

materials

Freezing and melting

Lesson at a glance

Open by letting a few children feel a frosted bowl of hidden ice cubes, then tip to reveal ice. Name ice as hard, cold water and take oral notices only. Predict what will happen in the warm room, then watch a few small cubes melt together, naming melting after the change is seen. Groups explore still-cold cubes at tables with towels, then look again at the puddle forming. Close with a short make-sense talk: warmth melts ice; cold freezes water.

Learning objectives

- Feel and look at ice and say how it is different from water
- Watch ice melt and talk about the change from ice to water
- Talk about cold turning water to ice and warmth turning ice back to water

Before the bell – prep

Freeze small ice cubes overnight (colour a few if you wish) and keep group ice in a cool bag or freezer until step 4 so it stays hard. Ready clear bowls, towels beside the demo space, a spare bowl, and a class basin for tip-out. Prefer small cubes so melt shows in a few minutes.

Materials

Item	Qty	Per	Source	Low-cost substitute
pre-frozen ice cubes (some coloured with a drop of food colouring if wished; prefer smaller cubes for a quicker visible melt)	6	group	supermarket	a bag of ice from a shop, broken into small chunks
clear bowls	1	group	classroom	clear takeaway tubs or large clear plastic cups
towels	1	group	classroom	tea towels or a roll of paper towel
extra clear bowl for teacher demonstration	1	class	classroom	any clear container the class can see into
cool bag or insulated box to hold group ice until step 4	1	class	classroom	leave group cubes in the freezer and fetch them at the step-4 transition

**Safety watch-point**

No tasting ice or melt water. Brief touches only if hands get uncomfortably cold; wipe spills straight away; wash hands after water play.

**Teaching moves**

- **Getting Started:** Hold the frosted bowl closed; invite only two or three children to feel the outside while the class guesses. Accept every idea kindly, then tip to reveal: Ice! Frozen water. Keep the reveal short and playful.
- **Ice and water:** Keep the ice in view and name only ice for now. Take a few oral look-and-feel words (hard, cold, shiny, slippery). Do not yet ask what will happen in the warm room — save that prediction for the next step.
- **Watch the ice melt:** Place a few small cubes in one clear bowl on the demo table. Model I wonder / I predict / I test out loud; invite thumbs on the board options. Every half-minute point and ask one notice: edges sharp or round? smaller? water at the bottom? If little changes, warm the bowl gently in your hands. Name melting only after children have watched the change.
- **Explore our ice:** Send groups only when ice is still hard from the cool bag. One helper per group collects bowl plus towel; sleeves rolled up. Circulate and revoice: hard and cold; water on fingers came from the ice melting. Brief touches only if fingers get too cold.
- **What is changing?:** Bring the class back to still looking. Prompt eyes and careful touch: ice smaller, more water, softer edges. Separate what we see from what we think it means. Compare a fast-melt bowl with a slow one and wonder why.
- **Make-sense talk:** Pace one idea at a time. First revoice melting from their words. Only then add freezing lightly as the reverse (freezer at home, frost or a frozen puddle). Finish with one real-world use such as a cool bag or ice-cream van. No particle talk or fair testing.

What it should show

Most children will name ice as hard, cold and different from water, then notice cubes getting smaller, edges rounding and a puddle forming. Affirm water-on-fingers as melting. Some bowls melt slower (bigger cubes, cooler spot) — useful for comparing, not a wrong result. Redirect any claim that ice is a different substance from water.

Misconceptions & interventions

- **Ice and water are two different things — ice is not water.** — Gently revoice while pointing at the bowl: ice is water that has frozen hard and cold; when it melts it is water again. Hold up the shrinking cube and the puddle as the same material changing.
- **Ice only melts if we put it in hot water or on a radiator.** — Point back at the demo bowl that sat only in classroom air: our warm room was enough. Name melting from that watched change, not from heat they did not use.



Differentiation

Emerging	Developing	Proficient
• Invite pointing to the hard ice and to the water in the bowl; revoice their gesture as hard/cold and melting.	• Prompt one spoken difference: ice is hard and cold; water is wet and runny.	• Ask why one group's bowl melted faster than another's (smaller cubes, warmer hands, place in the room) using only what they can see.

Cross-curricular hook

Link to Aistear/oral language: children practise notice words (hard, cold, wet, smaller) and retell the ice-to-water change in full sentences.