

Name(s) \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

# Activity Guide - Aluminum Boats



## Goal

Build a boat that holds the most possible pennies, using a piece of aluminum foil. You will build two boats and will try to improve your design between the first and the second.

## Rules

- You may only use a single piece of foil to build your boat
- You may not touch or adjust your boat once it is in the water
- You must add pennies one at a time

## Develop a Plan

- What kind of boat does your group plan to make? Write a description or draw a picture below.
  
  
  
  
  
  
  
  
  
  
- What are the strengths of this design? What possible weaknesses might this design have?

## Test Your Boat

- How many pennies did your boat hold?
  
  
  
  
  
  
  
  
  
  
- Why did your boat eventually sink? What needs to be improved?

## Evaluate and Improve

- What are the most common kinds of problems you see among the boats tested?
  
  
  
  
  
  
  
  
  
  
- What ideas seem to be working well?

## Develop a Plan

- What kind of boat does your group plan on making? Write a description or draw a picture below.
  
  
  
  
  
  
  
  
  
  
- What are the strengths of this design? What possible weaknesses might this design have?

## Test Your Boat

- How many pennies did your group's new design hold?
  
  
  
  
  
  
  
  
  
  
- Why did your boat eventually sink? What needs to be improved?

## Reflect

- What was your favorite part of this activity? What was the most challenging for you? Were they the same?
  
  
  
  
  
  
  
  
  
  
- Why do you think we're doing this activity in a computer science class?