

Analysis (H92)

- Let's review the answers to the questions together.

What observations did you make of the heated fluid?

- Your answer should reflect the cycle motion of the fluid when viewed from the side and the spreading motion when viewed from the top.

Under what conditions could you observe convection cells forming?

- When the heated fluid rose to the surface (because it became less dense), it cooled and began to sink (because it became more dense), forming a convection cell. Two cells were formed, one moving left and one moving right.

What happened to the fluid near the upper surface of the jar?

- The convection cells separated and moved in opposite directions. The substance spread out along the surface of the jar.

What causes convection in a gas or liquid?

- Uneven heat creates convection cells in a gas or a liquid.
- *FYI: Convection needs a heat source to cause the density to decrease. Once the substance is away from that source, it cools and its density increases. This change in temperature is the uneven heat.*

What effect do you think convection in the hot mantle might have on the earth's plates?

- Convection causes the plates to move. When the fluid (in our model) moved along the surface of the jar, it could “drag” the plates with it, causing them to move.