



Science Virtual Learning

4th Reducing Impacts

Earthquakes

April 8, 2020



4th Grade Science
Lesson: April 8, 2020
Learning Target

Students will be able to generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans

Background: This is a review lesson from second quarter.

- Students learn to design solutions to weather related hazards 3rd grade
- Students understand the relationship between the needs of different plants or animals Kindergarten

Let's Get Started:

Watch Videos:

1. [Brainpop: Earthquakes](#)
2. [Dr. Binocs: Earthquakes](#)

Practice #1: Earthquakes

Watch the read aloud “Earthquakes”
[Earthquakes](#)

Then discuss the questions with a family member:

1. What causes an Earthquake?
2. What happens to buildings during an Earthquake?
3. How are people building structures to withstand Earthquakes?

Quick & Destructive: Earthquakes

by ReadWorks

Read the passage then answer the questions



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.



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.



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.

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.

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.

Practice on your own:

Disaster Master Game



Self Check:



1. Was this lesson?

easy

just right

hard

2. Tell your family one way you reduce the impact of an earthquake.