3rd Science Distance Learning Checklist

Directions: Work through the assignments within the packet. You should spend about 30 minutes a day on Science content. The checklist is provided as a guide, but feel free to work at your own pace and to skip around if you like. If you have questions, please contact your child's teacher.

Week 1	Print Resources	Optional Digital Resources
Day 1	☐ ReadWorks article: *Quick & Destructive: Earthquakes* ☐ Answer the questions about the article	☐ BrainPop – Earthquakes o Available through Classlink – search Earthquakes
Day 2	☐ ReadWorks article: *Mexico's Natural Wonder: Paricutin Volcano* ☐ Answer the questions about the article	☐ BrainPop – Volcanoes o Available through Classlink – search Volcanoes
Day 3	☐ Read the Scholastic article on Wild Fires: *Our Beautiful Town Is Gone* ☐ Complete the activity at the end of the article: *Think and Write*	☐ https://tinyurl.com/rharj5l ☐ https://tinyurl.com/yx32jg6f
Day 4	☐ ReadWorks article: *A Dangerous Landslide* ☐ Answer the questions about the article	☐ Discovery Education Video ☐ https://tinyurl.com/r2q5dun

Quick & Destructive: Earthquakes

by ReadWorks

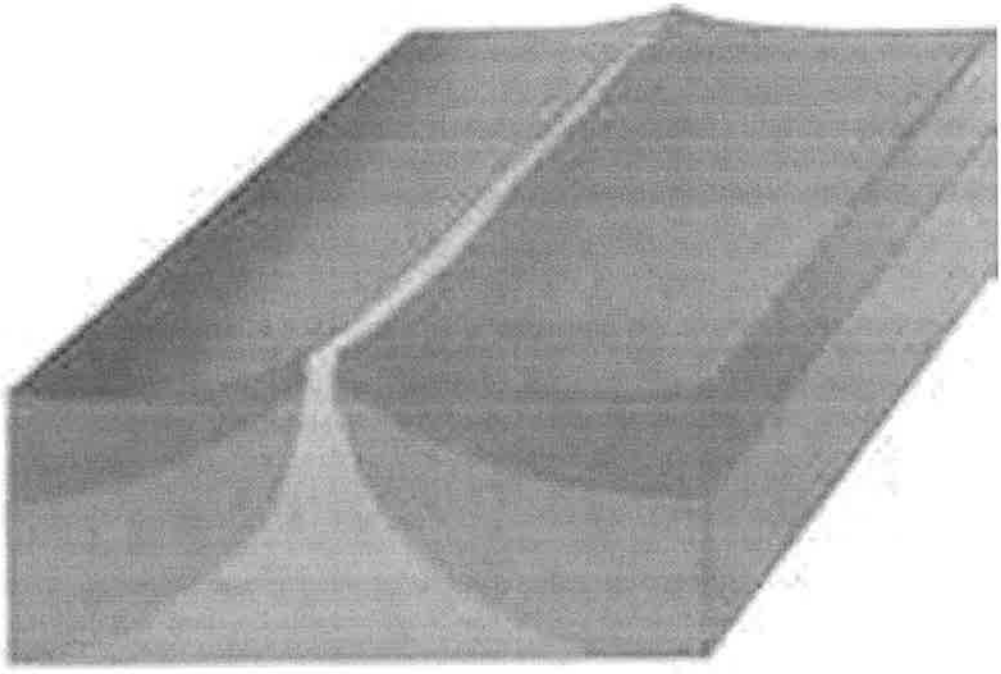

Illustration Credit: Core Knowledge

Illustration of tectonic plates moving apart

Earthquakes are natural disasters that are caused by the movement of the Earth's surface. The Earth has a few layers, and its top layer is its rocky crust. The crust is broken up into large pieces called tectonic plates. These plates move all the time. They usually move slowly, but sometimes two tectonic plates get stuck together. When these two tectonic plates finally move away from each other, energy is released. This release of energy causes an earthquake. If a small amount of energy is released, it will be a small earthquake. Most earthquakes are small. If a large amount of energy is released, it will be a large and powerful earthquake.

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Photograph of destroyed buildings after earthquake

Earthquakes usually last for 30 seconds or less. Even though earthquakes are quick, they can be very destructive. Strong earthquakes can ruin homes, towns, bridges, roads, and more. Earthquakes can also kill people. For example, scientists believe that one earthquake in China killed more than 830,000 people. Scientists have studied the earth and found that this earthquake happened on January 23, 1556.

Photograph of cracked road after earthquake

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Earthquakes are very hard to predict, so it is hard to know when they are going to happen. People often don't have time to evacuate, or leave, the area. People can prepare their homes for an earthquake, however. One of the things that people can do is buy canned food and bottled water. This food and water could help people stay alive if they get trapped in their homes. It is important that people place this food and water in a safe place. Another thing that people can do is nail down any tall and heavy furniture. The ground shakes during earthquakes, which often causes furniture to fall. By nailing down furniture, like bookcases, it is harder for the furniture to hurt someone during an earthquake.

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Name: _____ **Date:** _____

1. According to the text, what causes earthquakes?

A. the movement of Earth's surface

B. natural disasters

C. the ground shaking

D. nailing down furniture

2. The text describes the way earthquakes can be destructive. How can they be destructive?

A. Earthquakes usually last for up to 30 seconds, so they are quick.

B. Earthquakes can be small, or they can be large and powerful.

C. Earthquakes can ruin homes and towns, and they can kill people.

D. People don't have time to evacuate because it is hard to know when they will happen.

3. Read these sentences from the text.

". . . sometimes two tectonic plates get stuck together. When these two tectonic plates finally move away from each other, energy is released. This release of energy causes an earthquake. If a small amount of energy is released, it will be a small earthquake. Most earthquakes are small. If a large amount of energy is released, it will be a large and powerful earthquake."

What can you conclude from these sentences?

A. A smaller amount of energy released means a more powerful earthquake.

B. The more energy that is released, the more powerful the earthquake.

C. A larger amount of energy released means a less powerful earthquake.

D. The amount of energy released is not connected to an earthquake's power.

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4. Read these sentences from the text.

> . . . sometimes two tectonic plates get stuck together. When these two tectonic plates finally move away from each other, energy is released. This release of energy causes an earthquake.
>
> [. . .]
>
> Earthquakes are very hard to predict, so it is hard to know when they are going to happen. People often don't have time to evacuate, or leave, the area.

What inference can you make based on the text?

A. People always know when two stuck tectonic plates will finally move away from each other.

B. People don't know when two stuck tectonic plates will finally move away from each other.

C. People evacuate their homes when two stuck tectonic plates finally move away from each other.

D. People always know when two tectonic plates get stuck together.

5. What is the main idea of this text?

A. An earthquake is caused by energy released when two stuck tectonic plates finally move away from each other.

B. An earthquake that scientists believe occurred in China in the year 1556 killed more than 800,000 people.

C. To prepare their homes for earthquakes, people can buy canned food and bottled water before earthquakes happen, and they can nail down furniture.

D. Earthquakes are natural disasters that can be very destructive and difficult to predict, but people can prepare their homes for earthquakes.

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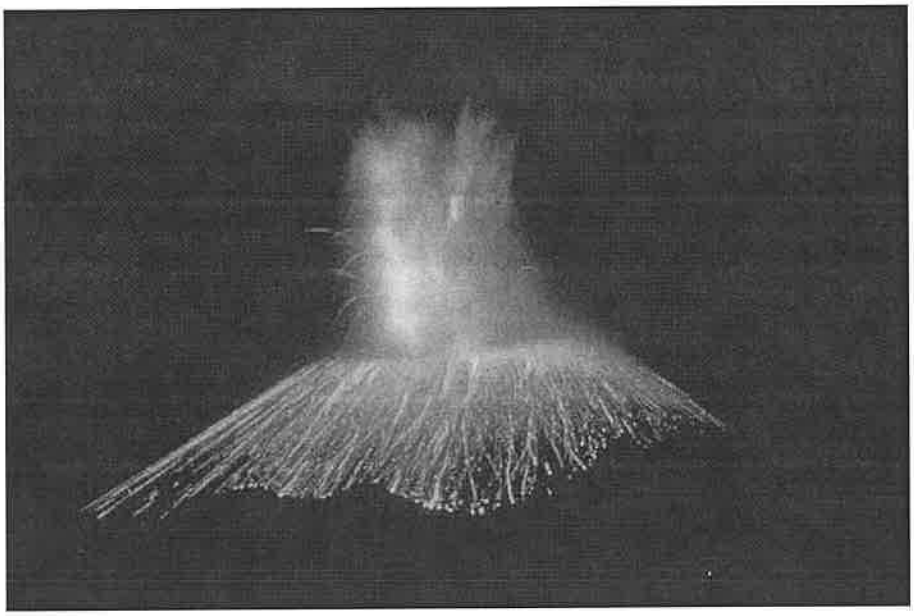
Mexico's Natural Wonder: Paricutin Volcano



U.S. National Oceanic and Atmospheric Administration

Paricutin Volcano erupting

The Paricutin Volcano in Mexico earned its title as one of the seven natural wonders of the world in an explosive way.

