



# Preparing for Earthquakes

## PLEASE NOTE:

Students must complete the "Initiation" section of the **Monster Guard** app before they begin this activity, in order to gain access to the Earthquake training mission.



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## Opening

Inform students that they are going to learn about *earthquakes* and how to stay safe when an earthquake happens. Ask students to raise their hands if they know what an earthquake is. Then ask them if they have ever seen an earthquake (even on TV). Assess for prior knowledge by asking students to share what they know about earthquakes (e.g. what did you see on TV, what is an earthquake?). Explain that earthquakes occur when gigantic slabs of rock below the Earth's surface move suddenly and cause the ground to shake.

## Monster Guard

Tell students that they will be learning more about earthquakes with a cool app called **Monster Guard**. Explain that **Monster Guard** was created by the American Red Cross as a way for students to have fun learning, practicing, and sharing how to stay safe during different types of emergencies.

Adapt your teaching instructions to the various methods of playing **Monster Guard** – whether you are using a smart board to play as a class or having students play in small groups or individually using mobile devices.

Before they begin playing, remind students that they need to watch the videos before and after the training mission for information that will help them complete the classroom activities.

Pass out the activity sheet, read the introduction together, and have students go through the Earthquake training mission with Greta. Remind them to write their score in the space provided on the activity sheet. As a class, have students suggest ways they think they could raise their scores the next time.

## Grades 1-3

**PART 1.** Read the introduction to Part 1 of the activity. If time permits, perform the following demonstration to show students how the movement of tectonic plates can cause an earthquake.

### Demonstration:

You will need:

- gelatin (prepared in advance)
- graham crackers

### Procedure:

- Place a container full of gelatin (prepared in advanced) on a table.
- Cut gelatin into squares smaller than the size of a graham cracker.
- Put two graham crackers side-by-side with a piece of gelatin on one of them. Explain that the graham crackers are the tectonic plates.

- Rub the rough edges of the graham crackers together. The energy released will cause the gelatin to shake.
- Ask students to explain how this is similar to what happens in an earthquake.

Have students use the earthquake tracking map at <https://earthquake.usgs.gov/earthquakes/map> to complete Part 1 individually or in small groups. Review their answers in a class discussion. (**NOTE:** Answers will vary from day to day.)

**PART 2.** Have students work individually to complete Part 2 of the activity. Remind them that they can replay the **Monster Guard** training mission if they need help. Review the answers in a class discussion.

**Answers:** bookshelves, dresser, picture, television

**PART 3.** Have students work individually to complete Part 3 by creating their own earthquake safety posters featuring the words **Drop, Cover, and Hold On!**

## Grades 4-6

**PART 1.** Read the introduction to Part 1 of the activity. If time permits, perform the following demonstration to show students how the movement of tectonic plates can cause an earthquake.

### Demonstration

You will need:

- gelatin (prepared in advance)
- graham crackers

### Procedure

- Place a container full of gelatin (prepared in advanced) on a table.
- Cut gelatin into squares smaller than the size of a graham cracker.
- Put two graham crackers side-by-side with a piece of gelatin on one of them. Explain that the graham crackers are the tectonic plates.
- Rub the rough edges of the graham crackers together. The energy released will cause the gelatin to shake.

Ask students to explain how this is similar to what happens in an earthquake.

Have students use the earthquake tracking map at <https://earthquake.usgs.gov/earthquakes/map> to complete Part 1 individually or in small groups. Review their answers in a class discussion. (NOTE: Answers will vary from day to day.)

**PART 2.** Have students work individually to complete Part 2 of the activity. Remind them that they can replay the **Monster Guard** Earthquake training mission if they need help. Review the answers in a class discussion.

**Answers:** answers will vary

**PART 3.** Begin Part 3 of the activity by asking students to raise their hand and name some states where earthquakes occur. Point out that although earthquakes occur more frequently in some states than others, such as California, they can occur in almost any state. For that reason, we should always be prepared for an earthquake. Ask some of the students to share how their family or relatives have prepared for an earthquake at home.

## Teachers:

Please provide feedback on this activity using our online feedback form at [www.ymiclassroom.com/mgfeedback-earthquake](http://www.ymiclassroom.com/mgfeedback-earthquake).



# Preparing for Earthquakes

Grades 1-3  
Reproducible Master

Hi! I'm Greta. Earthquakes happen when gigantic slabs of rock under the Earth's surface rub together and bump each other. That's what causes the ground to shake. Want to learn more? Download **Monster Guard**. It's a free app from the American Red Cross that teaches kids how to be prepared for emergencies. Choose "Earthquake" on the main menu to join me on a training mission. You'll learn how to help make a home earthquake-ready.

