

Fast vs. Slow Changes Review

Week 26 — Friday | Comparing How Earth Changes

Reading Time

This week we have explored how Earth changes through both fast and slow processes. **Slow changes** happen gradually over thousands or millions of years. Erosion by wind and water slowly wears away rocks and moves soil from one place to another. Weathering breaks rocks into smaller pieces through rain, freeze and thaw cycles, and plant roots growing in cracks. These slow changes shape valleys, create beaches, and form canyons like the Grand Canyon over millions of years.

Fast changes happen suddenly and dramatically. Volcanoes erupt when magma pressure builds up and is released, sending lava, ash, and gas into the air. Earthquakes occur when tectonic plates suddenly shift, sending seismic waves through the ground that shake everything in their path. Landslides happen when rock, soil, and mud move rapidly down a slope, often triggered by heavy rain or earthquakes. These fast changes can reshape the landscape in seconds, minutes, or hours.

Scientists called **geologists** study both fast and slow changes to understand how Earth works. They look at rock layers to learn about ancient volcanoes and earthquakes. They use **seismographs** to detect and measure earthquakes. They map fault lines where tectonic plates meet and monitor volcanoes for signs of possible eruptions. By understanding how Earth changes, scientists can help communities prepare for natural disasters and protect people from harm.

Reading Questions

1. What are three examples of slow changes to Earth?

2. What are the three main fast changes to Earth?

3. How do geologists study ancient earthquakes and volcanoes?

4. Compare fast changes and slow changes to Earth. Give at least two examples of each and explain how they are different in terms of time and impact on the landscape.

Vocabulary Grid

Write a definition or draw a picture for each word.

 **Geologist**

 **Fault Line**

 **Weathering**

 **Erosion**

 **Tectonic Plates**

 **Seismograph**

Fast vs. Slow Changes Comparison Chart

Fill in the complete comparison chart.

Feature	Slow Changes	Fast Changes
How long do they take?		
Examples		
Can you predict them?		
How do they affect people?		

Match the Change to the Type

Draw a line connecting each event to whether it is fast or slow.

Earth Event	Type of Change
A river slowly carves a canyon.	
A volcano erupts with lava and ash.	
Wind wears away a cliff over hundreds of years.	
The ground shakes during an earthquake.	
Rain slowly moves soil downhill.	
Mud slides down a hillside after a storm.	
Freezing water cracks a rock over many winters.	
Magma rises through a crack in Earth's crust.	

Draw a Timeline

Draw a timeline showing both a slow change and a fast change happening in the same area over time.
Label each event and the time scale.

Explain your timeline: What slow changes happened first? What fast change occurred? How did the landscape look at the end?

Science Journal: Fast and Slow Changes

Think about everything you learned this week about how Earth changes.

Prompt 1: If you were a geologist, which fast change would you want to study the most? What questions would you want to answer about it?

Prompt 2: Imagine you live near a fault line. What preparations would your family make to stay safe during an earthquake? List at least three things.

Prompt 3: How do both fast changes and slow changes work together to shape the Earth we see today? Give specific examples.

True or False — Circle Your Answer

- ☐ 1. Slow changes to Earth happen over thousands or millions of years.
- ☐ 2. Fast changes to Earth happen gradually over long periods of time.
- ☐ 3. Geologists study rock layers to learn about ancient events.
- ☐ 4. Fault lines are where tectonic plates meet.
- ☐ 5. Weathering is a fast change that breaks rocks into small pieces.
- ☐ 6. A seismograph measures the size of earthquakes.
- ☐ 7. Landslides can be triggered by heavy rain or earthquakes.
- ☐ 8. Scientists can help communities prepare for natural disasters by studying Earth changes.

Fill in the Blanks

Word Bank: geologist fault line weathering erosion seismograph volcano earthquake landslide

- 1. A scientist who studies rocks and how Earth changes is a _____.
- 2. A crack in Earth's crust where tectonic plates meet is a _____.
- 3. The slow breaking of rocks into smaller pieces is _____.
- 4. The slow moving of soil by wind and water is _____.
- 5. An instrument that detects earthquakes is a _____.
- 6. An opening where magma reaches the surface is a _____.
- 7. A sudden shaking of the ground is an _____.
- 8. When soil and rock move rapidly downhill, it is a _____.

★ Week 26 Checklist

Check off each concept you feel confident about.

Concept	I Understand This
I can name the three main fast changes to Earth.	
I can explain what causes volcanoes, earthquakes, and landslides.	
I can compare fast changes with slow changes.	
I understand how tectonic plates cause earthquakes.	
I can build a volcano model and explain how it works.	
I can test building designs on a shake table.	
I understand how scientists help communities prepare for disasters.	