

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

# Convection Lab

## Plate Tectonics

**Objective:** To understand the driving force that moves the Earth's tectonic plates.

**Materials:** Plastic box, 5 Styrofoam cups, 8 lids, tap water, food coloring, and pipette.

**Directions:** Fill up your bin close to the top, with cold tap water. Then figure out a way to use the materials listed above to demonstrate the convection that takes place in the Earth's mantle.

**Diagram:** Draw your experimental setup. Make sure to show where the convection is taking place. Record your observations to the right of the diagram.



**Observations:**

**Procedures:** Use the space below to write out the procedures you followed to demonstrate this process.

**Analysis Questions:** Read page 110 in the red geology textbook; Then answer in complete sentences.

- 1) In regards to plate tectonic motion, what does the water represent?
  
  
  
  
  
- 2) Look at *Figure 1* on page 110 of the red geology book. What is the name of the circulating motion you observed? Explain how and why it occurs.
  
  
  
  
  
- 3) How does a lava lamp help to demonstrate this motion?
  
  
  
  
  
- 4) What sea floor feature and what process occur as a direct result of this type of motion?  
(HINT → Look at p. 110; What forms directly above the rising magma on the ocean floor?)  
  
Sea floor feature: \_\_\_\_\_ Process: \_\_\_\_\_
  
  
- 5) Now draw this feature (from question #4) where it would belong **on the diagram you drew.**
  
  
  
  
  
- 6) Explain what this divergent plate motion has to do with changing temperature and density of magma (see page 110 in red book).