STEM Summer Challenge – Boats

Part One: Aluminum Foil Boats

Build a boat out of aluminum foil that both floats and holds weight.

Materials Needed: Aluminum foil, ruler or measuring tape, scissors, 25-30 pennies, something that can hold water (e.g. large bowl/dish pan/bucket/sink)

Instructions:

- Measure out a 6-inch sheet of aluminum foil. Carefully tear off the sheet. Most rolls of aluminum foil are approximately 12 inches wide. After you tear off a 6-inch piece, you'll need to cut it in half to get a sheet that is approximately 6" x 6".
- Decide on a design for you boat. What shape do you want it to be? Rectangle? Square? Do you want it to look like a rowboat? A canoe?
- Shape the aluminum foil to create your boat.
- Fill a container with water.
- Set your boat in the water to make sure it floats.
- Start filling your boat with pennies, one at a time.

How many pennies did your boat hold?

Let's see which boat held the most pennies!

Email us to let us know how many pennies your boat held. We'd also love to see pictures or a video of you while completing this challenge. Pictures/videos should be emailed to: youth.reference@baldwinlib.org

Send in by **11:59 pm on June 30** to be included in a compilation video we'll share online.

Part Two: Creative Boat Building

Build a boat that floats out of items found around the house. Be creative! Look in your recycle bin, craft bin, cupboards, pantry, or even your refrigerator to find items to build with.

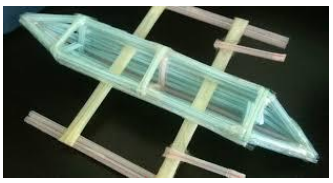
Some things that might be fun to build with are plastic cups/bowls, straws, plastic bottles, egg cartons, foam sheets. I'm sure you'll find lots of interesting building materials.

After building your boat, try it out in water to make sure it floats. See how many pennies your creation can hold.

Be sure to send us pictures or a video of your creative design. Email to youth.reference@baldwinlib.org

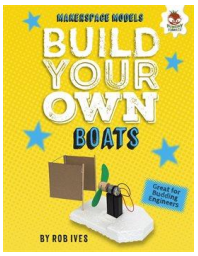
Here are some examples, but use your imagination to design something unique!



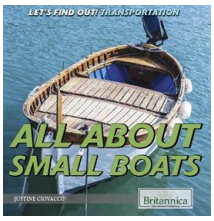



Additional Resources

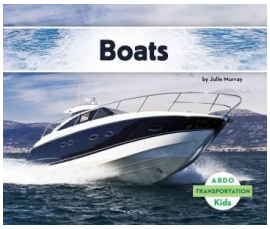
If you'd like to read more about boats, density, or sink/float experiments, you can check out the following eBooks available on Hoopla. Information on using Hoopla can be found at https://www.baldwinlib.org/ebooks/



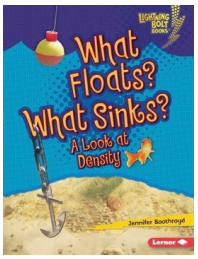
Build Your Own Boats by Rob Ives



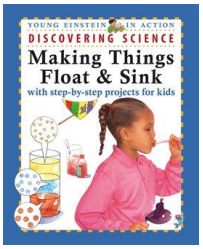
All about Small Boats by Justine Ciovacco



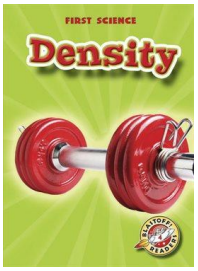
Boats by Julie Murray



What Floats? What Sinks?: A Look at Density by Jennifer Boothroyd



Making Things Float and Sink by Gary Gibson



Density by Kay Manolis