

Floating and Sinking

4

Big Idea

An object floats if it is less dense than the water it is floating in.

3

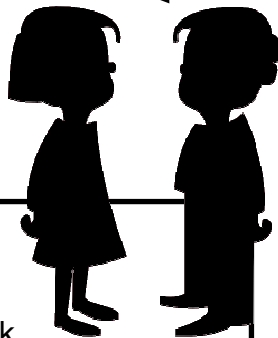
An object floats when its weight equals the weight of the water it displaces.

2

1

Level

The activity is aimed at this level but can be modified to suit other levels.



Learning Intentions

- ✓ We are learning whether an object will float or sink.

Success Criteria

- ✓ I can explain why an object floats or sinks.

Other Resources

Building Science Concepts

Floating and Sinking (Level 1/2)
Understanding Buoyancy (Level 3/4)

Connected

The boat race (Number 3, 1999)

School Journals

'Swimming Day' (Pt 1, No.5, 1992)
'Archimedes and the Crown' (Pt 4, No.1, 1986)

Literacy

'Mr Archimedes' Bath' by Pamela Allen
'Who sank the boat?' by Pamela Allen
'Mr Gumpy's Outing' by John Burningham

Assessment Resource Bank

PW4108 – Water Displacement

What you need to know

- An object that is light for its size will float on water.
- A floating object usually lies on top of the water.
- When we put an object into water, it pushes water out of the way. (This is called displacement.)

Curriculum Links

Nature of Science

Investigating in science - Extend their experiences and personal explanations of the natural world through exploration, play, asking questions and discussing simple models. (L1/2)

Participating and contributing - Explore and act on issues and questions that link their science learning to their daily living. (L1/2)

Physical World

Physical inquiry and physics concepts - Explore everyday examples of physical phenomena. (L1/2)

Seek and describe simple patterns in physical phenomena. (L1/2)

Key Competencies

Relating to others – Share ideas and listen actively to others.

What you need

- Collection of objects for each group (eg - cork, toy car, paper clip, cloth, wood, metal, plastic lid, plant material, nail, tennis ball, pencil,)
- Large container of water (clear sides if possible)
- Recording chart - class (Item, Prediction, Observation, What helped it float or sink)
- Recording chart - group (Item, float/sink)

What to do

1. Read the story 'Who sank the boat?' Follow up questions -
 - What happened in the end?
 - Why didn't it happen earlier?
 - What does it mean when we say something floats?
 - What does it mean when we say something sinks?
2. Show the students the collection of objects and get them to predict which objects will float or sink and why. Record on the class chart
3. In groups children test out each object and record their results on group chart.
4. Feed back to rest of the class and teacher completes the class chart.
5. Discuss why they think the objects float or sink and record this on the chart.
6. Groups now sort the objects into 3 groups (float, sink, not sure).
7. Questions to ask -
 - What is the same about all the objects that float?
 - What else can float like these things?
 - What is the same about all the objects that sink?
 - What else can sink like these things?
 - What are our ideas about floating and sinking now?

What's Next?

Try:

- Blocks of wood - different sizes and shapes
- Pieces of candle - different lengths
- Sponge

