

Float and sink: guess and sort

Lesson at a glance

Open with a teacher jar demo: cork bobs, stone sinks, and one short wonder. Children thumbs-guess float or sink for spoon, sponge, toy boat, lolly stick and coin, then commit guesses on the float-or-sink interactive for log, nail, sponge and coin. At group water trays they guess-then-test a core set, sort matching dry copies into float and sink hoops, draw float, sink and one surprise in the Investigation Journal, and close with a carpet talk that size is not the rule.

Learning objectives

- Guess whether an object will float or sink before testing
- Test objects at the water tray and sort dry copies into float and sink
- Talk about a surprise and notice that some things float and some sink

Before the bell – prep

Night before: fill one shallow water tray or basin per small group; bag a wet-test set and a matching dry copy set (cork, spoon, stone, sponge, toy boat, lolly stick, coin). Towels at every tray. Two hoops per group with picture cues. Keep a spare dry sponge and a clear jar with cork and stone for the hook only.

Materials

Item	Qty	Per	Source	Low-cost substitute
water tray or large basin	1	group	school kit	washing-up basin from home
float and sink object set (cork, metal spoon, small stone, sponge, toy boat, lolly stick, coin)	1	group	classroom	any safe mix of light wood or plastic items and small metal or stone items from the classroom
towels	2	group	classroom	tea towels or kitchen roll
sorting hoops (float and sink)	2	group	classroom	two trays or hoops made with skipping ropes, each with a picture cue for float and sink
clear jar or jug of water with one cork and one small stone (teacher demo)	1	class	classroom	any clear plastic tub deep enough to show float and sink
Investigation Journal page	1	pupil	provided printable	plain paper for drawing float and sink findings

Safety watch-point

Teacher handles the jar demo. Roll sleeves; wipe spills at once; shallow water only; no tasting; keep coin and small stone in sight; dry floor before anyone walks away; wash hands at tidy-up.

Teaching moves

- **Getting Started:** At the front, drop the cork so it bobs, then the stone so it sinks. Ask only why one stayed up and one went down; accept all ideas and do not correct yet. Keep cork and stone for this demo only — do not reuse them for thumbs guesses or the board.
- **Look and Guess:** Hold up spoon, sponge, toy boat, lolly stick and coin one at a time. Name float and sink aloud as children show silent thumbs. Watch for looking at the object before guessing, not copying a neighbour. Guesses are never wrong.
- **Surprising pairs on the board:** Open the float-or-sink interactive in explore mode with only big log, small nail, sponge and coin. Class must commit a guess before each drop. Start with the log (floats) then the nail (sinks) to crack the size idea; keep the beat under three minutes.
- **Water tray play:** Model one full cycle with the toy boat: wonder, guess, place, notice. Send groups to core set first — boat, lolly stick, spoon, sponge — so every child gets turns. Hold the next object until a guess is said; revoice what they guessed versus what happened.
- **Sort float and sink:** After hands are dry, sort dry copies of the core four into picture-cued float and sink hoops from what the tray showed, not a new guess. If two children disagree, send that object back for a quick re-test rather than deciding for them.
- **Draw our float and sink:** Model on a demo page: one float drawing, one sink drawing, then circle or star one surprise. Only then send children to their Investigation Journal. Keep towels handy so crayons stay dry; fallback is three marks if time is tight.
- **What did we notice?:** Carpet talk with hoops still visible. Prompt which floated, which sank, and what surprised them. Revoice before tidy-up: some things float and some sink; size is not the rule. Name boat-makers as people who need to know what stays up.

What it should show

Toy boat, lolly stick and cork usually float; spoon, stone and coin sink. A fairly dry sponge usually floats; if it soaks it may sit low or sink — treat that as useful surprise, not a mistake. On the board, big log floats and small nail sinks. A group whose sponge result disagrees can re-test with a fresh dry sponge.

Misconceptions & interventions

- **Heavy things sink and light things float — or big things sink and small things float.** — Point back to the board log versus nail and the tray sponge versus stone: the big light one stayed up and the small heavy one went down. Revoice: size is not the rule.
- **Children change their guess after seeing a neighbour, or skip guessing and just drop the object in.** — Hold the next object until a thumb or spoken guess is clear. Praise looking carefully at the object first; say guesses start the fun and are never wrong.

**Differentiation**

Emerging	Developing	Proficient
• Stay at the teacher tray and run guess-then-test in a small group with revoicing: you guessed float — what did it do? • On the Journal page, support one float drawing and one sink drawing from the core set only.	• After the core four, add cork, stone or coin if the group is still guessing carefully before each drop. • As they place in the hoop, prompt a short reason: it goes here because it went down.	• Invite a simple label on one Journal drawing (boat, stone) and a clear star on the surprise. • In the carpet talk, ask them to name one pair that shows size is not the rule.

Cross-curricular hook

Oral language: children practise because-sentences when sorting — The stone goes here because it went down.