



# Pennies in a Boat!

Will it Float!?

July 2020

## Activity: Pennies in a Boat!

### INTRODUCTION

After learning about how objects float or sink in our live Zoom class “Will it Float!?” it is time for you to try and design your own boat and see how much weight it can hold!

### MATERIALS

- Paper and pencil
- 6 inch square of aluminum foil
- Numerous pennies (can also use nickels, quarters, dimes, or combination thereof)
- Container of Water

### PROCEDURE

1. Design – Take time to design a boat using your piece of aluminum foil before you begin constructing your boat. Use a piece of paper and pencil to sketch your designs and pick the one you think will work the best.
2. Construction – Using the design you have chosen as a guide, construct your boat out of aluminum foil.
3. Test – Place your boat in the water and add pennies to it until it sinks. Record the number of pennies your boat held on a piece of paper.
4. Redesign – Return to step 1 and try and improve your design. After improving your design, proceed with steps 2 and 3 to determine which boat design can hold the most weight.

### QUESTIONS

- How much weight were your boats able to hold? How is this related to the boat’s density (mass/volume)?
- What other materials could you use to keep your boat afloat?
- How do you think engineers use the design-build-test-redesign process?