



BUILD: Don't Sink the Boat!

CHALLENGE: Can you build a boat that will float out of foil and straws?

BIG IDEA: We see boats, rafts, even people floating on the surface of water all the time. The ability to float or rise above the surface of a liquid or a gas is called buoyancy. It comes from the Spanish word *boyar*, meaning to "float."

INSTRUCTIONS:

1. **Plan the design of your boat:** How will you use foil and straws to build a boat? *Hint: Engineers often draw out their ideas*
2. **Build your boat:** Once you have your final design in mind, build your foil boat.
3. **Test your boat:** In the sink, bathtub, or pot of water by adding small objects to your boat one by one. Count how many objects your boat can hold before it takes on water.

GOING FURTHER:

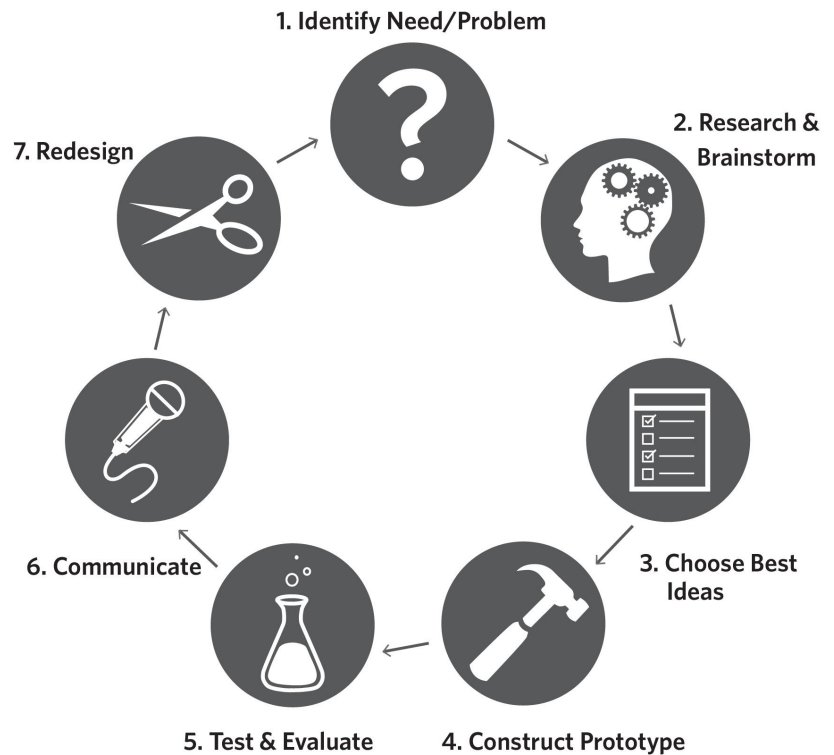
4. **Redesign your boat:** What improvements could you make to your boat to allow it to carry more weight before sinking?
5. **Test your redesigned boat:** In the same sink, bathtub, or pot of water by adding small objects to your boat one by one. Did your boat perform better with the redesign?
6. What do you think would happen if the water was really cold or really warm?

Materials:

- 4 Foil sheets (20 x 20)
- 4 Straws
- 5-25 small objects such as:
coins, beans, pebbles, washers, pieces of candy (found at home)



The Engineering Design Cycle



WANT TO KNOW MORE?

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tinyurl.com/STLboats - Why Do Ships Float? SciShowKids YouTube

WE WANT TO SEE & SHARE YOUR CREATIONS!

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2. Text us at 314-285-9663
3. Use this google form and we'll show off your creation. [Submit Here](#) (tinyurl.com/STLsubmit)

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