

Sink or Float

Description: Students will predict what might happen to various objects as they are placed in a container of water.

Groups: Lower or upper elementary, in groups of 2 or 3 students

Estimated Time: 15 minutes

Key Question: Can we use buoyancy to sort objects?

Content Standards Addressed: Physical Properties-All objects and substances have physical properties that can be measured.

Inquiry involves generating questions, conducting investigations, and developing solutions to problems through reasoning and observation.

Inquiry includes an analysis and presentation of findings that lead to future questions, research, and investigations.

Reflecting on knowledge is the application of scientific knowledge to new and different situations. Reflecting on knowledge requires careful analysis of evidence that guides decision-making and the application of science through history and within society.

Teacher Background: Buoyancy is the quality of floating, rather than sinking when placed in a liquid such as water. An object floats when all or part of the object stays on top of the liquid. Styrofoam floats in water. An object sinks when it moves toward the bottom of the liquid it is in. Most rocks sink in water. The size of an object does not determine whether it sinks or floats. Instead, what determines this is the density of the material it is made of compared to the density of water.

Science Process Skills: Predicting, observing, recording, classifying.

Materials: Small bag of objects such as rocks, balls, erasers, craft sticks, drinking straws, paper clips and squares of paper towel, transparent containers, water, (school provides) and data table (black line master provided).

Procedure: Students examine the objects and make predictions as to whether each will sink or float when placed in water. They record their predictions in the data table. They separate the materials into two groups: sinkers and floaters. They test their predictions by placing each object in water and recording their results.

Note: The following materials should sink: rocks and paper clips. Drinking straws, craft sticks, balls, and squares of paper towel should float. You may wish to add additional materials for the students to test.

Resources:

Measuring and Sorting, A first grade unit/kit supporting the Battle Creek Area Common Core Science Curriculum, 1995

Fun Day Coaches Manual and Rules, Science Olympiad, Inc. 1997