



MOSA MACK SCIENCE

STUDENT GUIDE

Name: _____

Date: _____

Earth's Processes & Mapping

Lesson 1: The Solve

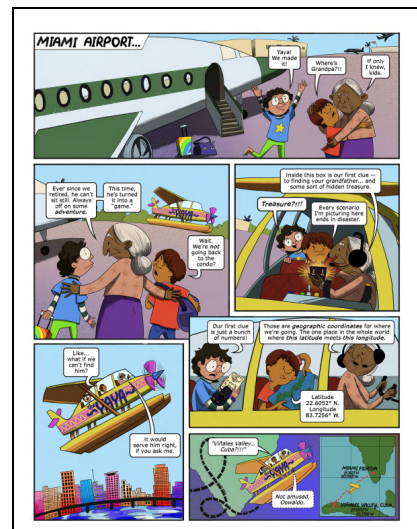
Student Handout

I. Read Mosa Mack's Comic Mystery

Read or [watch](#) Mosa Mack's Comic Mystery on Earth's processes and mapping, then answer the questions below. Include the page number where you found the answer.

Episode Mystery Questions

1. What were Felix, JoJo, and Yaya on an adventure to find?
2. In Cuba, Felix, Yaya, and JoJo find layers of fossils. Which layer has the oldest fossils?



3. To locate the Puerto Rico trench, Yaya, Felix, and JoJo used a topographic map. What is a topographic map?

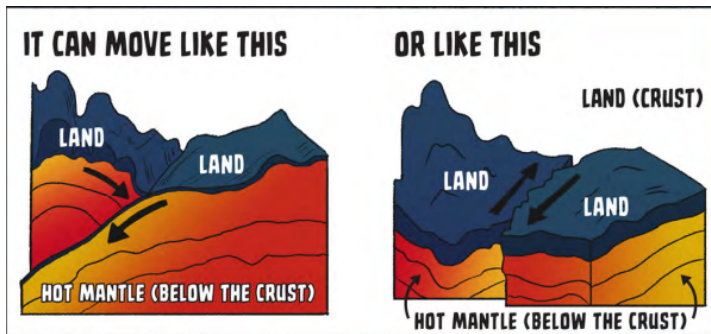


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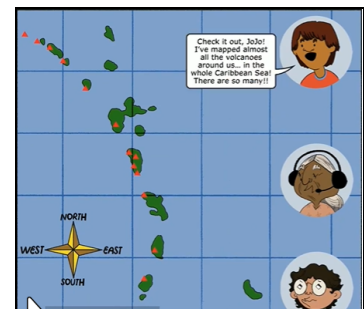
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4. What landform or a natural event can occur when Earth's crust moves in different directions?



5. What did Felix and Jojo learn about volcanoes during their adventure?





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6. Felix, JoJo, and YaYa followed clues to find locations where Grandpa's retirement home could be. List one problem that could exist with building a house in each of the following locations:

| Location | Problem |
|-----------------------------|---------|
| a. Beachfront | |
| b. Mountainside | |
| c. Mountain Peak (Volcanic) | |

7. Where is the safest place for Grandpa's retirement home?
8. What did Felix figure out about the materials that should be used to build Grandpa's retirement home?



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II. Vocabulary Activity

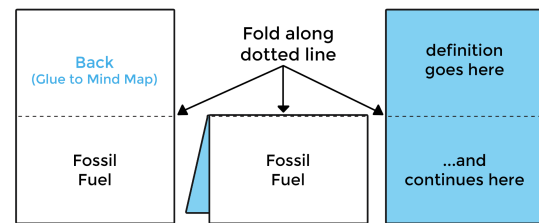
Follow the steps below to complete the activity, or complete it online [here](#).