In 1943, this volcano emerged from a cornfield in a village about 200 miles west of Mexico City. People living in the area had been feeling the ground shake and hearing it rumble for weeks. Then one day, the earth in the cornfield rose up about six feet! Ash and vapor exploded from the ground. By later that day, a small cone shape had formed. The volcano had begun erupting, sending lava and pieces of molten rock into the air. As these rock pieces landed around the new volcano, the cone shape grew bigger and bigger.

As Paricutin continued erupting, the surrounding area was covered in smoke and ash. People were forced to leave.

The eruption was most intense during the first year. By the end of the first year, the volcano was over 1000 feet high! Within two years, only the top of a church was visible above all the lava.

Paricutin continued exploding for about nine years before stopping. It is now about 1,391 feet high!

Now, Paricutin is considered extinct. But during the nine years it was active, scientists studied the volcano closely. Paricutin is the first volcano that scientists were able to study and document from birth to death. Thanks to this natural wonder, scientists learned a lot about volcanoes.

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Name: _____ **Date:** _____

1. Explain how Paricutin Volcano in Mexico emerged, or came out of, the ground using information from the text.

2. What two things happened as Paricutin Volcano kept erupting? Use information from the text to support your answer.

3. What is the main idea of this text?

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4. A natural world wonder is an impressive place or element found in nature. Explain why Paricutin Volcano may be considered a natural world wonder. Use information from the text to support your answer.

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BIG READ

Nonfiction feature

Our Beautiful

The story of Paradise, California, and the deadliest wildfire in the state's history

BY LAUREN TARSHIS

LOOK FOR WORD NERD'S 5 WORDS IN **BOLD**

THINK AND READ

Key Details As you read, look for the details the author included to help you understand what the people of Paradise went through before and after a fire.

"This can't be happening."

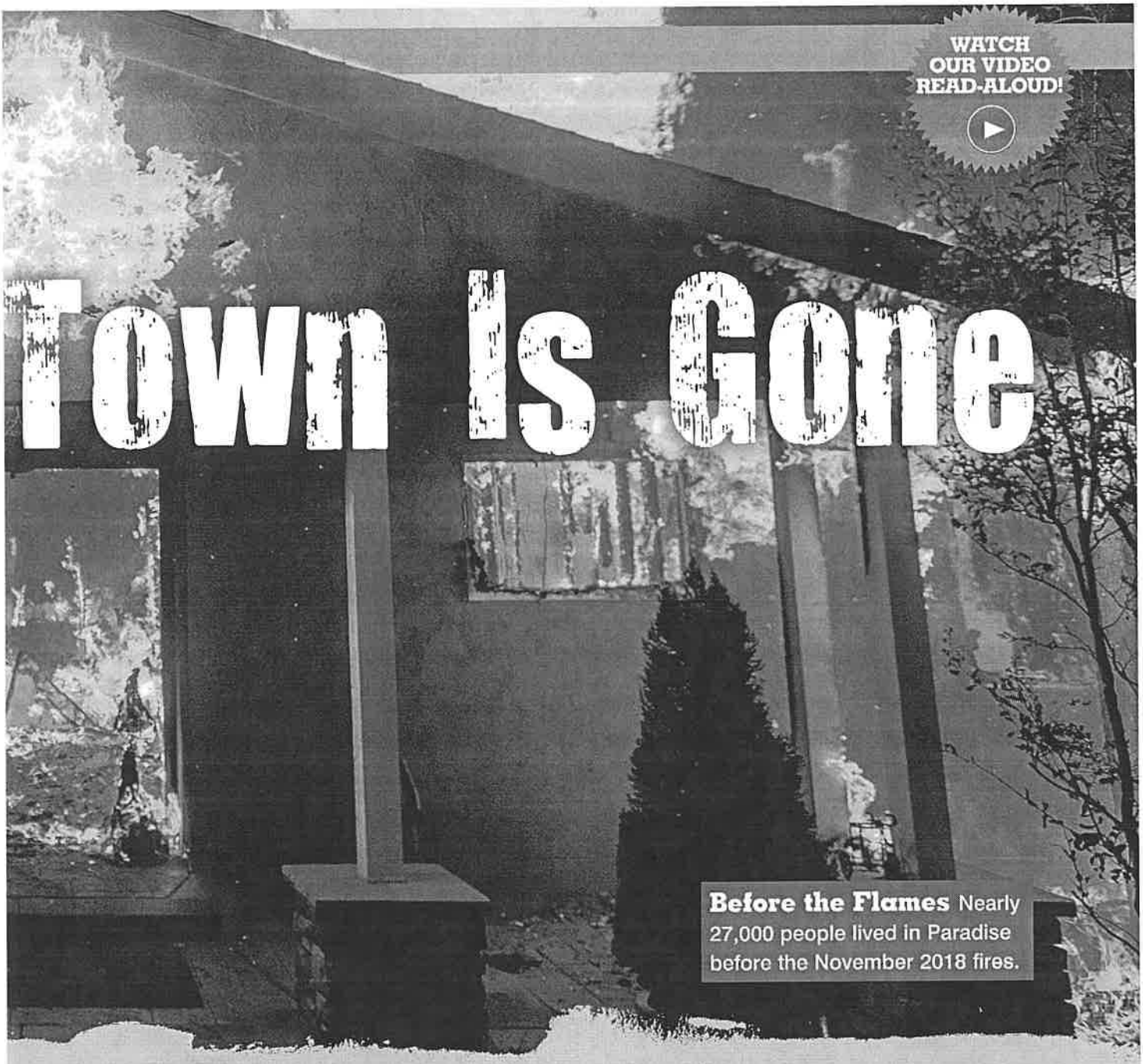
That's what 9-year-old Eleanor Weddig thought as she sat in the car with her dad. It was the morning of November 8, 2018. Eleanor was in the middle of what would be California's worst wildfire. Across the town of Paradise, houses were on fire. Trees burned like giant **torches**. Ash fell from the sky. The morning sky was midnight dark.

"Am I dreaming?" Eleanor asked herself. But this nightmare was real. Within hours, 85 people would die.

torches: long sticks that burn brightly at one end

Town Is Gone

WATCH OUR VIDEO READ-ALOUD!



Before the Flames Nearly 27,000 people lived in Paradise before the November 2018 fires.

NOAH BERGER/AP IMAGES

Nearly 14,000 houses would burn. So would schools, playgrounds, offices, and the hospital.

Thousands of people were trying to escape. Eleanor and her dad. had to get out before it was too late.

PAUSE AND THINK: Why were Eleanor and her dad trying to leave town?

Rising Smoke

Earlier that morning, all seemed normal. Eleanor had gotten ready for school. Down the road, her classmate Lucas Fisher did too. Paradise school bus driver Kevin McKay had started his morning route. But then Kevin saw smoke rising out of the forest

in the distance.

Many people in town saw the smoke. But they weren't too worried. Fires are common in the forests around Paradise. Plus, this one seemed far away.

> **PAUSE AND THINK:** What did the people of Paradise notice that morning?

