analogy.

Tissue is to **organ** as _____.

- ❒ **skin** is to **body**
- ❒ **cell** is to **tissue**
- ❒ **epithelial** is to **connective**
- ❒ **barrier** is to **purpose**