1. Cut out your vocabulary cards along the **solid** lines. Do not cut the dotted lines.

Vocab Cards: [How To](#)

2. Fold the cards on the dotted lines.

3. Write the definition of each term on the inside of the card using the definitions below.



4. Use the clues from the Vocabulary Mind Map to place the cards in the correct location. Explain your thinking to your group as you go.
5. When you're ready to glue or tape your cards down, raise your hand so your teacher can check your Mind Map.
6. Once approved by your teacher, use glue or double-sided tape to connect the back of the vocabulary card to the correct place on the Mind Map.
7. Discuss with your group:
 - a. Study the location of the earthquake on this map. Explain how this earthquake could impact the beaches along the coasts of Puerto Rico, Cuba and the Dominican Republic.
 - b. Find the mogotes in Cuba on your map. What natural forces have caused the mogotes to be eroded down?
 - c. If this Mind Map was turned into a topographic map, how would the Puerto Rico trench appear on the map? The mountains in the Dominican Republic?

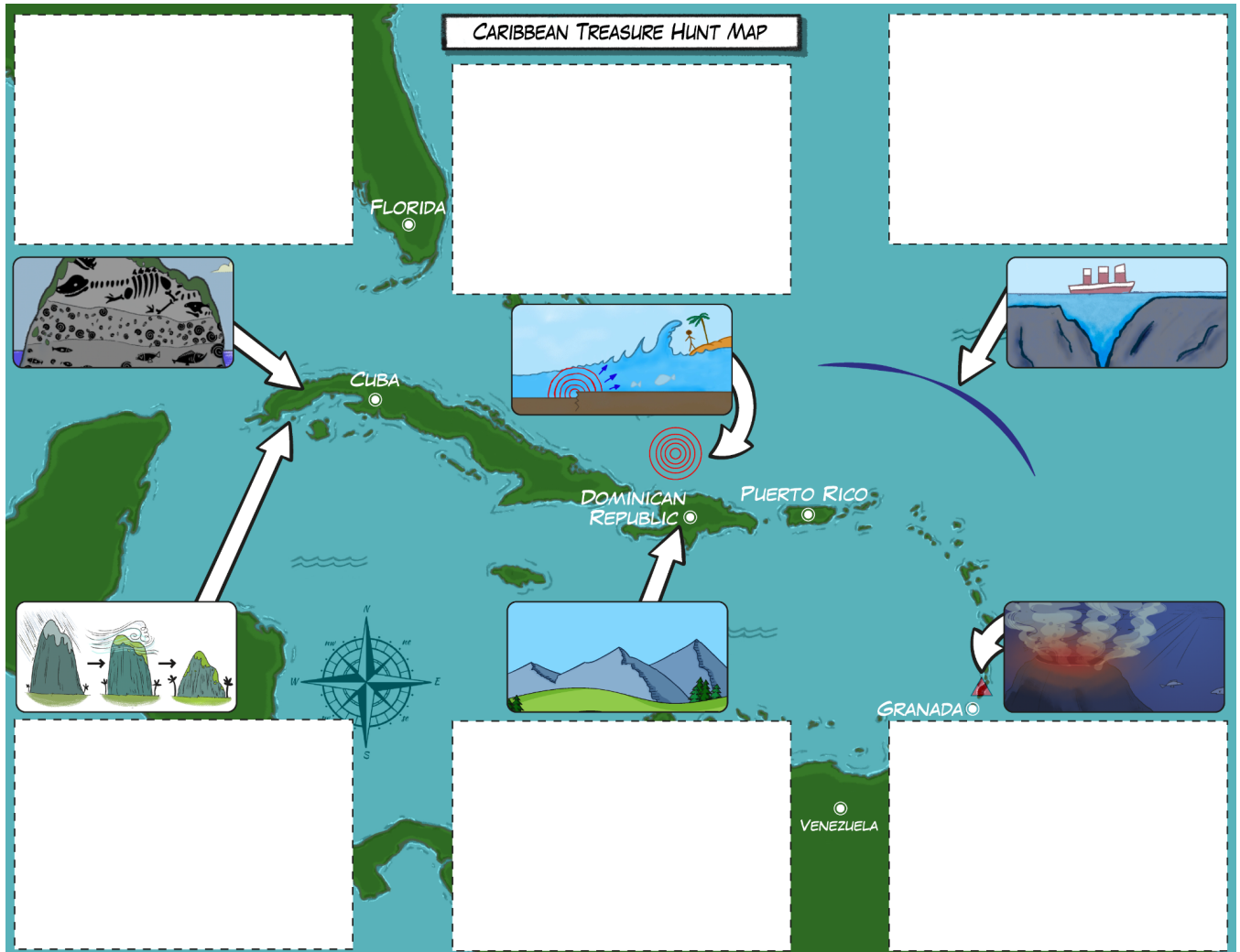




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Mind Map





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Vocabulary Cards

| |
|----------|
| |
| MOUNTAIN |

| |
|---------|
| |
| VOLCANO |

| |
|------------|
| |
| EARTHQUAKE |

| |
|----------------|
| |
| OCEANIC TRENCH |

| |
|--------|
| |
| FOSSIL |

| |
|---------|
| |
| EROSION |

Vocabulary Definitions

- **Mountain:** a natural rise on the Earth's surface that is very tall and has steep sides.
- **Volcano:** a mountain or hill that has an opening that leads beneath the Earth's surface. Lava and hot gasses will escape from this opening when the volcano erupts.
- **Earthquake:** a sudden and violent shaking of the ground caused by movements in the Earth's crust.
- **Oceanic Trench:** long, deep, narrow V-shaped valley on the seafloor.
- **Fossil:** the remains or imprint of an ancient organism preserved in rock.