Bigger and Deadlier

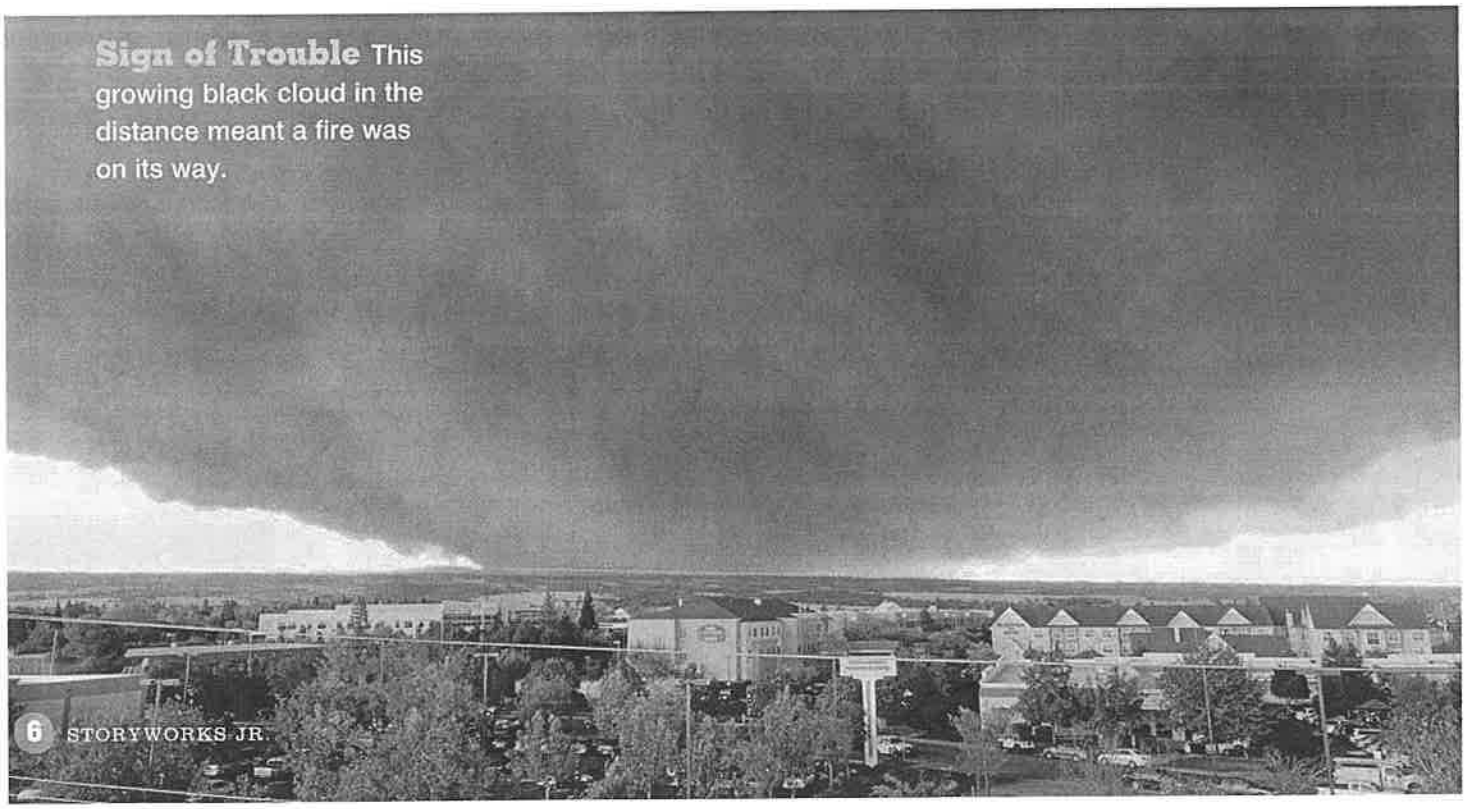
The fire was about 10 miles from Paradise. Experts now think that sparks from an electrical wire had lit dry grass on fire. The **smoldering** grass quickly turned into a wall of flames.

Firefighters in Paradise got ready for action. One of them was Josh Fisher,

Lucas's dad. He stared at the growing cloud. He was worried.

California has always had wildfires. But they have become bigger and harder to fight. Most scientists believe that a major reason is the way our weather has changed. The weather in California and around Earth has been

smoldering: burning slowly without flames



Sign of Trouble This growing black cloud in the distance meant a fire was on its way.

Firefighter (and Lucas's dad) Josh Fisher

Lucas Fisher with his sister, Sienna, and their mom, Holly

getting hotter. It's harder to know what kind of weather is coming. Many of California's worst fires have happened over the past 10 years. The last five years were the hottest on record.

The fire was quickly moving toward Paradise. Every second, it burned through a chunk of land the size of a football field. Even more dangerous, a strong wind was picking up pieces of burning trees. They flew across the river like flaming birds. The pieces sparked fires wherever they landed.

Josh told his wife to quickly drive their family to Chico. That's a small city 15 miles away. He then climbed onto a fire truck with two other firefighters. It was time for him to start the hard job of beating back this fire.

PAUSE AND THINK: Why are wildfires bigger and harder to fight now?

Beloved Things

By 8:30 a.m., panic was spreading through Paradise. Thousands of people began to leave. If parents couldn't get to school to pick up their children, the kids were put on buses. Driver Kevin McKay had 22 children and two teachers on his bus. The sky was black. He saw fires burning all around.

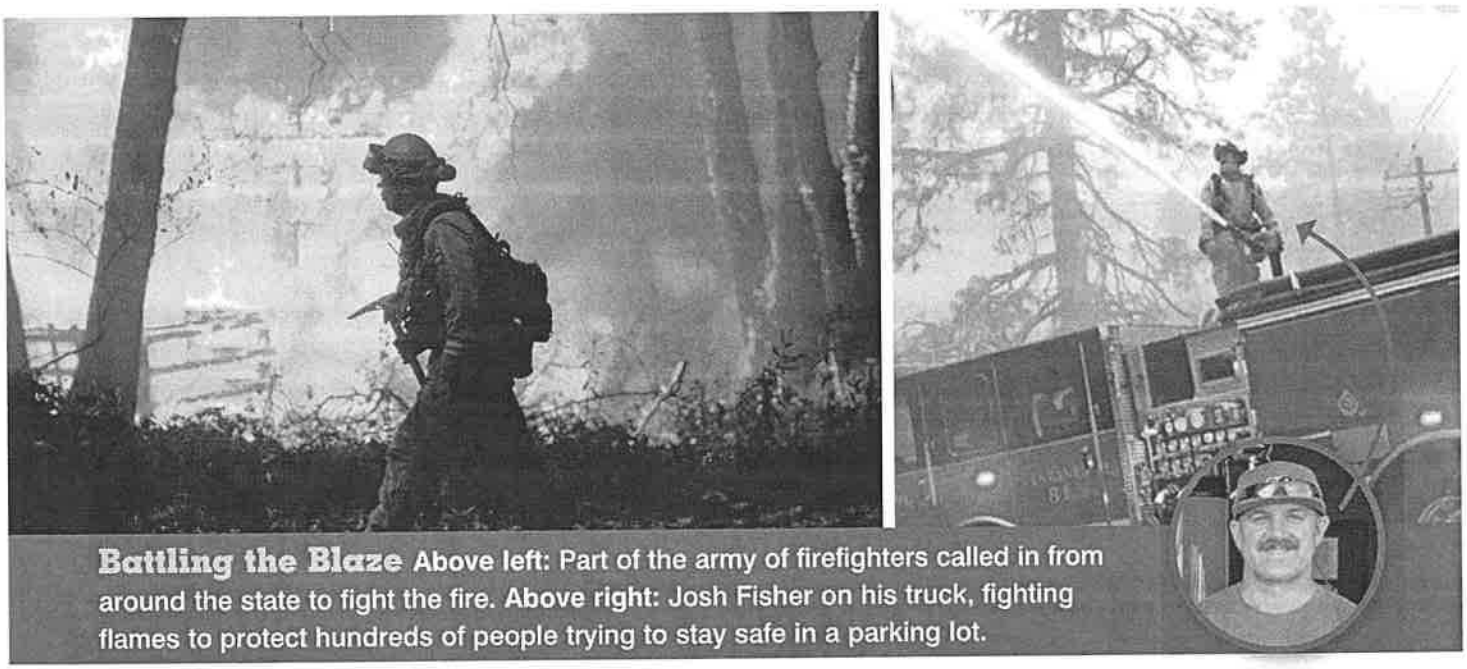
Lucas was lucky. He, his mom, and his sister made it to Chico quickly. But with every minute that passed, it became harder to escape. The roads were jammed with traffic.

