LEARNING IN PLACE

Deeper Currents

Grade 6 Science

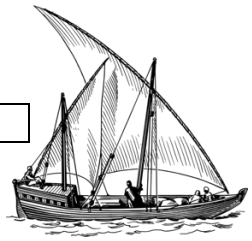
Name: _____ Date: _____

Activity 1:

In the video, we saw a demonstration of how the water separated based on cold saltwater and warm fresh water. Which is more dense?

Circle one:

Cold Saltwater	Warm Freshwater

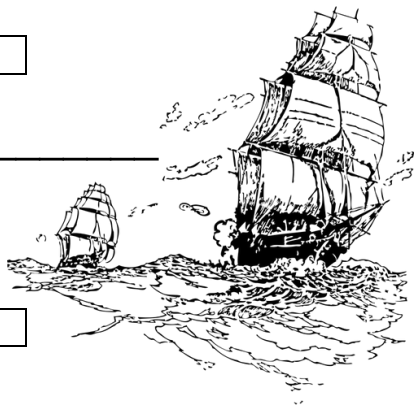


Activity 2:

Did you know that a mixture like saltwater has a different density than freshwater? Think about the demonstration in the video. If freshwater has a density of 1. Which value would be more likely to represent the density of saltwater?

Circle one:

1.02 - 1.03	0.02 - 0.03



Explain how you know: _____

Activity 3:

The density of freshwater will change depending on the quantity.

Circle one:

True	False

Explain how you know: _____

Activity 4:

Consider how energy impacts the movement of molecules in warmer water vs. colder water. If warmer water flows in a current from the Caribbean towards the cooler water off the coast of Massachusetts, what happens to the movement of the molecules over the course of that journey?

Describe below:

_____

_____

_____

_____

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Activity 5:

As thermal energy is transferred from warmer currents to cooler bodies of water, the warmer water begins to cool down and sink to the bottom and the cooler water begins to warm up and rise to the top. This creates a cycle that moves the water. What type of heat transfer describes this phenomenon of cyclical movement?

_____

Activity 6:

These types of currents can occur both in the water and in the air, pushing ships along an ocean current or filling the sails with gusts of wind. What is the name of two of these currents mentioned in the video?

_____

Activity 7:

Below is a map displaying streams of warm currents (red) and cold ocean currents (blue). Describe the energy transfer along the currents of triangular trade.

1. Would thermal energy increase or decrease as water from point 1 meets point 3?

   _____

2. Would thermal energy increase or decrease as water from point 4 flows towards point 1?

   _____

3. Would thermal energy increase or decrease as water flows from the north pole towards point 2.

   _____