

Introduction

The density of seawater is mainly determined by temperature and salinity. Using the materials provided, create your own water density flow model and experiment with fluids of differing density levels. After completing the activity, your instructor will lead the class in discussion.

Materials – per 6 students

- 1 container with a partition
- 1 graduated cylinder
- scale
- salt
- freshwater
- 1 stirring spoon
- 1 Dixie cup
- 2 different colors of food coloring
- Colored pencils

Activity Directions

1. Make sure the partition is place in your container.
2. Fill one side of the container with 1L of freshwater.
3. Fill the other side of the container with 1L of saltwater. To make you saltwater solution, weigh out 35 grams of salt in your paper cup (remember to place your empty cup on the scale first, tare out (make it 0 grams again) and then add your salt). Add the salt in the water on one side of the container. Use the stirring stick for a few minutes to dissolve the salt.
4. Add a 3 drops of one color food coloring to your saltwater. Mix well.
5. Add a 3 drops of another color to your freshwater. Mix well.
6. Fill out your predictions on your worksheet.
7. Gently remove the partition by placing your fingers onto the hole and wiggling it back and forth.
8. Make observations.
9. Fill out your worksheet.
10. Participate in the group discussion.

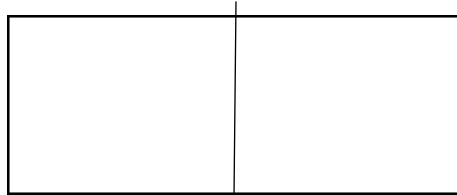


Estuary Density Student Worksheet

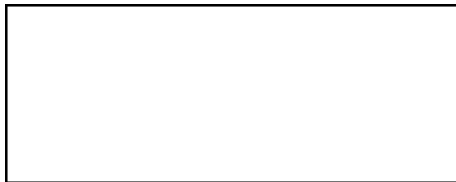
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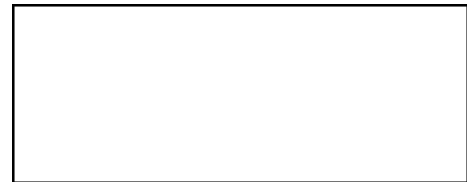
1. Use colored pencils to make a labeled diagram of the Density Flow Model set-up on the illustration provided below. Label the fluids: SALTWATER, FRESHWATER.



2. Predict what visible changes will be observed when the partition is removed between the freshwater and the salt water.
3. With colored pencils, draw illustrations below to represent your mental picture of how the fluids will appear 3 seconds, and then 30 seconds after the partition is removed. Label the fluids: SALTWATER, FRESHWATER.



3 seconds



30 seconds

4. Describe what happened. Was your hypothesis correct?
5. Explain why the fluids changed position.