

Lesson 1 · nature-of-stem

STEM All Around Us: The Story of Figuring Things Out

Lesson at a glance

Open by asking who invented the first chair and how they worked out how to make it stand — take a few guesses to spark curiosity. Reveal the STEM table one row at a time, pointing at a real torch and the school walls. Groups then take a clipboard 'STEM eyes' walk of room and corridor, collecting six finds, and sort them onto a three-column Science/Technology/Engineering sheet. Close with a story-of-STEM talk and start the year's I wonder board on the wall.

Learning objectives

- Recognise that STEM is people working out how the world works and making things better
- Sort everyday things into science, technology and engineering
- Start the year's I wonder board with a real question

Before the bell – prep

Gather a clipboard and a few collecting sheets per group, plus the three-column sorting sheets, the day before. Have one real torch and a wall poster ready to point at when teaching the table. Decide and walk your route in advance — classroom and one corridor is plenty. Clear wall or noticeboard space for the I wonder board.

Materials

Item	Qty	Per	Source	Low-cost substitute
clipboard	1	group	classroom	a hardback book to lean the paper on
collecting sheet (plain paper for the walk)	2	group	classroom	the back of a used sheet of paper
pencil	2	group	classroom	none
sorting sheet (Investigation Journal page, three columns)	1	pupil	school kit	a sheet of paper ruled into three columns

Safety watch-point

If your route steps outdoors to the yard, stay with the class and keep groups within a marked safe corner. Indoors, mind clipboards near other pupils on the move.

Teaching moves

- **What is STEM?:** Reveal the table one row at a time — cover the lower rows with a card so only one lands on the board at once. Read Science and ask pupils to point to something in the room that is science; uncover Technology and hold up the real torch; uncover Engineering and gesture at the actual school walls. If yeast comes up, say it's the same yeast that makes bread rise.
- **STEM Eyes Walk:** Model one find first: point at a window and say someone had to figure out see-through glass and build a frame to hold it. Allow 3 min for rules, 12 min walking, settle at 15. Keep groups together and stay with the class if you step outdoors. Prompt with 'who do you think had to work that out?'
- **Sort Our Finds:** Model one sort on the board: torch is Technology, drainpipe is Engineering, a question about the drying puddle is Science. Show that a find can sit in two columns — a tap is technology and was engineered into the wall. Move between groups asking 'why did you put it there?' The sorting sheet is today's Investigation Journal page.
- **What Did People Use Before?:** Run this as display-only talk. Offer Irish anchors: candles, rushlights and oil lamps before electric bulbs; walking or horses before bicycles; a cool larder, a stream or salting before fridges. Finish by asking each group for one thing they wonder, and pin those questions up to start the I wonder board.

What it should show

This is a sorting and talk lesson, not a fair test, so there's no single right answer. Most groups will spot windows, door handles, lights, taps and bins, and confidently place tools like a torch in Technology and built structures in Engineering. Science is the hardest column — affirm any group who lists a wonder-question (why the puddle dries) rather than an object. Expect debate over items that fit two columns; that talk is the point.

Misconceptions & interventions

- **Pupils think STEM means only computers, robots or hard things.** — Hold up a spoon and a chair, and say a question about why leaves fall, then ask which are STEM — surface that all three are. Stress everyday tools and questions are STEM too.
- **Pupils believe each find must go in exactly one column and there's one right answer.** — On the board, place a tap in both Technology and Engineering and explain why. Tell groups the tricky ones can sit in two columns — the talking it over is the science.

Differentiation

Emerging	Developing	Proficient
<ul style="list-style-type: none"> • Give the group three or four pre-spotted items to sort first before they add their own finds. • Pair a confident drawer with a confident writer — sketches count as much as words on the collecting sheet. 	<ul style="list-style-type: none"> • Ask the group to find one item they think fits two columns and explain why to the table. 	<ul style="list-style-type: none"> • Challenge them to add a 'what did people use before?' story for one of their finds. • Ask them to spot one thing in the room that needed Science, Technology AND Engineering together.

Cross-curricular hook

Links to History — the 'what did people use before?' talk explores how everyday Irish home life changed over time.