

Reading Comprehension Worksheet: Explain Information

Read the short story and answer each question.



Built to Shake

Every year, thousands of earthquakes shake the Earth's surface. Some are so small that people don't even notice. Others are powerful enough to cause buildings to fall and roads to crack. But what exactly causes an earthquake—and how can buildings be designed to survive one?

What Happens During an Earthquake

Earthquakes begin deep underground where large pieces of Earth's crust, called tectonic plates, slowly move. Sometimes these plates get stuck. When they finally slip or break, they release a huge amount of energy. That energy travels through the ground in waves, shaking everything above.

The place underground where the earthquake starts is called the **focus**. The spot on the surface right above it is called the **epicenter**. The closer you are to the epicenter, the stronger the shaking usually feels.

Why Buildings Fall (and How Engineers Help)

During an earthquake, the ground can move up, down, or sideways. Older buildings made of brick or heavy stone often collapse because they can't bend or flex with the shaking.

To prevent this, engineers now use special techniques when designing buildings. Some use **shock absorbers**, like giant springs or rubber pads, that allow buildings to sway safely. Others build flexible steel frames that can bend without breaking.

One method even places a **sliding base** under the entire building. When the ground moves, the building gently shifts instead of snapping.

Thanks to these smart designs, many buildings today can "ride out" an earthquake. While no structure is earthquake-proof, engineers continue to study how to make our homes and schools safer when the ground begins to rumble.



Name: _____

Built to Shake

1. What causes an earthquake to begin?

- A. A building falling down
- B. Two tectonic plates breaking free and releasing energy
- C. Too much rainfall
- D. Wind shaking the earth

2. Why do engineers use shock absorbers or flexible frames in buildings?

- A. To make buildings look modern
- B. To help buildings stay standing during an earthquake
- C. To keep buildings from sliding off hills
- D. To make buildings taller

3. Fill in the blank:

The place where an earthquake begins underground is called the _____, and the spot directly above it on the surface is the **epicenter**.

4. Explain what happens during an earthquake and why it causes the ground to shake. Use details from the passage.

5. Choose one way engineers help protect buildings during earthquakes. Explain what it is and why it works.



Instructional Guide

Guide Reading Level: R

Lexile Level: 790L-940L

Grade Level: 4th Grade, Middle of the Year

Genre: Informational Nonfiction – Natural Disaster & Engineering

Introducing the Text

“In this lesson, we’ll explore how earthquakes happen and what engineers do to make buildings safer. As we read, we’ll focus on explaining what happens and why at each stage—from the underground shaking to the smart designs that help buildings stay standing.”

Vocabulary: tectonic plates, epicenter, focus, shock absorbers, flexible

Before Reading Discussion Questions

1. Have you ever experienced or heard about an earthquake?
 2. What do you think happens underground when the Earth shakes?
 3. What might make some buildings stronger than others?
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During Reading Discussion Questions

1. Why do tectonic plates sometimes cause earthquakes?
 2. How do shock absorbers and sliding bases help buildings?
 3. Why are newer buildings often safer during earthquakes than older ones?
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After Reading Discussion Questions

1. What events and processes did this passage describe?
 2. How does understanding how earthquakes work help people stay safe?
 3. How would you explain what engineers do to make earthquake-safe buildings?
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Activity Idea

Have students build a simple model structure using blocks or paper and test it on a shaking surface (like a tray of gelatin or a small box with elastic bands). Let them experiment with adding rubber or foam bases. Then, write about what happened and why, using the text and their experiment as a guide.

