

MARINE ECOSYSTEMS -Student Page

Traveling liquids and solids

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Description

Students will use rice, vegetable oil, tap, and salt water to discover the way solids and liquids travel in a surface current.

Materials

- 9" by 12" foil pan (one per group)
- Modeling clay (one - two sticks per group)
- Tap water
- Rice (one half cup, dry, uncooked)
- Vegetable oil (one half cup)
- Table salt (1 cup per group)
- Measuring cup
- Hair dryer (one per group)
- Data sheet (one per student)
- Pencil (one per student)

Procedure

1. Distribute instructions for experiment.
2. Read over expectations with students.
3. Safety procedures will be discussed and stressed with students.
4. Students pour (1500mL) tap water into their foil pan.
5. Each student will blow across the surface of the water to generate a current - observing and drawing the movement of water.

6. Students will pour their water back into the milk jug/bucket and dry the pan.
7. They will use the modeling clay; each will add a "continent" somewhere in the foil pan. Stress the importance of securing the clay to the bottom of the pan.
8. Students will generate hypotheses for each of the testing conditions; these will be written on their experiment & data sheets.
9. Students will pour 1500 mL tap water back into the pan. They will first place one teaspoon of rice kernels into the water at a corner of the pan. They will blow steadily on the rice at about a 45-degree angle to the water and make a drawing of the path it traveled.
10. Students will recover the rice kernels from the water and discard these. They will then place one tablespoon of oil into the water at the same corner at which the rice was added. They will blow on the oil in the same manner as was used with the rice; drawings of its path will be completed.
11. Students will discard the water as directed. They will conduct part two of the experiment using water in which salt is dissolved. Steps 8 through ten will be repeated.
12. Students will make observations on the posted sheets; each student using a different colored marker.

Day 2

13. Students will discuss findings within their groups. Groups will be directed to focus their attention on the extent of dispersion of solids and liquids under each testing situation. Each group will designate one student to report to the class. A rubric will be used to assess the presentation.