

## UNIT 8 WORLD GEOGRAPHY LESSON 1

### Summary

- In this lesson, students will read "Shake, Rattle, and Roll" (pp. 82-87) to learn how scientists and engineers are working together to help people survive natural disasters.

### Social Studies Background

Natural disasters are catastrophic events caused by nature and Earth's natural processes. When they strike, they can result in severe loss of life and massive property damage, particularly when they occur in heavily populated areas.

There are many different kinds of natural disasters. Blizzards, floods, and volcanic eruptions can cause natural disasters. So can tornadoes, wildfires, and drought. Earthquakes and hurricanes often result in natural disasters, too.

While it is impossible to prevent a natural disaster, it is possible for people to be prepared. When a massive earthquake hit Tokyo, Japan in 2011, for example, the city's skyscrapers swayed like trees instead of toppling over. That's because the buildings were designed to withstand an earthquake.

In addition to that, fewer people died because engineers had developed an earthquake alarm system. People had 80 seconds to find a safe place and take cover. This is important, because most earthquake-related deaths and injuries occur when buildings and other structures collapse.

### ENGAGE

Encourage students to flip through the article and turn and talk with a partner to discuss what they see. Invite students to ask questions or share what they already know about earthquakes and other natural disasters.

### EXPLORE

Instruct students to examine the photo and read the text on pages 82-83 of their Readers. Brainstorm ideas about how the boat got on top of the building. Challenge students to explain how this could be the result of an earthquake.

### EXPLAIN

Point out to students that earthquakes are a type of natural disaster. Depending upon where they occur and how strong they are, they can have a devastating impact on people. **Ask:** *What happens during an earthquake?* (Earth's plates get stuck and suddenly slip. This sends seismic waves through the ground.) Have students turn and talk as they discuss the type of damage earthquakes can create. Challenge them to explain the connection between earthquakes and tsunamis. (A tsunami can be triggered by an underwater earthquake.) Then have students identify ways engineers and scientists are working together to help people survive earthquakes. (They are designing buildings that can withstand earthquakes. They have created an earthquake alarm system.) Challenge students to identify more things people can do to prepare for earthquakes.

### ELABORATE

Invite students to read the National Geographic article "Keeping Hope Alive in Haiti" ([www.nationalgeographic.org/news/keeping-hope-alive-haiti/](http://www.nationalgeographic.org/news/keeping-hope-alive-haiti/)) to learn more about the earthquake that struck Haiti in 2010 and how international relief workers helped the country recover.

### EVALUATE

Have students complete the **Content Assessment** for this lesson. Encourage them to share and compare their results in small groups.

## CONTENT ASSESSMENT: United Nations and Natural Disasters, Lesson 1

Make a checkmark to show if you think each sentence is true or false.

Use information from the article to explain each of your answers.

Sentence	True	False	Explanation
1.  All earthquakes are natural disasters.			
2.  It is hard to predict when earthquakes will occur.			
3.  Earthquakes that occur under the ocean can be particularly dangerous.			
4.  Engineers can and have helped people survive earthquakes.			
5.  The epicenter is the safest place to be during an earthquake.			