



## Earthquakes and Volcanoes Lesson 1: “The Solve”

### Student Handout

#### I. Watch the Mosa Mack Mystery.

Either on your own, in a small group or as a class (your teacher will let you know), read Mosa Mack comic on Earthquakes and Volcanoes. Then, fill out the questions below. Include a page number in your answer as evidence of where you found your answer.

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

#### Episode Questions

1. According to most bakers, what ruined all of the cakes in the contest? Describe what happened.
2. What does Leonardo claim and why?
3. When Mosa investigates the geography of Cake County, what does she find?
4. What does the Volcanologist say the “crack” is? What does this have to do with volcanoes?
5. What causes a volcanic eruption?
6. What do volcanoes have in common with earthquakes ?
7. Mosa proposes that the Earthquake started in one place and spread outward from there. How can this be related to volcanoes? (Hint: look at the list of volcano characteristics).



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8. What did Mosa figure out? How did she know the location of Leonardo's house?

### II. Vocabulary Activity

Note: Your teacher will tell you whether you will complete this activity [online here](#), or offline by following the instructions below.

1. Using the materials at your table, cut out your vocabulary cards along the **solid lines**.
2. Write the definitions on the back of the cards. Then, match the vocabulary word with the correct picture on the "Earthquakes and Volcanoes Mind Map." When you're ready to glue, raise your hand so you can check your Mind Map with your teacher.
3. Fold along the dotted line on each vocabulary card to create a flap. Put glue **ONLY** on the hinge of your vocabulary cards ( the word should be on top). **You should be able to open the flap to see the definition and the picture underneath.**
4. Discuss with your group:
  - a. What is the difference between lava and magma?
  - b. Where does an earthquake happen?
  - c. What personal experiences have you ever had with an earthquake or volcano?

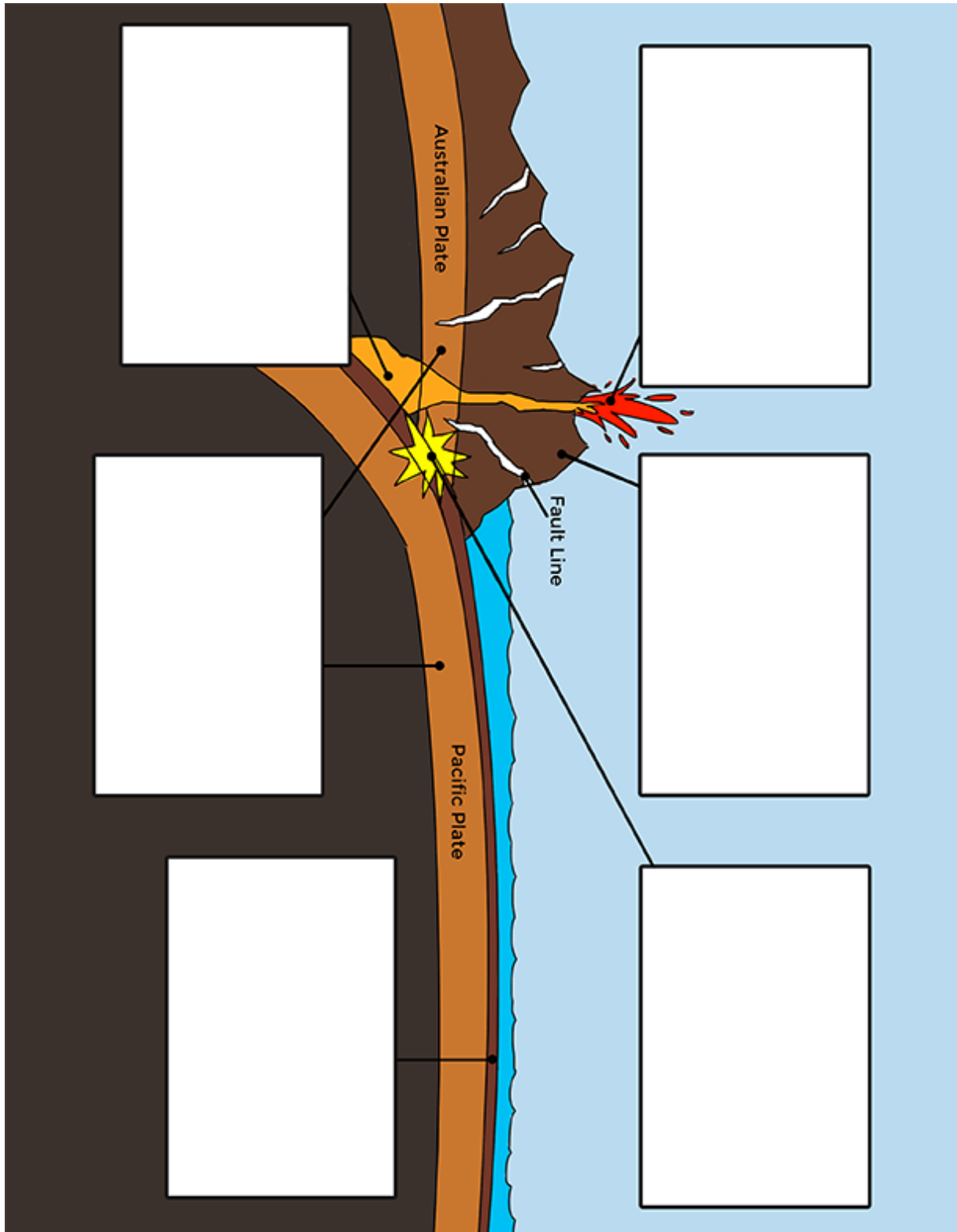




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Mind Map:





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Lava	Magma	Volcano
Tectonic Plate	Earthquake	Crust

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### Vocabulary

- **Earthquake:** A sudden and violent shaking of the ground, caused by built-up pressure between these moving tectonic plates.
- **Crust:** the outer layer of the Earth, composed of tectonic plates
- **Lava:** magma once it has erupted from a volcano
- **Magma:** hot, fluid rock below Earth's crust
- **Tectonic Plate:** piece of the Earth's crust that moves and interacts with other plates, causing geologic events
- **Volcano:** a mountain with a vent through which lava or gas may erupt or has erupted



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### III. Quiz: Check for Understanding

Complete the exit ticket below *or* you can take the quiz online!

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

1. Which of the following is not evidence of an earthquake?
  - a. Cracks in the sidewalk
  - b. Bumps in the road
  - c. Rumbles and shakes
  - d. Rain
2. Mosa observes a crack in the sidewalk that opened up overnight, which the volcanologist says could be a boundary between two tectonic plates. What is this called?
  - a. Volcano
  - b. Earthquake
  - c. Fault Line
  - d. Tectonic Line
3. Below the Earth's crust, magma moves the tectonic plates and pressure builds up over thousands of years. What can this cause?
  - a. A volcanic eruption
  - b. An earthquake
  - c. Lava flow
  - d. All of the above
4. Between earthquakes, there are long periods of time when it appears nothing is happening. True or false?
  - a. True
  - b. False
5. An earthquake originates at the:
  - a. Volcano
  - b. Fault Line
  - c. Tectonic Plate
  - d. Magma
6. Why didn't Leonardo feel the earthquake?
  - a. He was asleep and didn't wake up
  - b. His home is farther from the town center, where the Earthquake originated
  - c. He is lying; he did feel the earthquake
  - d. He lives at the top of a high-rise building