At Eleanor's house, her father grabbed the computer and photo albums. Eleanor went into her room.

"Dad told me to get my most-beloved things," she says.

She chose a 3-D printed cat from her best friend. She also grabbed a stuffed

DAVID LITTLE/MEDIANEWS GROUP/THE MERCURY NEWS VIA GETTY IMAGES (BLACK CLOUD); DAVID DREYFUSS (JOSH FISHER); FRED GREAVES PHOTOGRAPHY (ALL OTHER IMAGES)



Battling the Blaze **Above left:** Part of the army of firefighters called in from around the state to fight the fire. **Above right:** Josh Fisher on his truck, fighting flames to protect hundreds of people trying to stay safe in a parking lot.

rabbit. She tried to bring all her stuffed animals. But there wasn't room in the car. And time was running out.

Eleanor and her dad got into their car. They inched along. Across town, Kevin McKay's bus was crawling past burning houses and trees. He thought about his mother and son. They were already safe in Chico. But would he ever see them again?

As the morning went on, people were realizing that their beautiful town would soon be gone. And with escape routes blocked, many were fighting to survive.

PAUSE AND THINK: Why was it hard to leave Paradise?

Battling Back Flames

Hundreds of people took **refuge** in a parking lot. Josh Fisher and other firefighters battled back flames with a powerful hose. People cried in their cars. The heat was unbearable. The smoke was so thick it was like breathing fire itself.

It took two long hours for traffic to clear. Finally, firefighters could lead the drivers out of town.

By that time, Eleanor and her dad had made it to Chico. After six hours, Kevin McKay had delivered his 22 students to a parking lot outside Chico. They were all **reunited** with their families.

The fire burned for 16 more days.

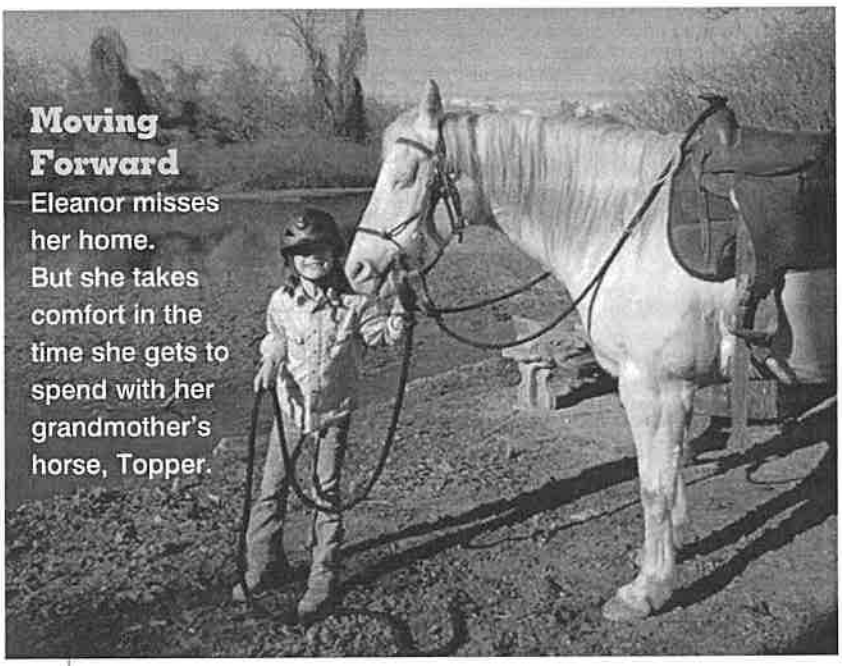
PAUSE AND THINK: What was happening in the parking lot?

refuge: shelter from danger

reunited: brought back together

Karl Mondon/Digital First Media/The Mercury News via Getty Images (Firefighter); Courtesy Josh Fisher (Fire Truck); David Dreyfuss (Josh Fisher)

Destroyed by Fire As the roads filled with traffic, many people had to leave their cars, trucks, and buses, and flee on foot.



Moving Forward Eleanor misses her home. But she takes comfort in the time she gets to spend with her grandmother's horse, Topper.

Randy Vazquez/Digital First Media/The Mercury News via Getty Images (Burned Bus); Courtesy of the Wedding family (Topper)

Life Continues

People weren't allowed back in their homes for nearly six weeks. Today, the town is still mostly empty. Houses and cars were turned into ash and twisted metal.

Like thousands of others, Eleanor's family lost their home. They now live in a trailer in Chico. Kevin also lost his house. The Fishers' house still stands, but they can't move back yet. The town's water system was poisoned by smoke.

But life goes on. Schools were set up in nearby towns. There are playdates and field trips and birthday parties.

Kevin is still driving a school bus. Lucas's dad, Josh, still fights fires. Nobody knows what the future will bring for Paradise. But many have learned an important lesson about their hometown.

"It's the people that make a town," says Lucas's mom, Holly. "We are **resilient**. I'm certain we will rebuild a beautiful Paradise together." ■

PAUSE AND THINK: What is Paradise like now?

resilient: able to become strong again

THINK AND WRITE

Write a one-page letter to one of the people in the article, telling them what you learned about the Paradise fire and sharing your own message of hope. Send it to "Fire Contest" by December 16, 2019. Five winners will each receive a **signed** copy of *I Survived the Great Chicago Fire, 1871*, by Lauren Tarshis.

FIND SKILL BUILDERS ONLINE!

A Dangerous Landslide

by Susan LaBella

One night in March 2014, mud broke loose from a tall hillside near the town of Oso, Washington. The giant mass of wet soil moved downhill quickly. It eventually covered thirty nearby houses with mud and dirt. Many people were hurt.

Landslide is the word many people use to describe this kind of emergency. This landslide happened when very heavy rains soaked the ground near Oso.

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At the beginning of any muddy landslide, wet ground breaks loose. As the mud moves, it may rip bushes, boulders, trees, and other things out of the ground.

Landslides can cause serious damage. A big landslide could bury homes and badly injure people in its path. Landslides can also dump huge amounts of wet dirt onto roads and highways. This added enormous weight could wreck cars and might even cause the road to collapse.

If a landslide happens near an area that includes buildings, it could break water lines, gas lines, or electrical lines. That kind of damage could also start fires.

Scientists are trying to figure out how to help people be safe in areas where landslides occur. The best thing, experts say, is to have a plan for what to do if this kind of moving-earth emergency happens.

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Name: _____ **Date:** _____

1. The article describes an example of a real-life landslide. Where did this landslide happen?

A. Washington, D.C.

B. Seattle, Washington

C. Oso, Washington

2. This article describes some damage that can be caused by landslides. What is one possible effect of a landslide?

A. the mud on a hillside could dry up

B. heavy rains could soak the ground

C. a road or highway could collapse

3. In Oso, a large amount of wet soil and mud broke loose from a tall hill and covered thirty nearby houses. This landslide happened when very heavy rains soaked the ground near Oso.

What can you conclude based on this evidence?

A. Heavy rains may have been a cause of the landslide in Oso.

B. The houses in Oso covered by the landslide had already been flooded from the rains.

C. Landslides only ever happen after heavy rains.

4. What kind of town would most likely be in danger of landslides?

A. a town at the bottom of a muddy hill

B. a town surrounded by flat, muddy land

C. a town at the top of a hill

5. What is the main idea of this article?

A. Landslides are a dangerous kind of emergency that can cause a lot of damage.

B. Landslides can break water lines, gas lines, or electrical lines.

C. A landslide in Oso, Washington, covered thirty nearby houses and hurt many people.

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6. Read this paragraph from the article.

"One night in March 2014, mud broke loose from a tall hillside near the town of Oso, Washington. The giant mass of wet soil moved downhill quickly. It eventually covered thirty nearby houses with mud and dirt. Many people were hurt."

Why does the author begin the article with this paragraph?

A. to show readers why landslides can be more dangerous than other kinds of emergencies

B. to give readers a real-life example of a landslide and the damage it caused

C. to tell readers not to move to Oso because of the dangers of landslides there

7. Choose the answer that best completes this sentence.

Experts say it's important for people to have a plan _____ they can stay safe if a landslide happens.

