

Float and sink: guess and sort

Lesson at a glance

Open with a quick jar demo: cork bobs, stone sinks, then put both away. 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 big log, small nail, sponge and coin. At water trays they guess-then-test a core set, sort matching dry copies into float and sink hoops, draw results and one surprise in the Investigation Journal, and close with 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: one shallow tray or basin per group with a few cm of water; wet-test set and matching dry copies (cork, spoon, stone, sponge, toy boat, lolly stick, coin); towels; two hoops or trays with picture cues for float and sink. Keep a spare dry sponge. Demo jar with cork and stone only for the opener.

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 demo jar. Roll sleeves; towels at every tray; wipe spills at once; no tasting; keep coin and small stone in sight; dry floor before anyone walks away; wash hands after tidy-up.

Teaching moves

- **Getting Started:** Drop the cork so it bobs, then the stone so it sinks. Ask why one stayed up and one went down; accept every idea without correcting. Put cork and stone away at once so later guesses stay real predictions.
- **Look and Guess:** Hold up spoon, sponge, toy boat, lolly stick and coin one at a time. Name float and sink as children show silent thumbs. Watch for looking at the object before guessing rather than copying a neighbour.
- **Surprising pairs on the board:** Run the float-or-sink interactive briskly: class must guess before each drop for big log, small nail, sponge and coin. After the last drop ask which surprised them and whether the big one always sank. Finish all four inside three minutes.
- **Water tray play:** Model one full cycle with the toy boat: wonder, guess, place, watch, say what it did. Send groups to trays on the core set first — toy boat, lolly stick, spoon, sponge. Hold the next object until a guess is said; revoice what they guessed versus what happened.
- **Sort float and sink:** After hands are dry, children place dry copies of the core four into picture-cued float and sink hoops from what they saw, not a new guess. If two 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 the fallback of three marks if time is short; dry hands before crayons.
- **What did we notice?:** On the carpet with hoops still visible, ask which floated, which sank, and what surprised them. Revoice before tidy-up: some things float and some sink; size is not the rule. One short line that boat-makers need to know what floats, then stop.

What it should show

Toy boat, lolly stick and cork usually float; spoon, stone and coin sink. A fairly dry sponge floats; a soaked sponge may sink or sit low — treat that as useful surprise, not a mistake. On the board, big log floats and small nail sinks, so children notice size is not the rule. Affirm careful guesses and honest surprises.

Misconceptions & interventions

- **Heavy things sink and light things float — or big things sink and small things float.** — Point to the hoop sort and the board pair: the big log floated, the small nail sank; the sponge may have floated while the small stone sank. Ask Did the big one always sink? without lecturing.
- **A guess that was wrong means I did it wrong.** — Revoice that scientists guess first then find out. Celebrate the surprise as useful evidence and invite them to mark it on the Investigation Journal page.

**Differentiation**

Emerging	Developing	Proficient
• Sit at the teacher tray and revoice each core object: guess with a thumb, place, then say stayed on top or went down before the child sorts the dry copy. • On the Investigation Journal, accept one float drawing and one sink drawing if a full set is too much.	• After the core four, add cork, stone or coin only while the child still guesses before each drop. • Prompt a short placing reason at the hoops: it goes here because it went down.	• Invite a simple label such as boat or stone beside one drawing, and ask them to mark and name the surprise to the group. • If the sponge sank when wet, ask what changed from the dry sponge on the board without adding new objects.

Cross-curricular hook

Links to Aistear water play and oral language: children rehearse float, sink, guess and surprise while sorting real objects.