

Pushes and pulls all around us

Lesson at a glance

Open with three everyday puzzles — door, dough, elastic band — and ask whether they share one idea. Teach force as push or pull using yard examples (kick a ball; pull a coat on), then send the class on a force hunt around the room and optional yard. Groups try door, drawer, chair, book, shared dough and elastic-band stations, deciding push or pull and start, stop or change shape. They record at least three finds on the Investigation Journal page and share surprises.

Learning objectives

- Identify pushes and pulls in everyday school examples, including when they squash or stretch something
- Describe how a force can make something start, stop or change shape
- Record at least three force examples with what happened

Before the bell – prep

Stock two shared tables with one small ball of modelling dough and two wide elastic bands each. Leave door, drawer, chair and book as movement stops already in the room. Agree an outdoor boundary if using gate, swing or soft ball. Mark three board columns ready for class finds.

Materials

Item	Qty	Per	Source	Low-cost substitute
modelling dough / play-dough (shared station balls)	2	class	classroom	soft modelling clay or a piece of blu-tack
elastic bands (wide, classroom type)	4	class	classroom	a strip of stretchy fabric or a hair bobble
everyday push and pull objects already in the room (door, drawer, chair, book)	1	class	classroom	any safe classroom objects children may push or pull gently
soft playground ball (optional outdoor stop)	1	class	school kit	skip the ball stop and use the school gate or a swing only

Safety watch-point

Push doors and chairs gently; pull elastic bands low and away from faces; keep walkways clear of bags and feet; outdoors stay inside the agreed boundary.

**Teaching moves**

- **Getting Started:** Keep it light. Point to the door, a ball of dough or an elastic band and take three or four quick guesses. Do not name force yet unless a pupil offers it. Leave the full hunt kit packed away.
- **What is a force?:** Eight minutes on the board only. Use the yard examples — kick a football (push, start) and pull a coat on (pull, change shape). Do not demonstrate the door, dough or band; those are hunt stops. If a child calls the door a push, take it as a prediction to check later.
- **What forces will we find?:** Predictions stay oral. Capture two or three Push / Pull ideas on the board as curiosity markers. Before anyone moves, name the safety rules while the class is still seated: gentle doors and chairs, bands low and away from faces, clear walkways, outdoor boundary.
- **Force hunt:** Rotate groups through shared stops, or walk the whole class stop to stop. At each stop voice the two questions: push or pull, then start, stop or change shape. After every one or two stops, freeze 20 seconds for pairs to say place, force and result aloud, and jot three short class finds on the board.
- **Name the force:** Send pupils to the Investigation Journal page and point back to the three board finds if anyone blanks. Circulate with the prompt: push or pull first, then what happened. Accept labelled drawings; if a pupil writes only squash, have them add that it was a push that squashed the dough.
- **Forces people have always used:** Give most of the five minutes to hunt shares. Ground any everyday-tool link in something they just handled — door, gate or chair push. If someone says only machines make forces, point back to their own hands on the hunt.

What it should show

Pupils should name door/chair/book as pushes that start or stop movement, drawer as a pull that starts, dough as a push that squashes, and elastic band as a pull that stretches. A common gap is writing only squash or stretch without naming push or pull first — prompt them to add the force word.

Misconceptions & interventions

- **Squash and stretch are kinds of force, separate from push and pull.** — Point at the dough or band and ask: did you push it away or pull it towards you? Then add that squash or stretch is what happened — the shape change, not a third force type.
- **Only machines or big things make forces — my hands don't count.** — Hold up their own dough squash or chair push from the hunt and say: that was a force from your hands. Machines use the same pushes and pulls.
- **I moved it is enough — no need to say push or pull.** — Prompt on the spot: did you push it away from you or pull it towards you? Have them restate the find with the force word first.



Differentiation

Emerging	Developing	Proficient
• Pair with a partner and let them point then say push or pull; use the three board finds as starters for the Journal page. • Accept labelled drawings instead of full sentences for the three records.	• After naming push or pull, add a clear start, stop or shape-change note for each of the three finds.	• Hunt for a force that both starts movement and changes shape, or find two different pulls and one clear stop.

Cross-curricular hook

Link to PE or GAA — kicking or hand-passing a ball is a push that starts movement, same language as the hunt.