A. so

B. because

C. but

8. What moves downhill quickly during a landslide?

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9. What are three examples from the text of how a landslide can cause serious damage?

10. Experts say that it is good to have a plan for what to do if a landslide happens. If a landslide happened, would driving to another area be a good plan? Why or why not? Use evidence from the text to support your answer.

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Week 2	Print Resources	Optional Digital Resources
Day 1	☐ ReadWorks article: *What's the Big Idea about Biodiversity?* ☐ Answer the questions about the article	☐ BrainPop Jr. – Habitats o Available through Classlink – search Habitats
Day 2	☐ Read Science Encyclopedia article: *Other Objects in Space* ☐ Answer the questions about the article	☐ BrainPop Jr. – Comets and Asteroids o Available through Classlink – search Comets o Search Asteroids
Day 3	☐ ReadWorks article: *The Planets Closest to the Sun* ☐ Complete Planets Activity 1 ☐ Complete Planets Activity 2	☐ BrainPop Jr. – Solar System o Available through Classlink – search Solar system ☐ *Meet the Planets* o https://www.getepic.com o *Search Meet the Planets*
Day 4	☐ ReadWorks article: *The Outer Planets* ☐ Complete Planets Activity 3	☐ NASA o https://www.nasa.gov o Search planets, moons, and dwarf planets
Day 5	☐ Read the article from Discovery Education: *Getting to Know: Forms of Energy* ☐ Complete the drawing activity at the end of the article	☐ Generation Genius ☐ https://tinyurl.com/qrdu26m

What's the Big Idea about Biodiversity?

This text is provided courtesy of OLogy, the American Museum of Natural History's website for kids.

Biodiversity Is the Rich Variety of Life on Earth

Credit: AMNH (top illustration); chestnut-breasted finch: courtesy of AMNH Department of Library Services, #K15252; gouldian finch: courtesy of AMNH Department of Library Services, #K15251; red-browed finch: courtesy of AMNH Department of Library Services, #K15249 (bottom picture)

There are 3 kinds of biodiversity.

- Variety of genes

Poodles, beagles, and rottweilers are all dogs-but they're not the same because their genes are different. It's the difference in our genes that makes us all different.

- Variety among species

Scientists group living things into distinct kinds of species. For example, dogs, dragonflies, and daisies are all different species.

- Variety of ecosystems

Coral reefs, wetlands, and tropical rain forests are all ecosystems. Each one is different, with its own unique species living in it. Genes, species, and ecosystems working together make up our planet's biodiversity.

Everything Depends on Everything Else

Credit: AMNH (top photo); Eric Hamilton (bottom illustration)

To grow, a deer needs to eat lots of young shoots. To help them grow, the shoots need sun, rain, and healthy soil. Healthy ecosystems need healthy plants and animals.

Our world is like a web made up of many strands, all connected together. Break one connection, and the whole web may change.

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Why Is Biodiversity So Important Anyway?

We get a lot of help from species and ecosystems. They:

- provide our food
- make oxygen
- clean our water
- control disease
- give us medicine
- recycle dead stuff

Credit: AMNH (top photo); Eric Hamilton (bottom illustration)

And biodiversity makes us happy! Who doesn't feel better after visiting a zoo, going for a walk in nature, or enjoying his or her garden? Nature's diversity makes us write poems, draw pictures, and fall in love!

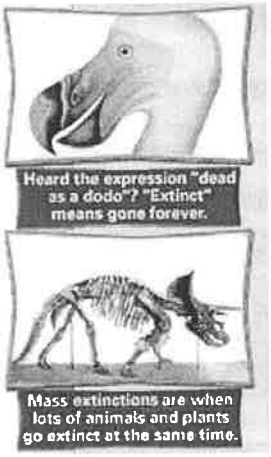

Photo Credit: courtesy of AMNH Department of Library Services, #6261, Jean Pretre, from Henri-Marie Ducrotay de Blainville, Nouvelles annales du Museum d'Histoire Naturelle, Paris (top); AMNH (bottom)

Extinction Is Forever

Remember the dinosaurs? They were part of a mass extinction. There's nothing unusual or unnatural about extinction. It's part of life's history. Even mass extinctions have happened before. Today, we are in another period of mass extinction mostly because of human activities.

Scientists have identified around 1.75 million species on Earth, but there are millions still unidentified. Some species might hold the secret to medical cures-but if they disappear, how will we ever know? We're only beginning to understand how complicated all living relationships are!

Photo Credit: courtesy of Lynn Betts, USDA Natural

We're Losing It!

More people always wanting more has a BIG effect on biodiversity. The earth's population is growing very fast. We use up valuable resources-wood and other plants, fish and other animals-faster than they can be replaced. Habitats

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get lost as we take over land for homes, factories, and farms. We overuse pesticides and fertilizers, polluting our rivers, lakes, and oceans. As we move around, we disturb the balance of ecosystems, and we introduce species from other places. Some, like gypsy moths, kudzu, and zebra mussels, push out native species.

Resources Conservation Service (top); AMNH (bottom)

A Lot of People Are Trying to Save Biodiversity!

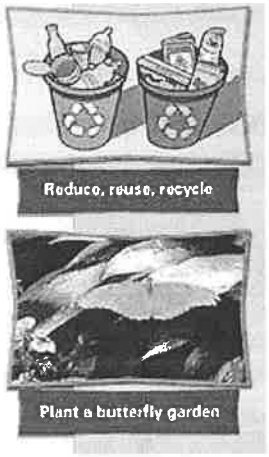
Laws like the Endangered Species Act in the U.S. protect endangered species-animals or plants that are in danger of becoming extinct.

Scientists work with others to restore ecosystems like prairies and forests. And as they come back to health, the species that live in them return. Many ecotourism vacations protect biodiversity and give local people jobs.

Photo Credit: AMNH

What's a Kid to Do?

Get involved! You can do a lot to help preserve biodiversity. Learn everything you can about animals and plants in your neighborhood, and share what you learn with others.



Credit: Eric Hamilton (top illustration); AMNH (bottom photo)

Join a project to plant trees, clean local rivers, or tidy highways. Shop at a local farmers market.

Reduce, reuse, and recycle! Think before you use extra lights. Organize a clothes swap with a bunch of friends. Consider what you buy-be an environment-friendly shopper! Make sure you and your family recycle everything you can.

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Name: _____ **Date:** _____

1. Two kinds of biodiversity are variety of genes and variety among species. What is the third kind of biodiversity?

Support your answer with at least two pieces of evidence from the text.

2. Read these sentences from the text.

"Our world is like a web made up of many strands, all connected together. Break one connection, and the whole web may change."

What might the author be trying to communicate about biodiversity in these sentences?

3. A lot of people are trying to save biodiversity. Why might it be important to save and protect biodiversity?

Support your answer with evidence from the text.

4. What is the main idea of this text?

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OTHER OBJECTS IN SPACE

Dwarf Planets, Comets, Asteroids, Meteoroids, Stars and Galaxies, Stars, Galaxies

There are many other objects in our solar system as well as the planets and their moons.

Dwarf Planets

There used to be nine planets, and now there are only eight! Did one explode? Did it fly out of the solar system? No, all that happened was that in 2006 scientists decided that Pluto wasn't big enough to be considered a true planet. Pluto has become one of the three known dwarf planets.

A dwarf planet is a planet smaller than Mercury. Currently known dwarf planets include Pluto, Ceres, and Eris. Other dwarf planets may yet be discovered in the **Kuiper Belt**, a band of small bodies orbiting the Sun beyond Neptune.

Comets

Years ago, when a **comet** streaked across the sky like a giant fireball, people feared that disaster was about to strike. Some even thought that a comet was a sign that the world was about to end!

We now know that a comet is a ball of ice and dust particles that orbits the Sun. The particles following behind the comet are called its tail. We can only see comets when they are heated and lit up as they near the Sun.

The most famous comet is Halley's Comet, which can be seen every 76 years. Its next visit won't be until 2062!

Asteroids

Asteroids are small bodies that orbit the Sun like planets. They are sometimes called minor planets, and for a good reason. If you added up their total mass, they would be smaller than the Moon. Yet, there are hundreds of thousands of them. Most of them travel between the orbits of Mars and Jupiter in what is known as the asteroid belt.

