

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
• 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.	• After one successful float, prompt one shape fix only: open the base wider, pinch sides higher, or move a stick — then re-try.	• 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.

Cross-curricular hook

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