

Oreo Tectonics

Name _____

Materials Needed:

- Plate/Napkin
- 3 Oreo Cookies
- Small cup filled $\frac{1}{2}$ way with Water



Procedure:

1. Do NOT eat your Oreos.
2. You will use a different Oreo to create each of the three different types of boundaries.
3. Twist the upper and lower parts of the Oreo Cookie in order to separate the cookie. Try to keep the filling on one side of the oreo.

- a. Which layer of the Earth does the filling represent? Mantle
- b. Which layer of the Earth does the top of the Oreo Cookies represent? Crust

4. Break the upper part of the Oreo Cookie in half.

- a. Did you hear anything? cracking
- b. What does this sound represent? an earthquake

5. Place the two halves on top of the filling with the broken halves facing each other. The two halves will represent the "plates".

6. Move the "plates" apart to expose some of the filling. When plates move apart, it creates cracks in the Earth called a rift valley. Pulling apart of the plates allows hot, melted rock to come up through the crack in the Earth. This is how a volcano's opening is formed.

- a. This type of boundary is called a Divergent boundary.

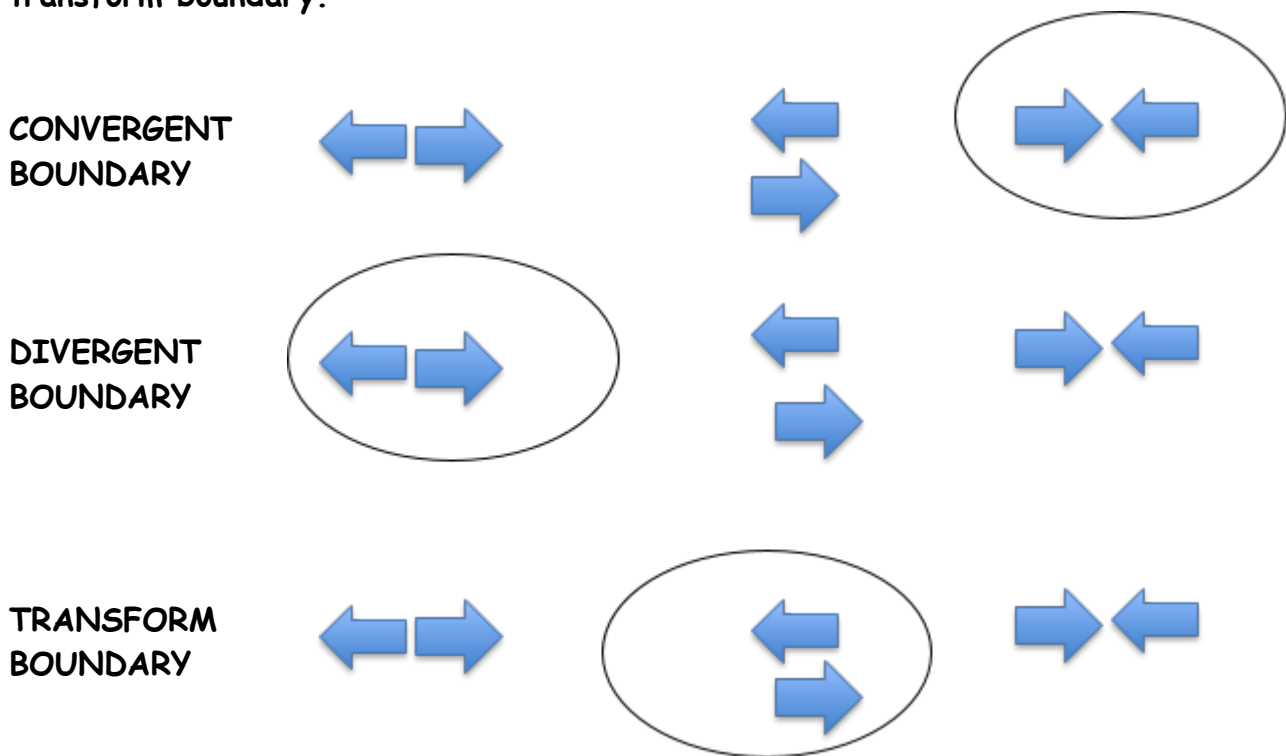
7. Repeat steps 3, 4, & 5 with a different Oreo Cookie. Then slide the edges of the "plates" of the Oreos past each other.

- a. Do the edges slide past easily? no
- b. This type of boundary is called a Transform boundary.
- c. This type of boundary can cause a fault, which is a crack in the crust to be created. The San Andreas in California is a type of this.

6. Repeat steps 3, 4, & 5 with a different Oreo Cookie. Wet the edges of the two broken upper halves of the Oreos that are facing each other. (Dunking the oreo in water may work best.) Push the plates down and together towards each other.

- This type of boundary is called a Convergent boundary.
- Notice what happens when the plates collide. When this happens, Mountains are formed, such as the Appalachian range in North America.

Identify the correct boundary below. Circle the arrows that indicate which way the Earth's crust is moving in order to form a convergent, divergent, and transform boundary.



Explain how mountains are formed. Mountains are formed when pieces of Earth's crust—called plates—smash against each other (Convergent Boundary) in a process called plate tectonics, and buckle upward upon themselves.

Explain how faults are formed. Faults are cracks in the Earth's crust where the tectonic plates move by sliding past each other and by doing this they rub against each other.

Illustrate each Oreo Cookie Plate Boundary below.

Use arrows to demonstrate which direction the boundaries are moving.

Convergent Boundary	
Divergent Boundary	
Transform Boundary	