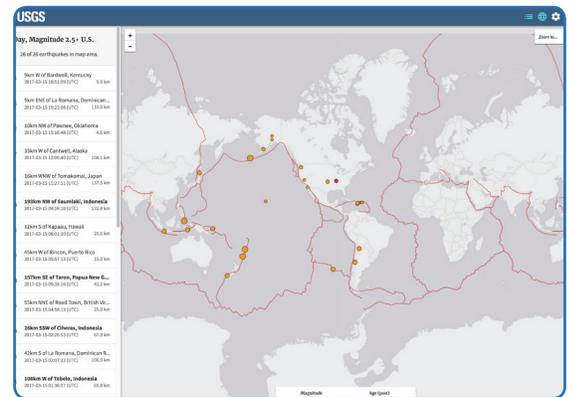
**Note:** You must have completed the **Monster Guard** Initiation section before you can access the Earthquake training mission.

My Earthquake Safety Score: \_\_\_\_\_



## Part 1

Scientists call the gigantic pieces of rock that cause most earthquakes *tectonic plates*. The tectonic plates fit together like the pieces of a puzzle. They form the outer layer of the Earth. But unlike the pieces of a puzzle, tectonic plates move and shift position. That causes the edges of the plates to be pushed together or pulled apart. This usually happens so slowly that we can't feel it. But when the edges get caught on each other, pressure builds up at that spot. Then, one day, the two edges break free. When that happens, we feel an earthquake.



Earthquakes happen every day. Visit <https://earthquake.usgs.gov/earthquakes/map> for a map that shows where earthquakes have happened today. The red lines on the map mark the edges of the tectonic plates. Use the "Zoom to" button to look at the whole world. Then use the map to answer these questions about the earthquakes that happened today

1. How many of today's earthquakes happened at the borders between tectonic plates? \_\_\_\_\_
2. How many of today's earthquakes happened far away from the borders between tectonic plates?  
\_\_\_\_\_ Where did they happen? \_\_\_\_\_
3. How many of today's earthquakes happened in the United States? \_\_\_\_\_

# Preparing for Earthquakes

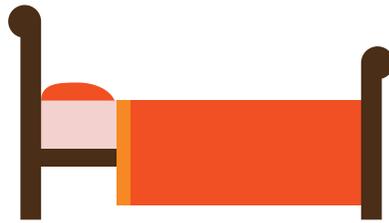
Grades 1-3  
Reproducible Master

## Part 2

Do you remember your earthquake safety training? Show what you learned by circling the items that need to be secured to make a home earthquake ready because they could fall.



bookshelves



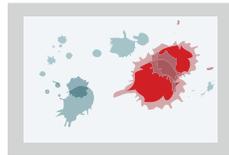
bed



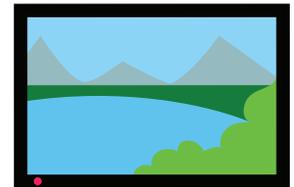
dresser



chair



picture



television

## Part 3

The **Monster Guard** needs your help! You know what to do when an earthquake begins:

1. **DROP** to the floor.
2. Take **COVER** under a table or strong piece of furniture, and cover your head with one hand.
3. **HOLD ON** to your cover so that it doesn't shake away.

Share what you know by creating an earthquake safety poster on the back of this sheet. Be sure to use the words **Drop**, **Cover** and **Hold On**!

Replay the  
Monster Guard  
Earthquake training  
mission. See if you  
can score higher!





# Preparing for Earthquakes

Grades 4-6  
Reproducible Master

## Part 2

Do you remember your earthquake safety training? Show what you learned by filling in the table below with things in your home that need to be secured, things that should be moved, and safety spots in your home that would provide good cover in the event of an earthquake.



| Things to secure | Things to move | Things that provide cover |
|------------------|----------------|---------------------------|
|                  |                |                           |
|                  |                |                           |
|                  |                |                           |

Replay the  
Monster Guard  
Earthquake training  
mission. See if you  
can score higher!

## Part 3

Use what you have learned to write about where most earthquakes happen in the United States, and why. Visit <https://earthquake.usgs.gov/earthquakes/map> again for help if needed. Then, explain why earthquakes can happen in almost any state, and write about how your family can prepare for an earthquake in your home.



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