Earth on Convection about Worksheet الملف

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Apr. 12-16 Station 5: Explain Convection on Earth

**Directions:** Ocean water is constantly moving due to currents within the ocean. But, what causes those currents to move? Answer the warm up questions below to the best of your ability, then continue on with the activity.
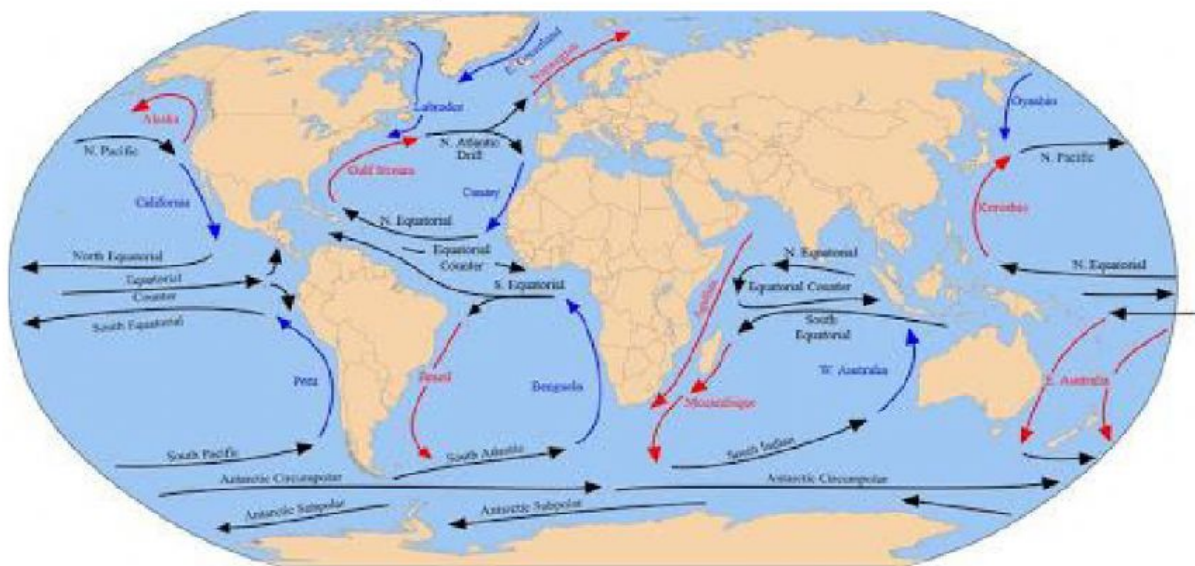
**What do you think causes water currents deep within the ocean?**

**Do you think water temperature may play a part in the movement of ocean water? Why or why not?**

**Directions:** After answering the questions above, read the review on convection below, then watch the video to learn more about convection. After you have finished, answer the questions at the bottom of the worksheet.

## Review- Convection!

Convection is one of three ways that thermal energy (heat) moves between objects. With convection, heat is transferred when particles move from one location to another. This movement usually occurs when hot air or liquid rises while cold air or liquid sinks, creating a circular pattern. We can actually see an example of this in the ocean currents. **Look at the picture below and identify areas where convection has created a circular pattern.**



The colder water in the ocean sinks because it is much **denser** than the hot ocean water. **When something is dense, that means the molecules are more tightly packed together, making it heavy.** Watch the video below to see an example of this happening in real life.

## Follow Up Questions

What happened when the ice cube was placed in the water?

Why did the colder water sink?

How did the movement of the melted ice water and the hot water demonstrate the movement of currents?

What other examples of convection can you think of?