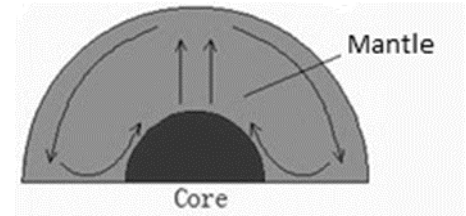


Name _____



The Moving Mantle

Purpose: To explore the mechanism that moves the mantle.

Background Information:

The Earth's mantle has convection currents because the heat of the core transfers heat to the rock in the mantle. Because the heated rock gains energy, particles spread out, and the rock becomes less dense. The less dense rock rises toward the surface. Near the surface the heated mantle transfers its heat energy to the lithosphere, so it becomes denser than the surrounding magma and sinks back down towards the core.

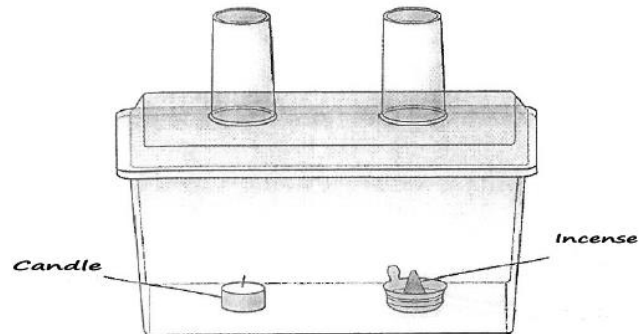
Use a highlighter to mark the key ideas in the background information.

Materials:

Geobox	Candle	incense	Matches
Aluminum dish	Cardboard		

Procedure:

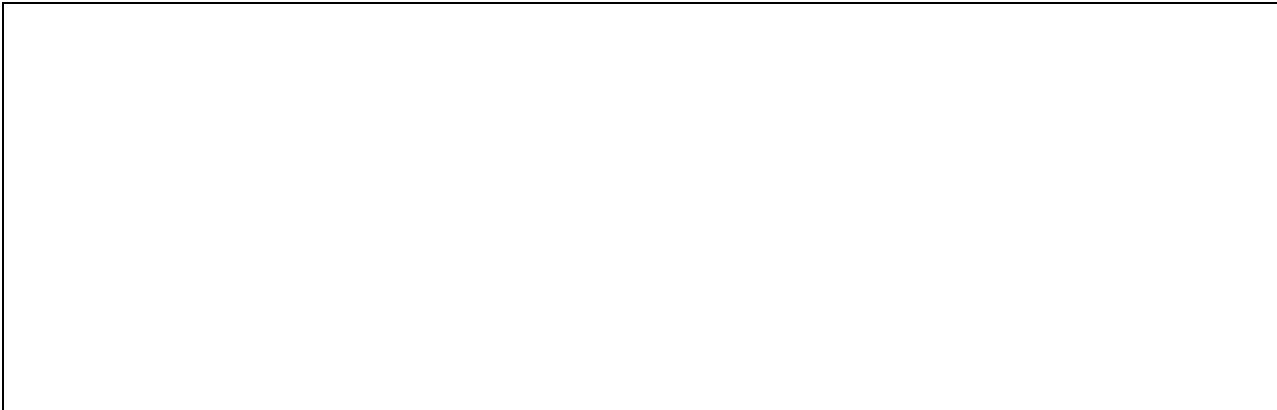
1. **Put on goggles.**
2. **Make sure long hair is pulled back.**
3. Carefully place the candle into the GeoBox so that it will be under one of the two chimneys that are on the lid.
4. Put the incense in the aluminum tray under the other chimney. See diagram to right.
5. Very carefully, light the candle. Put the lid back on the box.
6. Place your hand over the chimney above the candle. Record your observations.
7. Remove the lid from the GeoBox and light the incense. Put the lid back on, observe the box. Record your observations.
8. Cover the chimney above the candle with a piece of cardboard. Observe what happens to the movement of the air inside the GeoBox. Record your observations.
9. Cover the chimney above the incense with a piece of cardboard. Observe what happens to the movement of the air inside the GeoBox. Record your observations.



Data:

	Observations

Sketch and label your observations. Use a pencil. Label areas of rising and sinking air, warmer and cooler airs, and greater and less density.

**Think about it:**

1. Draw a diagram that illustrates convection in the GeoBox. Label as necessary to explain what happened.
2. Describe the movement of the air in the GeoBox. Make sure to include changes in density in your description.
