

Crazy Continuous Convection Currents

Name: _____ Date: _____

Purpose: Throughout today's activities, you will learn all about convection currents. You will discover how these currents are responsible for the movement of the Earth's plates. Notice, you will also be practicing your scientific method skills within the boxes on this sheet.

Dazzling Demo:

1. Describe what you observed from the demo your teacher performed?
2. Use your observations to make an inference about why this has happened? What experience or knowledge did you use to make this inference?

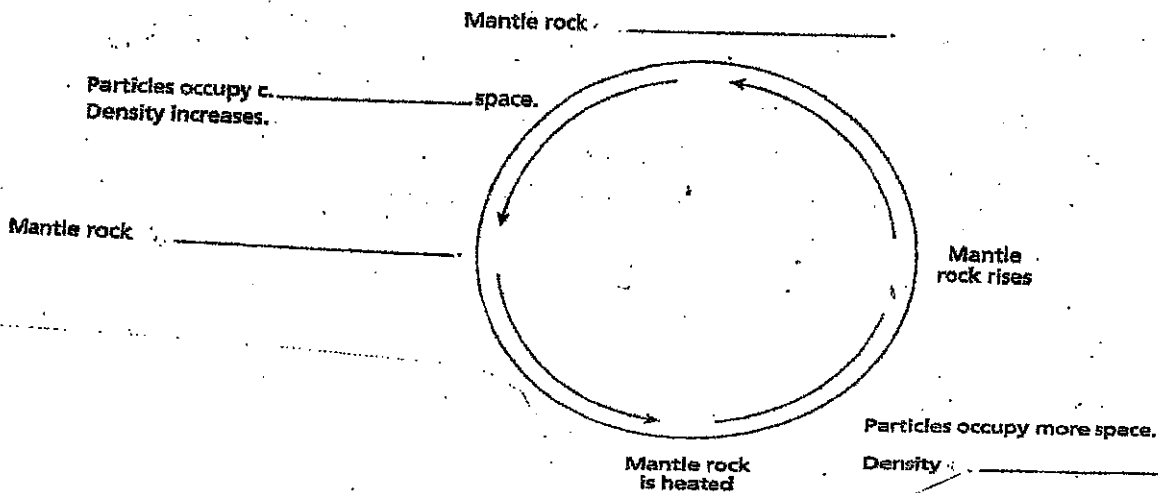
In the space below, write a **PROBLEM** to go with this demonstration:

RESEARCH the topic:

(read pages 132 – 135 and answer the following questions)

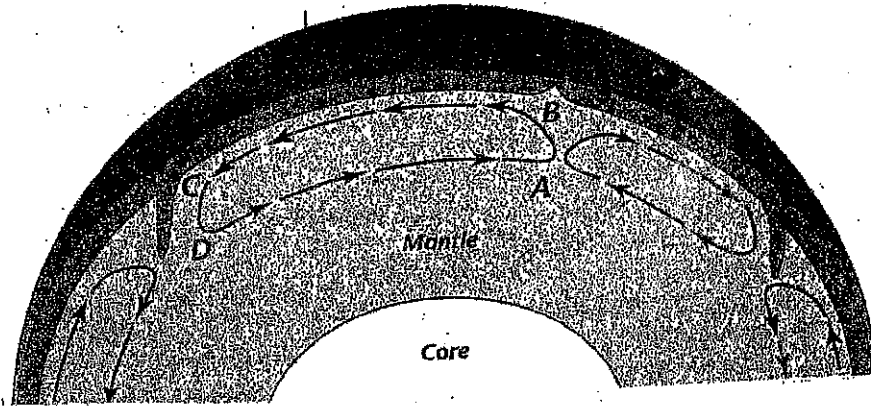
1. Describe how convection currents form.
2. What causes the convection currents in the mantle?
3. In general, what happens to the density of a fluid as it becomes hotter?
4. Where does the heat come from that drives the convection currents in the mantle?
5. Use the word bank to complete the graphic organizer to show the relationship between heat, movement, and density in the mantle rock!

Less Sinks Cools Decreases



RESEARCH (cont.)

Use the picture below to answer the following questions:



1. Where is the temperature of the mantle material greater, at point A or point B? Explain.
2. Where is the density of the material greater, at point B or point C? Explain.
3. What force causes the convection current to turn down at point C?
4. What direction do you think the plate (that is above the ABCD current) is moving?

Write your **HYPOTHESIS** for what you think will happen. Remember, this should be research-based!

Go With the Flow Activity:

1. Read all of the reminders on the Materials & Procedures sheet found at your station. Be sure all group members understand the ground rules!
2. Begin the activity by carefully following the procedures and reminders.

Conclusion Questions:

Comprehension & Application: Complete the following chart based on your observations during the lab.

