

# Make a little boat that floats

## Lesson at a glance

Hold up a small plastic toy beside the empty water tray and ask what could help it float across. Children share shape ideas, then in two short bursts press foil into a wide open boat with raised sides, optionally adding lolly sticks. Small groups take turns floating boats in shallow trays and try one shape fix if a boat tips. Close with oral noticing of shapes that stayed up and a quick show-and-tell of boats held high.

## Learning objectives

- Make a small boat from foil and lolly sticks and float it in the water tray
- Try one fix if the boat tips and say that shape helps a boat float

## Before the bell – prep

Fill one or two shallow water trays a few centimetres deep and set towels beside them. Tear foil into hand-sized squares (about two per child). Put lolly sticks in a shared tub. Have a light plastic toy ready for the hook and spare foil for tears.

## Materials

| Item                                                   | Qty | Per   | Source      | Low-cost substitute                                                                                                                                                                     |
|--------------------------------------------------------|-----|-------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| aluminium foil squares (hand-sized, about 2 per child) | 2   | pupil | supermarket | clean used foil gently flattened (best match). Wax paper only if foil is unavailable: it may soften in water, so keep the talk on sides and a hollow middle rather than a perfect float |
| wooden lolly sticks                                    | 2   | pupil | supermarket | short strips of stiff card or clean ice-lolly sticks saved from home                                                                                                                    |
| shallow water tray                                     | 2   | class | classroom   | large washing-up basins or deep roasting trays on towels (two if possible)                                                                                                              |
| towels or cloths for spills                            | 4   | class | classroom   | old tea towels or kitchen roll                                                                                                                                                          |
| small light plastic toy (optional passenger)           | 1   | group | classroom   | a bottle cap or small eraser as a pretend passenger                                                                                                                                     |

**Safety watch-point**

Sleeves up before the wet table. Cap trays at about four children; wipe spills at once. Adult empties trays; hands washed before lining up.

**Teaching moves**

- **Getting Started:** Hold the toy beside the empty tray. Ask one question only: what could we make so our toy can float? Take two or three ideas, smile at every one, and do not hand out foil yet. Name that boat-builders shape real boats for rivers and the sea.
- **Talk and share ideas:** Press a foil square into a shallow open dish with raised sides as a quick model — do not float it. Say you wonder if a wide open shape will sit better than a scrunched ball. Leave the model as a clue, not a recipe. Keep partner talk to about three minutes, then move to making.
- **Make a little boat:** Run two short bursts, not one long sit. Burst 1: each child or pair presses a hollow middle with sides pinched up — a wide open foil dish counts as a complete first boat. Regroup: hold up wide-open vs scrunched and ask which will sit better. Burst 2: steady the shape; optional sticks as sides, mast or seat. Hand a fresh square if foil tears.
- **Float it and fix:** Sleeves up. Cap each tray at about four children. Half the class floats while the other half plans one shape fix at dry tables, then swap. Fold watchers in: will it stay up, what could they change? Allow one fix only if it tips; name shape when a helpful change works. Keep any passenger toy light and wipe spills straight away.
- **What helped it float?:** Gather at the tray or hold up one boat that floated and one that tipped. Draw out wide bottom, sides turned up, hollow middle. Revoice: a good shape helps a boat float. Oral noticing only — no drawing or journal page. Every child who tried a boat has succeeded.
- **Show and tell:** Everyone holds their boat up together. Invite only three or four children to say one short sentence using My boat... or I fixed.... One kind clap after each share. Keep shares short and warm; tidy comes in the next beat.
- **What you covered:** Tidy first: boats on a dry tray, scraps in the bin, towels on spills, adult empties trays, hands washed. Then read the board list aloud and end on joy — every child who shaped foil and tried the water was doing engineering.

**What it should show**

Most wide open foil boats with raised sides and a hollow middle will float. Tight crumpled balls often tip or ship water. An unexpected tip is useful learning, not failure. A heavy toy passenger can sink a good boat and confuse the talk — keep toys light. Foil tears are normal; a fresh square is enough.





### Misconceptions & interventions

- **Only store-bought toy boats can float — ours won't work because we made them.** — Name that we are makers too. Point to a wide open class boat that stays up and say shape is what we can change, just like boat-builders.
- **A tight crumpled ball of foil is stronger, so it should float better.** — Hold the scrunched ball beside a wide open dish at the tray. Ask which has space to sit on the water and sides to keep water out, then try both if time allows.

### Differentiation

| Emerging                                                                                                                                                                                                        | Developing                                                                                                                                                                       | Proficient                                                                                                                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Offer a partly-started foil square already pressed into a shallow dish so the child only pinches the sides up; pair at the teacher table for the first float.</li></ul> | <ul style="list-style-type: none"><li>• After one successful float, prompt one shape fix only: open the base wider, pinch sides higher, or move a stick — then re-try.</li></ul> | <ul style="list-style-type: none"><li>• Ask them to watch the next group's boat and name one shape feature that helped or one fix they would try, using the word shape.</li></ul> |

### Cross-curricular hook

Link to Geography — boats on Irish rivers and the sea, and how builders shape them to carry people safely.