



Science Experiment: The Great Boat Float

Project: Models

Supplies:

- *Aluminum Foil (be sure to give each group the same amount)*
- *Tape*
- *Scissors*
- *Several Pennies (to be used as “cargo”)*
- *Bucket of Water*
- *Other materials that can be used for building a boat*

Time: 30-40 minutes

What to Do:

1. Explain to the youth that they will spend time designing a boat that will need to be sturdy enough to transport cargo. (Pennies will be used as cargo.)
2. Give the groups approximately 15-20 minutes to design a boat that will float on water and transport the penny cargo. The goal of the competition is to design a boat that will hold the most cargo without sinking the boat. *Give very little instruction during this time. Encourage youth to experiment with the boats and test out how much cargo it can hold.*
3. At the end of the design session, it is time for the competition! Each group will explain their boat design and then count the number of pennies that their boat can hold without sinking.
4. The group whose boat can hold the most pennies will be declared the winner of the challenge.

Reflect:

1. Think about the boat that held the most pennies. What was the shape of that boat?
2. Do you think the shape of the boat makes a difference in how many pennies it can hold?

Apply:

Ask the group if you can ever have too many people aboard a boat. *How do you know? What might happen if too many people are on a boat?* Depending on the age of the children, spend time teaching them about volume, buoyancy, and density.

Additional Resource for Teaching Volume, Buoyancy, and Density: <http://www.sciencebuddies.org/> (How Much Weight Can Your Boat Float?)