Material Used	Comprehension: Record your Observations of what happened during the lab	Application: Tell what each material represented and defend your answer
Water		
Food Coloring		
Paper Dots		

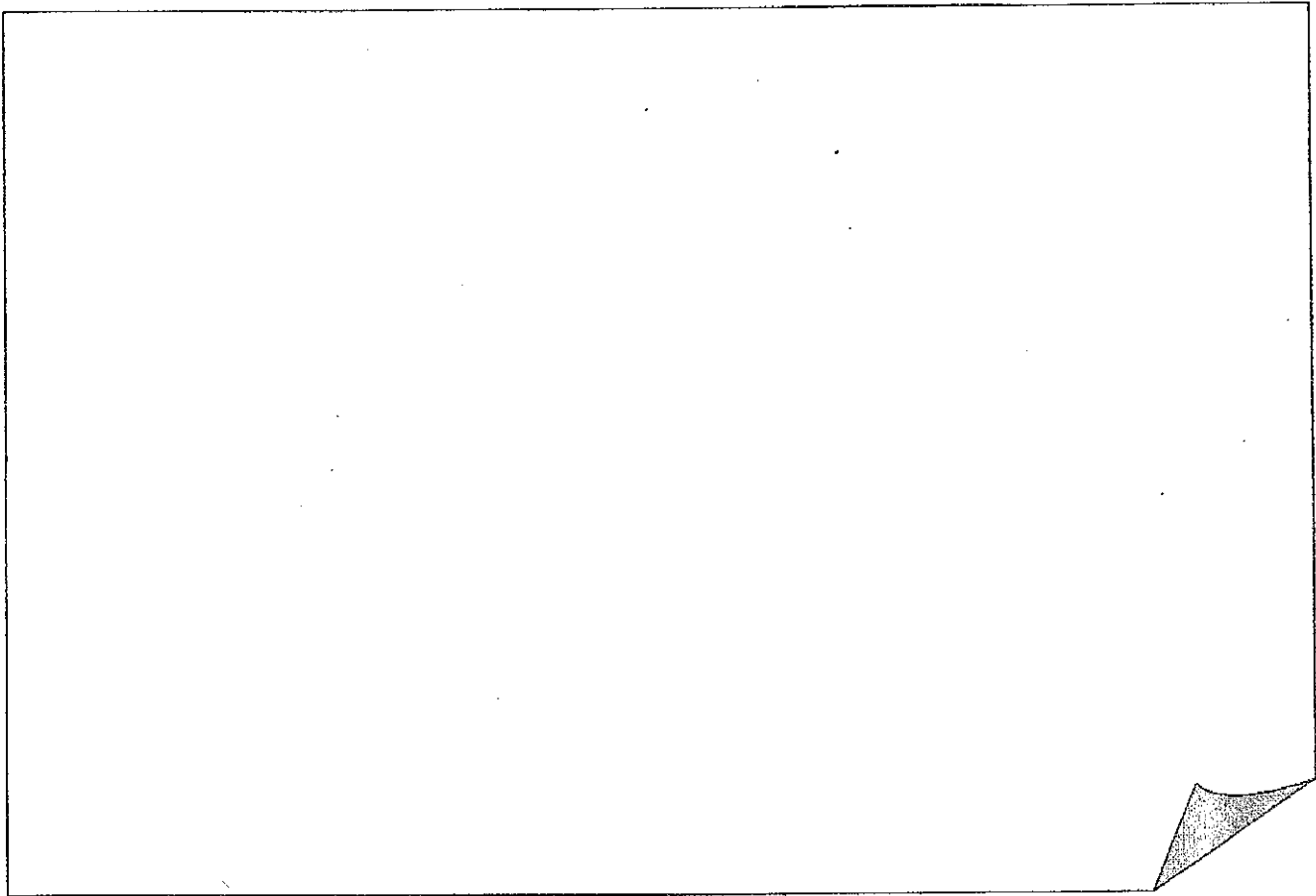
Analysis: Explain what caused the movement of the food coloring and the paper dots.

Synthesis: Hypothesize about what would happen to the convection currents in the mantle if the Earth's interior eventually cools down. Explain.

Evaluation: How well do you think this lab modeled the movement of the Earth's plates? What factors weren't you able to model in this lab?

Convection Currents Cartoon Project

In the space below, create a single frame cartoon (like The Farside). Your cartoon must have something to do with convection currents! Please add a maximum 2-sentences for a caption (speaking bubbles are okay, but not encouraged!) For full credit, include 4 colors minimum.



Now, DESCRIBE the concept of "convection currents". In a quality, 7th grade paragraph, include what they are and how your cartoon shows/describes the concept!

A large, empty rectangular box with a black border, intended for writing a paragraph describing the concept of convection currents and how the cartoon illustrates it.