The largest known asteroid is Ceres, which is also considered a dwarf planet. Yet even Ceres is tiny compared to a planet. Its diameter is only about 590 miles (950 km) across.

Meteoroids

A shooting star isn't really a star at all. It is the remains of a meteoroid, which is a small piece of debris in the solar system. Meteoroids are much smaller than asteroids; in fact, they are often formed from parts of asteroids that have broken apart. Some are believed to be parts of comets.

When a meteoroid enters the Earth's atmosphere, it begins to burn up and glow. At that point, we call it a *meteor*, or what is often known as a "shooting star." Most meteors burn up completely before they ever hit the ground. Meteors that hit the Earth are called *meteorites*.

Stars and Galaxies

The solar system is just a tiny part of outer space. Beyond our solar system lie billions of stars and **galaxies.**

Stars

On a clear night, you can see stars speckling the sky in numbers far too large to count. No one knows exactly how many stars there are, but they far outnumber our ability to count them.
A star is a large, luminous ball of gas. Our Sun is a medium sized star. The distance between stars helps us begin to understand the vast size of the universe.

The star closest to our Sun is called Proxima Centauri. It is 4.22 **light years** away. A light year is the distance that light can travel in one year, or about 5.88 trillion miles (9.46 trillion km). Can you begin to see how incredibly large this universe of ours really is?

Just as our solar system is a group of planets, a galaxy is a group of stars held together by gravity. Galaxies can contain anywhere from a few million to more than a trillion stars. The largest ones can be as much as a half million light years in diameter. There may be more than 100 billion galaxies in the universe.

With such a large universe, you might wonder where the Earth is located. We are in a galaxy called the Milky Way, which is a medium sized galaxy containing about 100 billion stars, including our own Sun.

*Shorten version of article from Science Encyclopedia for Kids

Directions: Use the text to answer the following questions. Answer in complete sentences with capital letters and punctuation when necessary.

1. Where does the article say that other dwarf planets may be found?

_____

_____

2. What is a comet?

a. a luminous ball of gas

b. part of an asteroid

c. an object from the Kuiper Belt

d. a ball of ice and dust particles that orbits the sun

3. Which of the following describes an asteroid? Choose all.

a. a moon

b. a small body that orbits the Sun like planets

c. a minor planet

d. a shooting star

4. What is the difference between a meteoroid, a meteor, and a meteorite?

_____

_____

_____

_____

5. A solar system is a group of _____ and a _____ is a group of stars.

6. In the vast universe where is Earth located?

_____

_____

The Planets Closest to the Sun

This text is excerpted from an original work of the Core Knowledge Foundation.

Our planet Earth is one of eight planets in our solar system that orbit around the sun. The other planets are Mercury, Venus, Mars, Jupiter, Saturn, Uranus, and Neptune. People have been looking at the planets for thousands of years. People from Mesopotamia, the Greeks, Mayans, Incas, and Aztecs were all interested in the planets. They used just their naked eye to study the planets. Now, we have telescopes and other tools that help us get a better look at the planets.

A telescope

The four planets closest to the sun-Mercury, Venus, Earth, and Mars-are small planets. These planets have a rocky, or solid, surface.

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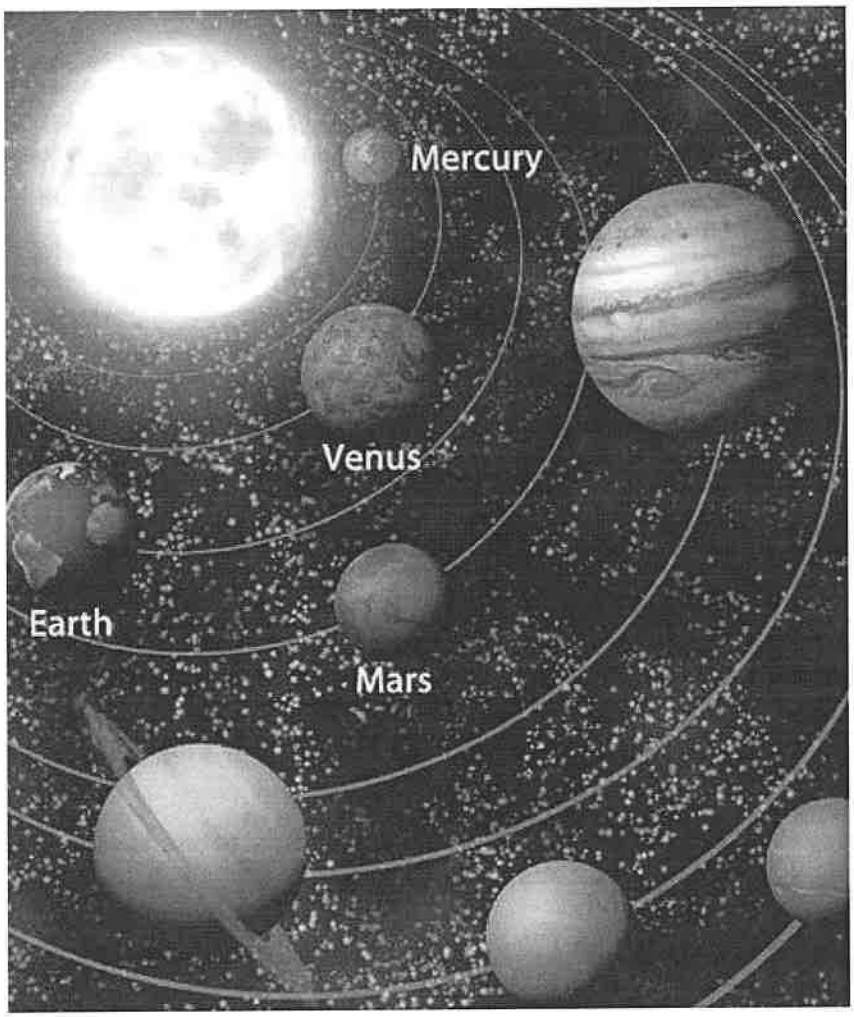
Mercury and Venus are closer to the sun than Earth. The other planets are farther away.

Earth needs 365 days to make one orbit around the sun. That is the length of one year on Earth.

The closer a planet is to the sun, the less time it needs to make an orbit around the sun. Mercury is the closest planet to the sun. It needs just 88 days to make one orbit. Venus is the next closest to the sun. It needs just 225 days to make an orbit. The planets that are farther away take much longer. It takes Neptune 165 years to orbit the sun!



The sun and planets

Besides being closest to the sun, Mercury is the smallest of all the planets. The English name for the planet comes from the Romans. They named the planet after the Roman god Mercury. The Greek name for this same god is Hermes.

