

Tin Foil Boat STEAM

You will need:

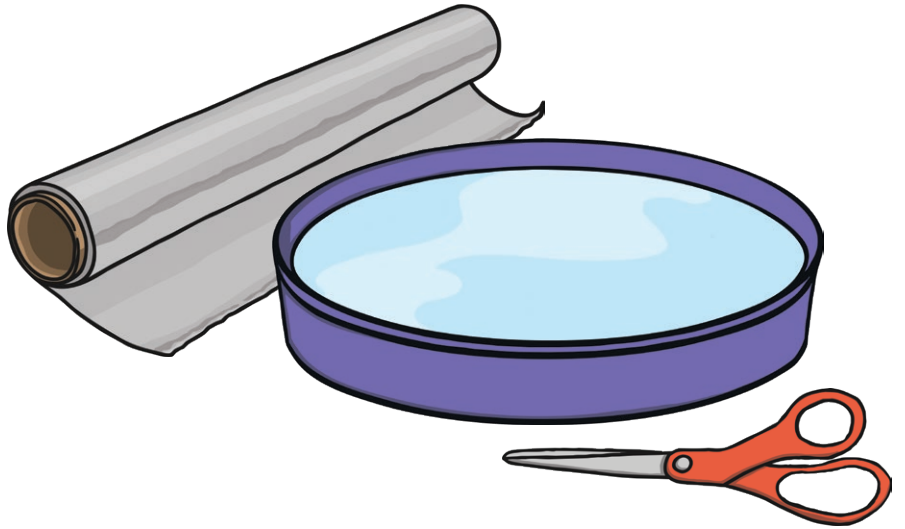
Tinfoil

Scissors

Bowl of water

Pennies

Boat Design Analysis Sheet



Instructions

1. Use scissors to carefully cut the tinfoil into 2 rectangle shapes.
2. With the first piece of foil, form a boat that can hold pennies and not sink.
3. Predict how many pennies your boat will hold.
4. Place the foil boat in the bowl of water.
5. Place 1 penny at a time in the boat. Keep adding pennies until the boat sinks. Make sure you count them as you go!
6. Use the second piece of foil to make a new boat, based on what you observed from your previous design.
7. Estimate how many pennies the new design will hold.
8. Place the new boat in water, and carefully place 1 penny at a time in the boat until it sinks.
9. Complete the Boat Design Analysis sheet.

Tin Foil Boat STEAM

Science Behind the Experiment

There are two forces acting on the boat design:

1. **Gravity** – Gravity is pulling the tinfoil and pennies downward.
2. **Buoyancy** – Buoyancy is pushing the boat toward the surface.

As long as the force of buoyancy is greater than the force of gravity, the boat will continue to float. The force of buoyancy will be greater than the force of gravity when the weight of the foil and pennies is spread across more surface area of the water, creating more buoyance, or force, pushing upward.