

Activity #2

Buoyancy and Boats



In this activity, students will design a boat that will float, and perform a test to see how much weight their boat can hold before it sinks.

Curriculum Link:

Science — buoyancy and boats, constructing a boat that will float, evaluating and testing various designs

Math — estimating, measuring and recording mass (weight) using non-standard units

Materials:

Plasticine (a small ball for each student)

6 large containers of water

6 varieties of weights, e.g. pennies, small plastic cubes, etc.

6 collection boxes

Slips of paper

Pencils

Preparation:

Set up 6 stations around the room, each with a large container of water, a collection box (for predictions), slips of paper (to record predictions), pencils and a set of weights.

Procedure:

1. Remind the students that in the story *Smelly Socks*, Tina and her grandfather rowed across the lake to buy Tina's socks. Explain to the children that each of them is going to have the opportunity to design and make their own boat. Their task will be to see how much weight their boat can hold before it sinks.
2. Demonstrate for the students how to build a boat by shaping a small ball of Plasticine.
3. Point out to the students the stations that are set up around the room. Tell the students that once they have finished designing their boats, they will be going to each station in turn to predict the number of weights they think their boats will hold.

4. Have them record their name and their prediction at each station on a slip of paper.

5. After the children have recorded their predictions, have each test their boat at each station and record the number of weights it can actually hold before sinking. Have the students deposit their slips in the box.

6. As a whole class, discuss the results of the experiment. How close were your predictions? Did the number of weights your boat would hold vary at each station? Why? Which shape floated the best? Did the shape of the boat determine how much weight it would hold?

7. Ask two students with different-shaped boats to share their results with the class. Did their boats hold the same amount of weight? Why or why not? Compare other boat designs made by the students.

Extension:

- ☉ Ask the students if they have ever experienced riding in a boat or canoe. Looking at page 7 and 8 of the story, ask the students to identify any safe or unsafe boating practices. Brainstorm other boating safety tips with the students, e.g. plan your trip, including the time you will return; always travel with an adult; and operate at a safe speed.