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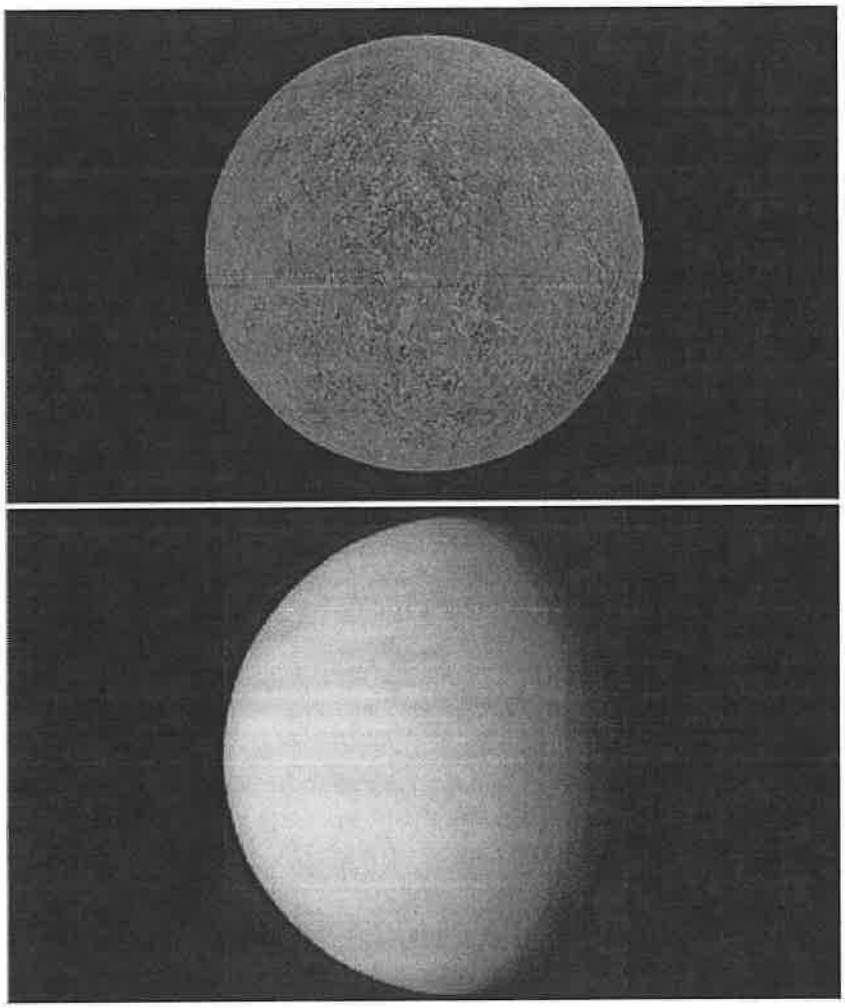
Venus is the second planet from the sun and is closest to Earth. This planet was named after the Roman goddess of love. For a long time, scientists thought that Venus might be a lot like Earth. After all, it is close to Earth. It is about the same size as Earth and it is covered with clouds, like Earth. But this idea turned out to be wrong, too. We know now that Venus and Earth are different in lots of ways.

Scientists had to change their ideas to fit the new facts. They have now concluded that Venus is much hotter than Earth. It would not be a good place for us to live or even visit.



Mercury (top) and Venus

Mars is the fourth planet from the sun. It is named after the Roman god of war. When you look at Mars in the night sky, it looks quite red. This is because the rocks on Mars contain rust.

Many space probes and robots have landed on Mars. They have taken photographs and also dug up rocks.

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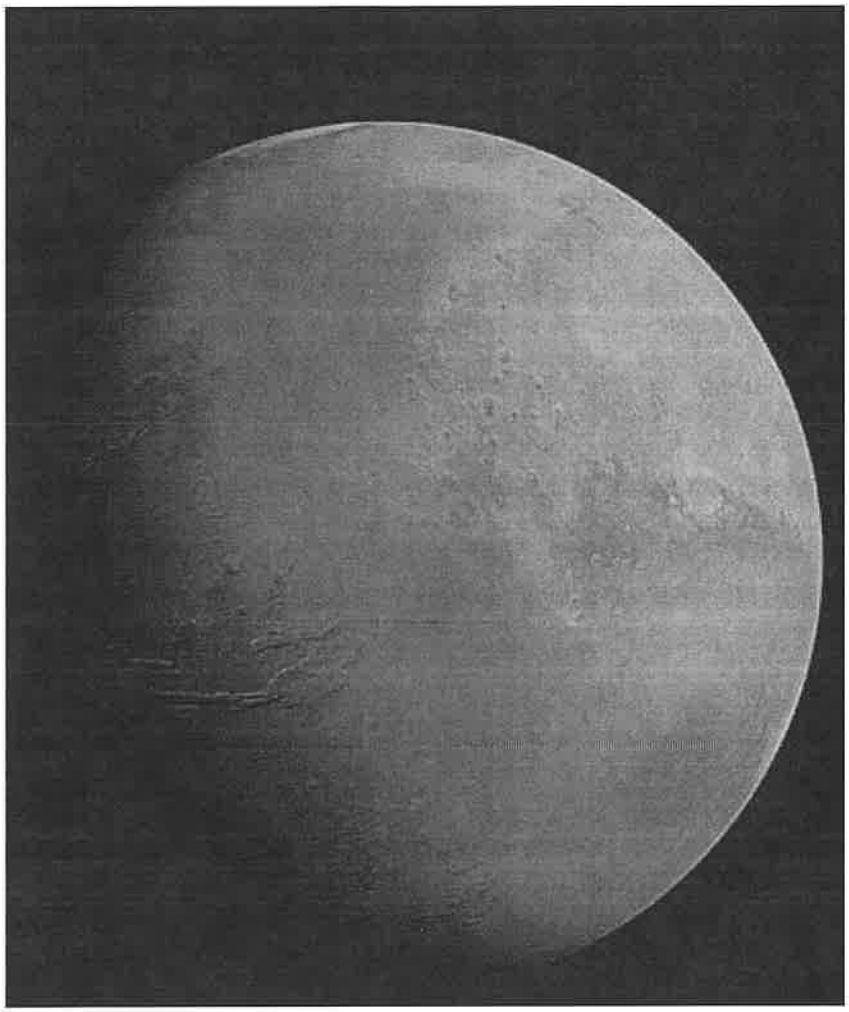
One probe that went to Mars not long ago found some ice. That was big news. Ice is frozen water. If there is water on Mars, there might be life. Some experts argue that nothing could live on Mars. They say it is too cold and too dry. Others think there might be life on Mars. They think there might be something alive down under the rocks. Still others think there might have been life on Mars at one time but there isn't any now.



Mars

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Planets Act: 1

Name: _____ Date: _____

Our Solar System contains a total of 8 planets.
Here are some facts of the 8 planets in our Solar System:

Planet	Fact
Mercury	The closest planet to the sun.
Venus	Has more volcanoes than any other planet.
Earth	Is the only planet humans have walked on.
Mars	Has the largest volcano in our Solar System.
Jupiter	Is the largest planet.
Saturn	Is surrounded by rings.
Uranus	Is the coldest planet in our Solar System.
Neptune	Has the most violent weather.

. What planet is the coldest? _____.

. The largest planet is _____.

. _____ has more volcanoes than any other planet.

. Which planet is the closest to the sun?

_____ .

. The only planet where humans have walked on is _____.

Planets Activity: 2

Name: _____ Date: _____

Cut and paste the planets name in order.


Earth


Mercury


Neptune


Venus


Saturn


Uranus


Jupiter


Mars

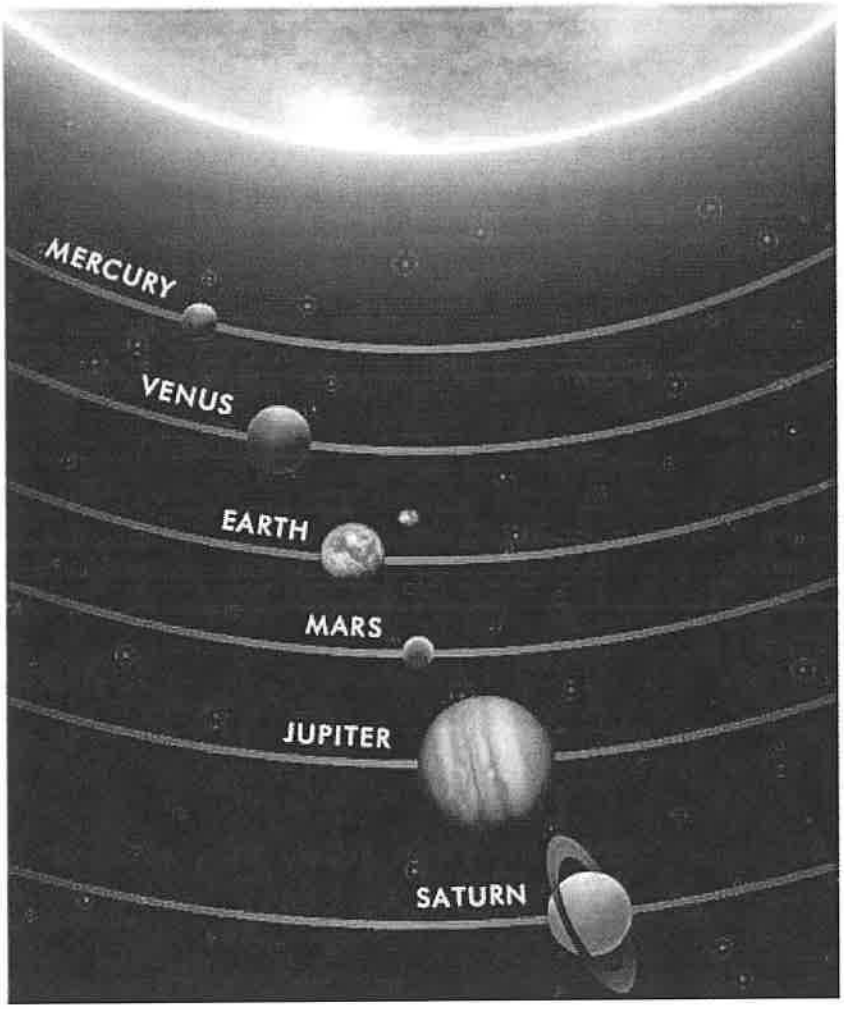
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

The Outer Planets

This text is adapted from an original work of the Core Knowledge Foundation.

