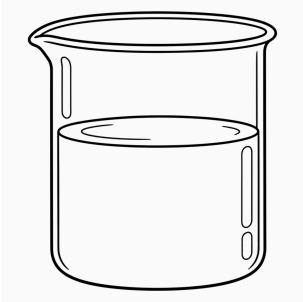
# Floating and Sinking Investigation

Name / chosen name: _____

Work with an adult. Predict before testing; observations describe what actually happened.

## Materials

A shallow tray of water, towel, large cork, large wooden block and large metal spoon.



## Instructions

1. Predict whether each object will float or sink.
2. Place one object gently into shallow water. Observe without pushing it.
3. Remove it and test the next object. Record each result.
4. Compare your results with your predictions.

**1. My prediction**

## Observation

**Safety:** An adult supervises water use. Keep water shallow, wipe spills and keep it away from electricity. Use large objects; do not put anything in mouths.

# Floating and Sinking Investigation

Name / chosen name: _____

## Record and explain

### 1. What happened?

### 2. Was it different from my prediction?

### 3. What did I change or keep the same?

**Scientific explanation:** An object floats when the water can provide enough upward force to support its weight. Material, shape and trapped air affect what happens; heavy objects do not always sink.

### 1. One further question

### 2. How I could test it safely with an adult

Background source: https://www.amnh.org/learn-teach/resources-for-learning/hall-of-ocean-life/cartesian-diver

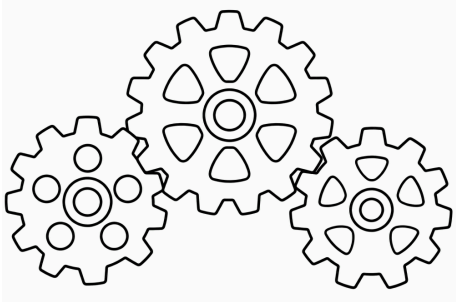
# Static Electricity Investigation

Name / chosen name: _____

Work with an adult. Predict before testing; observations describe what actually happened.

## Materials

A plastic comb, dry cloth and small paper scraps on a tray.



## Instructions

1. Predict what will happen when the comb is near paper.
2. Hold the comb close without touching. Record what happens.
3. Rub the comb with the cloth several times.
4. Hold it near the paper again. Compare before and after.

**1. My prediction**

## Observation

**Safety:** Use a plastic comb and paper only. Keep scraps on the tray, away from mouths. Do not use mains electricity or rub anyone's hair without consent.

# Static Electricity Investigation

Name / chosen name: _____

## Record and explain

### 1. What happened?

### 2. Was it different from my prediction?

### 3. What did I change or keep the same?

**Scientific explanation:** Rubbing can transfer electric charge between materials. A charged comb can attract nearby neutral paper by rearranging charges within it. Conditions such as humidity can affect the result.

### 1. One further question

### 2. How I could test it safely with an adult

Background source: https://annex.exploratorium.edu/science-explorer/roller.html

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# Paper Bridge Challenge

Name / chosen name: _____

**Challenge:** Build a paper bridge across a 15 cm gap that holds three equal blocks.

**Materials:** Two sheets of paper, two book supports, tape and three large blocks.

**My design sketch**

**My prediction and plan**

**1. First test result**

**2. One change I will make**

**Test:** Change folds or layers; keep the gap and test blocks the same.
**Safety:** Test low over a clear table; keep fingers clear of falling blocks.