

Muffling sound: keep it quiet

Lesson at a glance

Start a bare ticking timer so the class can hear it and ask how to make it quieter without switching it off. Pupils predict on the Investigation Journal which wrapping will muffle most — sock, bubble wrap, paper or nothing — then a whole-class front-table test runs each wrapping in a shoebox while everyone listens from one agreed spot and votes louder, same or quieter. Results go on a board chart; pupils copy what they heard into the journal and close by linking soft, thick materials to quieter places around the school.

Learning objectives

- Predict which wrapping will muffle a sound most and say why
- Observe and record which materials make a sound quieter

Before the bell – prep

Gather one timer or gentle buzzer, a shoebox, and one set of wrappings (sock, bubble wrap, paper; scarf optional). Check the timer carries across the room without being sharp. Print one Investigation Journal page each and clear a front table plus board space for a louder/same/quieter chart.

Materials

Item	Qty	Per	Source	Low-cost substitute
small loud ticking timer or battery buzzer	1	class	school kit	wind-up kitchen timer or a phone alarm at a gentle volume
shoebox	1	class	classroom	any small cardboard box with a lid or flap
sock (clean)	1	class	brought from home	a folded soft cloth or small towel
bubble wrap square	1	class	classroom	a crumpled plastic bag or packing foam scrap
sheet of paper	1	class	classroom	a page from a scrap paper tray
scarf or soft cloth (optional extra wrapping)	1	class	classroom	a folded jumper sleeve or tea towel
Investigation Journal page	1	pupil	provided printable	plain paper with headings I predict / I observe / what I found

**Safety watch-point**

Never hold the timer or buzzer beside anyone's ear; keep the volume class-friendly for the whole room.

**Teaching moves**

- **Which wrapping will help?:** Say muffle with the bare timer still ticking. Hand out Investigation Journal pages and have pupils draw or write a guess plus one reason, then whisper to a partner. Hold wrappings up at the front only — do not pass the single set around. Collect a quick show of hands for sock / bubble wrap / paper / nothing; value two 'because...' reasons without naming a winner.
- **Try the wrappings:** Agree one listening spot and practise thumbs up / flat hand / thumbs down. Model nothing then paper live: same box, same lid, same spot; mark the board chart after each listen. Helpers place bubble wrap then sock (scarf if used). After every try, take the vote and write louder / same / quieter before moving on. If the sock is not quieter, check it is fully wrapped and that nobody has crept closer.
- **Record what we heard:** Keep the board chart and word bank visible. Pupils leave their first guess untouched and mark what each wrapping sounded like using louder / same / quieter, faces or simple letters. Circulate with prompts: What did you guess? What did your ears tell you about the sock? Scribe one sentence only if a drawer needs it for your notes.
- **What did we notice?:** On the carpet, lock in the quietest wrapping from the chart first. Only then draw out that soft, thick materials can soak up some of the wobble so less sound reaches our ears — tied to the evidence, not told before the test. Ask where soft things quieten the school (hall curtains, reading-corner carpet, PE mats). If someone credits the box, remind them the box stayed the same.

**What it should show**

Expect the sock (or scarf) to muffle most, paper to sound almost the same as nothing, and bubble wrap somewhere in between. If the sock is not quieter, the timer is often only partly wrapped or the listening spot has moved closer — re-wrap fully and re-listen from the agreed place.

**Misconceptions & interventions**

- **Any cover makes the sound disappear completely.** — Point at the board chart: paper often stayed the same. Revoice that muffling makes a sound quieter, not always silent — compare sock with nothing again if needed.
- **The shoebox made it quiet, not the wrapping.** — Remind them the box was the same every time; only the wrapping changed. Trace nothing → paper → sock on the chart so the difference sits with the material.
- **Hard materials always mean a louder sound, so any soft thing must win.** — Hold up paper and sock: both covered the timer, but only the soft thick one usually muffled. Ask which chart column matches what their ears heard.



Differentiation

Emerging	Developing	Proficient
• Let the pupil point to the quietest wrapping on the board chart and use the word bank or a simple face mark while you scribe one short sentence if needed.	• Prompt a second comparison on the journal: Was bubble wrap quieter than paper? How do you know from the chart?	• Ask them to explain why the fair-listen spot must stay the same, and name one other soft school material that might muffle sound and why.

Cross-curricular hook

Link to school spaces in SPHE or Geography — curtains, carpets and reading-corner soft furnishings that help keep halls and classrooms quieter.