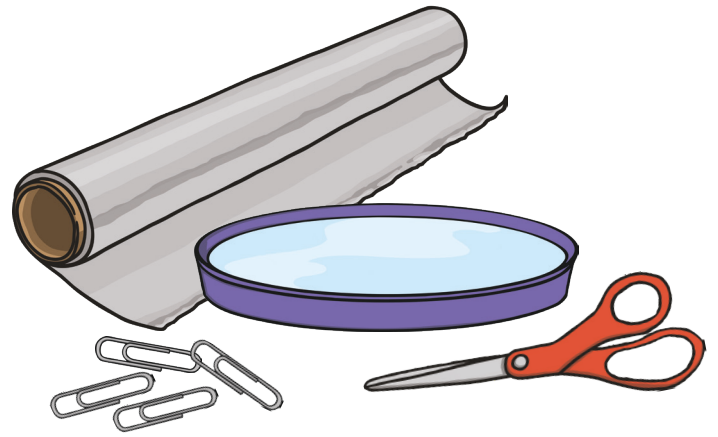


# Recycled Foil Boat

## STEM Activity

### You Will Need:

- tinfoil
- scissors
- bowl of water
- paperclips
- Boat Design Analysis Sheet



### Instructions:

1. Use scissors to carefully cut the tinfoil into two rectangle shapes.
2. With the first piece of foil, form a boat that can hold paperclips and not sink.
3. Predict how many paperclips your boat will hold.
4. Place the foil boat in the bowl of water.
5. Place two paperclip at a time in the boat. Keep adding paperclips 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 paperclips the new design will hold.
8. Place the new boat in water, and carefully place one paperclip at a time in the boat until it sinks.
9. Complete the Boat Design Analysis sheet.

## Science Behind the Experiment:

There are two forces acting on the boat design:

1. Gravity – Gravity is pulling the tinfoil and paperclips 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 paperclips is spread across more surface area of the water, creating more buoyance, or force, pushing upward.

