Grade Level: 6-8
Time Estimate: 1-2 days

OCEAN CURRENTS / LESSON OVERVIEW

Objectives

The students will:
- Learn what an ocean current is;
- Learn what causes ocean currents;
- Learn the different types of ocean currents;
- Learn why currents are important.

Lesson Summary

Part 1. What is an Ocean Current?
The ocean is in constant motion due to currents. Students will define what a current is and learn about the different types of currents.

Part 2. What Affects Currents?
Currents are natural phenomena that result from ocean tides, wind, and something called thermohaline circulation.

Part 3. The Global Ocean Conveyor Belt
The global ocean conveyor belt moves *a lot* of water *very slowly*. Students will gain a basic understanding of how the conveyor belt works and why it is so important.

Experiment 1. Thermohaline Circulation
Ocean currents affect the Earth's climate and the cycling of nutrients. Deep-ocean currents are driven by differences in the water's density; and density depends on the water's temperature (cold water is denser than warm water) and salinity (saltier water is denser). Students will demonstrate this concept in the following experiment.

Materials

- Food coloring - blue and red
- Ice cube tray
- Saltwater
- Cups - one for a demonstration to the whole class or one per small group or pair of students.
- Freshwater - hot and cold
- Small spoon or stirrer
- Pipettes or droppers
- Plastic bins (size of a shoebox) - one for a demonstration to the whole class or one per small group or pair of students.