

Ocean Currents & Temperature Lab

Some water in the ocean is cold and some is hot. Where would you expect to find the coldest water or just plain cold water? Where would you expect to find warm waters? Do hot and cold water mix?

You'll need the following supplies:

Ice

blue food coloring

hot water

Clear glass

bowl

A large clear straw

Procedure:

1. Develop a hypothesis as to how the water will move when the cold and hot water are introduced to each other.
2. In a bowl, mix the ice, cold water, and blue food coloring.
3. Fill a glass with hot water.
4. Using a clear straw, place some ice water on top of the warm water. Observe what happens.
5. Using the straw again place some ice water at below the warm water. Observe what happens

Data & Observations

Using the drawing tools, draw a picture of what happened during this experiment. Include qualitative and quantitative observations.

Analysis:

1. Did adding cold water on top produce a current?
2. Did adding cold water to the bottom produce a current?
3. Define convection. Infer why the current that was created during this lab is called a convection current.
4. How does this experiment demonstrate water density?
5. Was your hypothesis supported or refuted? Explain.
6. In what ways might this experiment be useful in the study of the world ocean?