

Name: _____

Grade 4



Read the article “All Shook Up” before answering Numbers 1 through 10.

All Shook Up

On August 23, 2011, an earthquake shook the eastern part of the United States. No major damage or injuries were reported.

The center of the earthquake was in Virginia. This quake had a magnitude of 5.8. Magnitude is a way to measure how strongly the ground shakes during an earthquake. The strongest quake ever documented had a magnitude of 9.5.

People near the center of the Virginia quake reported it sounded like a train roaring to a stop. The ground heaved and buildings swayed. Farther away, people felt only a slight shaking of the ground.

The Recovery Begins

After the earthquake, there was a lot of work to be done. Everything needed to be checked for damage. Schools, government buildings, roads, and most bridges were closed. Train tracks and airports also needed to be inspected. Even a nuclear power plant was shut down until it was checked.

How Quakes Work

Earthquakes are caused by the shifting of huge rocks deep underground. These rocks are called plates. Sometimes these plates crack or break apart. The area where they separate is called a fault. When the plates move they grind together. This causes the ground above to shake. Sometimes the edges suddenly slip past each other. This also causes the earth to move.

There are faults all over the United States. However, some areas are more active than others. A long fault runs through most of California. This fault is very active, so earthquakes happen there more than in other parts of the country.

Different From Most Quakes

There are also faults near the area affected by the Virginia quake. This quake was unusual because it happened in the middle of a plate instead of along a fault.

The energy created by the Virginia quake traveled farther than most quakes in the West. This is because much of the rock under the East is solid and cold. When

these rocks shift, the energy travels long distances. In the West, the rock is cracked and warm. These cracks prevent the energy from traveling as far.

Be Prepared

Earthquakes are dangerous. It is important to know what to do in an earthquake no matter where you live. If you ever find yourself in the middle of an earthquake:

- Find shelter under a table, desk, or other sturdy object.
- Stay away from windows or anything that might fall.
- Cover your head until the shaking stops.
- Don't go outside until it is over.
- Don't use elevators.

Now answer Numbers 1 through 10. Base your answers on "All Shook Up."

1. How does the author organize paragraph 2?
 - a. by explaining how rock in the West is different
 - b. by telling the problems that earthquakes cause
 - c. by describing the effects of the Virginia earthquake
 - d. by comparing how energy from earthquakes travels in the East and West

2. Read the following sentences from the article.

On August 23, 2011, an earthquake shook the eastern part of the United States. No major damage or injuries were reported.

Which meaning of major is the SAME one used above?

- a. important
- b. program
- c. officer
- d. serious

3. Refer to paragraph 3, how are earthquakes caused?

4. The author shows how earthquakes happen:

- a. by describing the damage.
- b. by explaining the effects of an earthquake.
- c. by comparing what happens underground.
- d. by telling how to stay safe in an earthquake.

5. Why did the energy created by the Virginia quake traveled very far?

6. Read the following sentences from the article.

Magnitude is a way to measure how strongly the ground shakes during an earthquake. The strongest quake ever documented had a magnitude of 9.5.

Which meaning of documented is the same one used in the sentences above?

- a. felt
- b. lifted
- c. recorded
- d. seen

7. Read the following sentences from the article.

The ground heaved and buildings swayed. Farther away, people felt only a slight shaking of the ground.

Which meaning of heaved is the same one used in the sentences above?

- a. crashed
- b. rested
- c. lifted
- d. threw

8. In paragraph 6, why does the author mention California?

- a. to contrast the effects of the Virginia quake.
- b. to contrast the faults in the East and the West.
- c. to compare how people react in different places.
- d. to compare all the different types of earthquakes.

9. Read these sentences from the article.

Everything needed to be checked for damage. Schools, government buildings, roads, and most bridges were closed.

Which word means almost the same as damage in the sentences above?

- a. costs
- b. marks
- c. injuries
- d. problems

10. Read the following sentences from the article.

Sometimes these plates crack or break apart. The area where they separate is called a fault.

Which meaning of fault is the SAME one used in the sentence above?

- a. blame
- b. responsibility
- c. defect
- d. split

Read the article “The Importance of Precipitation” before answering Numbers 1 through 10.

The Importance of Precipitation

Have you ever seen a water wheel? These large wheels look like a tire made completely out of wood. The edge of the wheel is covered with buckets or slots. Some of these wheels turn when they are pushed by the force of a running river. Other water wheels spin when water is poured over the top and fills the buckets. The weight of the water forces the wheel to spin around.

A process similar to this happens on Earth every day. It is known as the water cycle. Heat from the sun warms water in lakes, rivers, and oceans. This water turns into vapor. This gas rises into the air. This process is called evaporation. These water droplets join together in the clouds. Eventually they get so heavy that the air cannot hold them any longer. When they fall from the clouds they become precipitation, and the process repeats.

Liquid precipitation is called rain. When the air is very cold, the water freezes in the clouds. We call these solid forms of precipitation snow, sleet, and ice.

The Good and Bad of Precipitation

The water cycle is very important. However, too much precipitation can have bad effects. When too much rain falls, it can cause problems. When water covers an area that is usually dry, a natural disaster called a flood occurs. Sometimes flooding happens in cities. When this happens, property can be destroyed and roads are closed.

Once the water drains away the problems in cities can be fixed. The same is not true outside of cities. Property is damaged and roads are closed here, too. But floods also damage crops. This problem cannot be fixed quickly because soil is also usually ruined after a flood. This means new crops cannot be planted right away.

During winter, heavy snow, strong winds, and heavy precipitation often combine and cause blizzards. For these storms, roads close, schools shut down, and airports cancel flights. Entire cities come to a complete stop!



Precipitation affects what people wear, too. People use umbrellas to keep dry in the rain. They wear special clothing such as heavy coats, hats, and mittens to keep warm in the snow. Boots help people keep their feet dry and warm in both rain and snow.

Did you know precipitation does many good things, too? In the hot summer, precipitation helps to lower temperatures. It also cleans harmful things out of the air. Good or bad, we need precipitation. Whether it is a liquid, a solid, or a gas, precipitation is an important part of our lives.

Now answer Numbers 1 through 10. Base your answers on “The Importance of Precipitation.”

1. The author organizes the article by explaining:

- a. the sequence of events in the water cycle.
- b. how the water cycle cleans the air.
- c. life inside and outside of cities.
- d. how precipitation affects us.

2. Read the following sentences from the article.

Heat from the sun warms water in lakes, rivers, and oceans. This water turns into vapor. This gas rises into the air.

Which meaning of vapor is the same one used in the sentences above?

- a. gas
- b. rain
- c. mist
- d. snow

3. Refer to paragraph 2, what are the 4 steps of the water cycle?

4. The author describes flooding inside and outside of cities to show how flooding:
- a. is different in those places.
 - b. can be stopped.
 - c. is worse inside cities.
 - d. is caused.
5. Read the following sentences from the article.

A process similar to this happens on Earth every day. It is known as the water cycle.

Which sentence uses cycle in the same way it is used in the sentences above?

- a. She had to cycle back to the house to get it.
- b. A baby being born is part of the life cycle.
- c. Would you like to cycle over to the park?
- d. What kind of cycle do you ride?

6. Read the following sentences from the article.

This water turns into vapor. This gas rises into the air. This process is called evaporation.

Which word helps you understand what evaporation means?

- a. called
- b. process
- c. vapor
- d. water

7. The author begins the article with a description of a water wheel to:

- a. describe precipitation.
- b. compare it to the water cycle.
- c. show how it causes flooding in cities.
- d. explain how it is used to make snow.

8. What do people wear during precipitation?
