

# Float Your Boat

## 1st–2nd Grade

### Objectives

- Students will predict how many pennies an aluminum foil boat will hold before it sinks.
- Students will test their predictions and record the results.

### Materials Needed

- Float Your Boat Record Sheet
- Aluminum foil
- Small plastic tubs
- Pennies



### Introduction

Prompt students to raise their hands if they have ever traveled aboard a boat. Invite students to share what kind of boat it was (such as a rowboat, sailboat, canoe or cruise ship) and about how many passengers were on board. Ask students, “Can you ever have too many people aboard a boat? How do you know? What might happen?”

Invite students to hypothesize and share their reasoning. Guide them to the conclusion that too much weight may cause a boat to sink.

### Procedure

1. Give each student a Float Your Boat Record Sheet. Announce that today they are going to be investigators. Their job is to discover how many pennies can float in a foil boat before it sinks.
2. Divide students into pairs and give each pair a large sheet of aluminum foil.
3. Encourage students to bend and fold the foil any way they like to make a boat. (Explain that their boat can be any shape or size, as long as it is designed to hold pennies and float.) Instruct students to draw a picture of their boat design on their record sheet.
4. After they have constructed their boat, prompt students to predict how many pennies their boat will hold without sinking. Have them write that number on their record sheet.

### Guided/Independent Practice

1. Give each pair of students a tub of water and a handful of pennies to test their prediction.
2. Ask students to place their boat on the surface of the water. Then prompt students to take turns adding pennies to the boat until it sinks.
3. Instruct students to record the number of pennies that the boat held without sinking. Was it more or fewer than they predicted?
4. Have students find the difference between their prediction and the result by subtracting the smaller number from the larger number.

**Tip:** Before placing the water tubs on students’ desks, take a minute to review behavioral expectations such as not splashing.

## **Closure**

Invite each pair to display their boat and share their result. Start a discussion on the different boat designs. Ask students to offer hypotheses on why some boats held more pennies than others before sinking.

Guide students in understanding that the boats with greater surface area have greater buoyancy—and can therefore hold more weight.



Name: \_\_\_\_\_

# Float Your Boat Record Sheet

1. Draw a picture of your boat in the box below.

2. How many pennies can your boat hold without sinking?

Prediction	Actual Result

3. Did your boat hold more or fewer pennies than you predicted? \_\_\_\_\_

4. The difference between the prediction and the actual result was \_\_\_\_\_ pennies.