The four planets closest to the sun are Mercury, Venus, Earth, and Mars. There are four more planets in our solar system called the outer planets. So there are eight planets in all.

Jupiter is the very next planet after Mars. After Jupiter come Saturn, Uranus, and Neptune in that order. Neptune is the planet that is farthest from the sun. Uranus is difficult to see with the naked eye and Neptune is impossible to see without help. Neptune is only visible using a telescope.



Part of our solar system: the sun and six of the eight planets

The outer planets are very large and are mostly made of gas. Scientists often call these planets gas giants. Of all the planets, Jupiter is the largest: 1,300 Earths could fit inside

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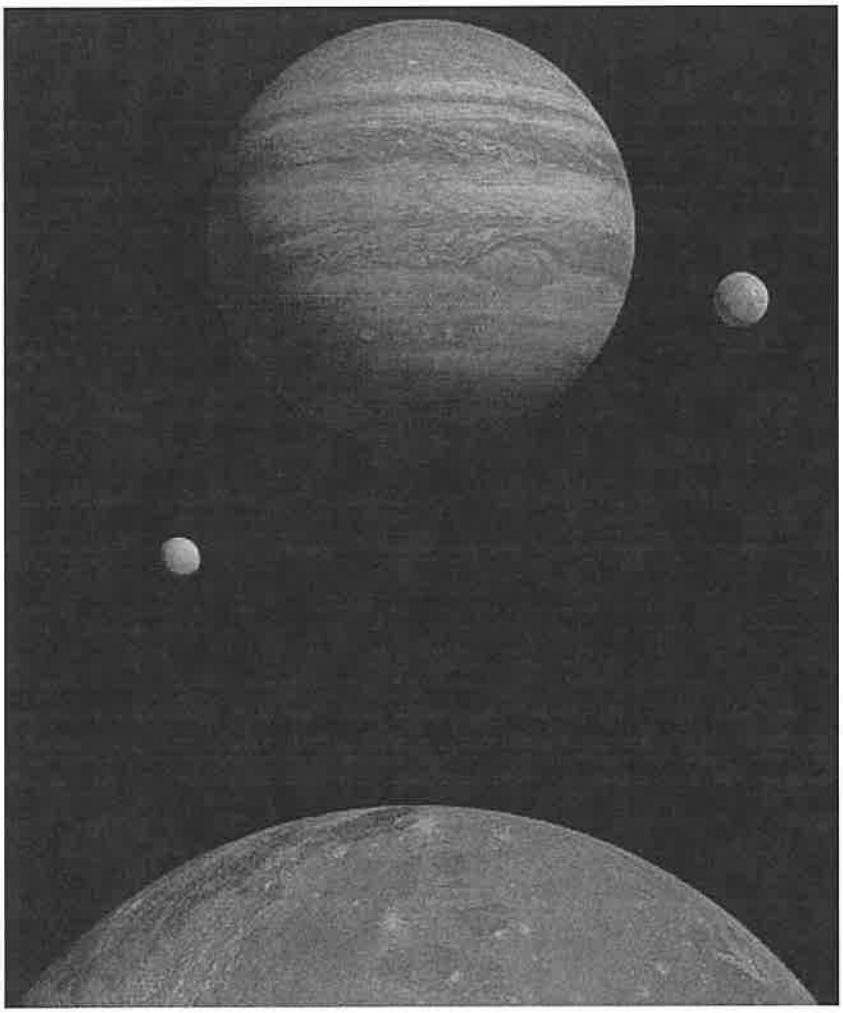
Jupiter! It is made mostly of hydrogen gas, the most common gas in the universe.

The gases on Jupiter seem to be blowing around. In the image of Jupiter below, you can see the giant, red spot. It looks like an eye! Experts think it is a big wind storm, like a huge hurricane.

Jupiter also has 63 known moons that orbit it. Some of these moons are very large, even larger than Earth's moon.



Jupiter and some of its moons

Saturn is known for its many large rings that orbit the planet. These rings are made of ice and dust. The ice reflects light and makes the rings glow. Saturn also has many moons that orbit it.

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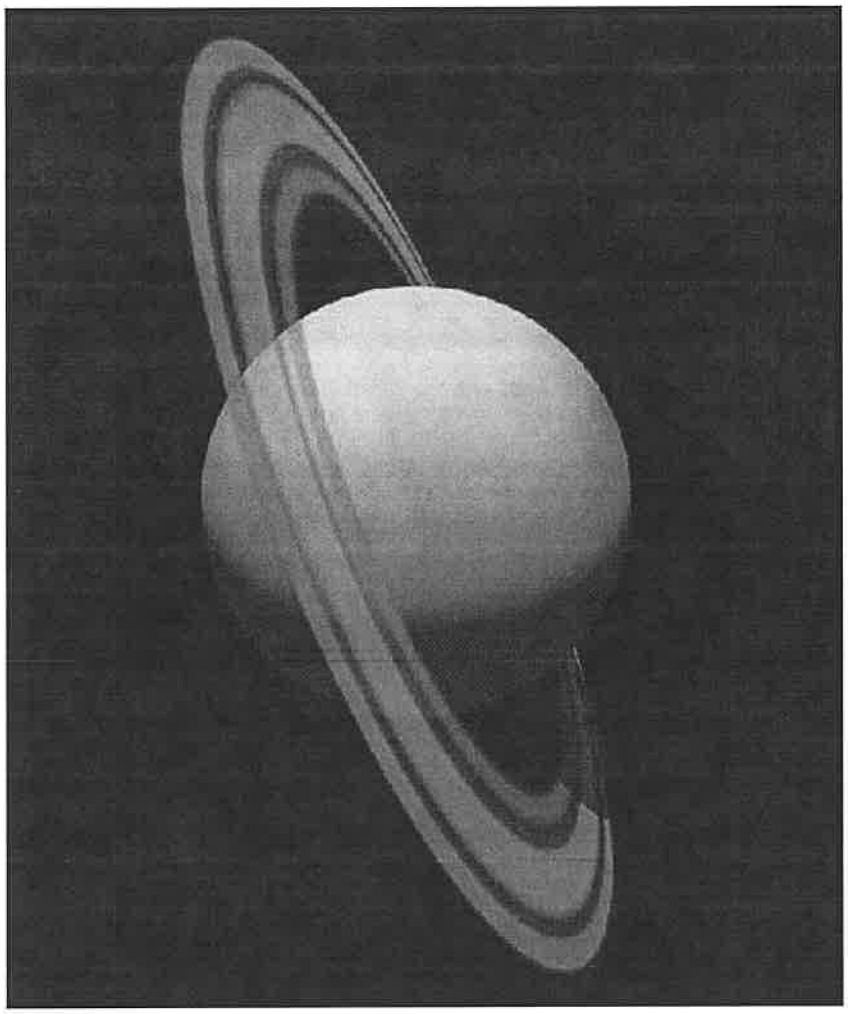

Saturn and its rings

The last two planets are Uranus and Neptune. These planets are the farthest from the sun so they are very cold. Uranus and Neptune also have rings, but they aren't easily seen like Saturn's. Both planets also have moons.

So now you know the names of all eight planets. Try asking the adults in your family how many planets there are. They may tell you that there are nine planets. When the adults in your family were in school, people said that there was a ninth planet called Pluto. But in 2006, scientists decided that Pluto did not have all of the characteristics needed to be classified as a planet. They removed Pluto's name from the list of planets, so now there are only eight planets.

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