- **Erosion:** the process of wind, water, or ice moving small pieces of rock away from a parent rock to another location.



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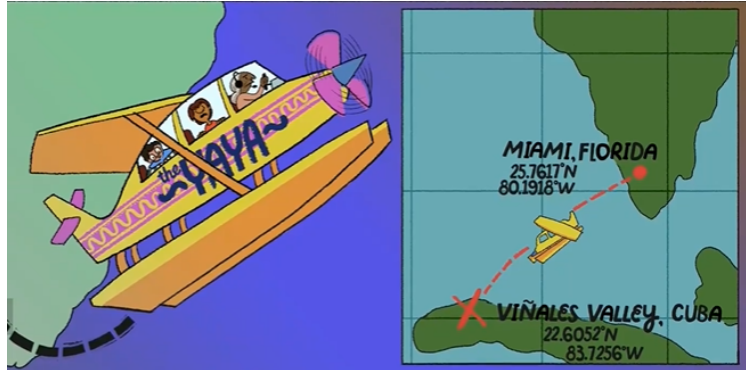
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III. Exit Ticket

Complete the questions below, or you can take the [quiz](#) online!

1. Study the map. What key features help the reader interpret this map?
 - a. Geographic coordinates (latitude and longitude)
 - b. The landforms shown on the map
 - c. The color and depth of ocean water
 - d. None of the above



2. A map that shows the form and shape of the land on Earth's surface (like raised mountains or deep ocean trenches) is called a:
 - a. Road map
 - b. Topographic map
 - c. Political map
 - d. Weather map
3. True or False: All of Earth's volcanoes can be found on land.
 - a. True
 - b. False
4. True or False: The Earth's land (crust) is made from plates that can move in different directions.
 - a. True
 - b. False



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5. The images below show two mountainsides. If heavy rain hits each mountainside, which statements are most accurate? Check all that apply.

Mountain Side A



Mountain Side B



- a. On Mountain B, heavy rain will cause many plants to grow on top of the mountain.
- b. On Mountain B, heavy rain will wash soil away downhill causing erosion.
- c. On Mountain A, plant roots will help to hold the soil in place, preventing erosion.
- d. All of the above statements are accurate.
6. True or False: Earthquakes that occur in the ocean can cause energy to move through ocean water, producing large tidal waves, or tsunamis.
- a. True
- b. False
7. Study the fossils found in layers of rock. Which statement accurately lists the fossils in order from oldest to youngest?
- a. Early horses, dinosaurs, armored fish, trilobites
- b. Armored fish, early horses, dinosaurs, trilobites
- c. Trilobites, armored fish, dinosaurs, early horses
- d. All fossils are the same exact age.

