

When Will My Boat Sink?

WHAT ARE WE INVESTIGATING?

How many pennies can my boat hold before it sinks?

MATERIALS:

- Straws
- Plastic Wrap
- Aluminum Foil
- Craft Sticks
- Scissors
- Tape
- Pennies
- Sink with Water
- Strive Academy's Engineering Design Process Handout (found at www.striveacademy.org)
- Pencil or Pen

EXTENSION:

- * Try this variable - make your boat out of different materials and see if it holds more or less pennies.
- * Try this variable - make the same boat but use a different type of coin (nickels, dimes, etc.) and see if it holds more or less coins.

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DIRECTIONS:

1. Gather all of your materials. Our materials are just suggestions - feel free to add other things too!
2. On your handout (found at www.striveacademy.org), fill in the title of your experiment (When Will My Boat Sink?).
3. On your handout, fill in your hypothesis. You want to answer the question: How many pennies can my boat hold before it sinks?
4. On your handout, sketch a design of your boat. Feel free to use color and label the materials that you will be using!
5. Using your materials, build a boat that will float. Make sure it is wide enough to add pennies to it.
6. Under "Data Collection/Observation", draw a picture of what your finished boat looks like. Feel free to use color!
7. Set your boat in a sink full of water. Your boat should float! Begin to add pennies, one at a time. Each time you add a penny, put a tally mark under "Results".
8. Add pennies until your boat begins to sink. Then count up the tally marks under "Results" to see how many total pennies your boat held.
9. Answer the "Analysis" questions on your handout:
 - How did your hypothesis compare to the actual number of pennies that your boat held?
 - Which material was the best at keeping the water from getting in and sinking your boat?
 - If you built your boat again, what would you change to make it better? Why?

**** Try the extension activities on the first page for more fun! ****