

## materials

# See-through or not

## Lesson at a glance

Open at the classroom window and ask what the class can see through the glass. Model the words see-through and not see-through with cling film and thick card held to the light, then briefly show the five-sample tray. Pairs take turns peeping cling film, paper, foil, a clear cup and card at the window, sort each piece onto two sides, and draw one of each on the Investigation Journal page. Close with a talk on where see-through materials help every day.

## Learning objectives

- Hold materials up to the light and sort them into see-through or not
- Name one everyday place where see-through material helps us

## Before the bell – prep

Day before, cut cling-film scraps and gather ordinary paper, foil, clear plastic cups and thick card — one shared tray between two. Clear one bright window spot (or a lamp if dull). Have two plain sheets or place-mats per pair ready as sort sides.

**Materials**

| Item                                                                                          | Qty | Per   | Source      | Low-cost substitute                                                 |
|-----------------------------------------------------------------------------------------------|-----|-------|-------------|---------------------------------------------------------------------|
| cling film scraps (roughly hand-sized)                                                        | 1   | group | supermarket | clear plastic pocket cut from an old document wallet                |
| ordinary paper sheets                                                                         | 1   | group | classroom   | a page from scrap paper                                             |
| aluminium foil pieces                                                                         | 1   | group | supermarket | a clean foil takeaway lid rinsed and dried                          |
| clear plastic cup                                                                             | 1   | group | supermarket | empty clear water-bottle bottom cut safely by an adult, edges taped |
| thick card pieces                                                                             | 1   | group | classroom   | a folded postcard or cereal-box panel                               |
| sorting tray for the five samples                                                             | 1   | group | classroom   | a shallow cardboard lid or plate                                    |
| paper place-mats or plain sheets for pair sorting (see-through side and not-see-through side) | 2   | group | classroom   | two clear corners of a desk named aloud by the teacher              |
| two shallow trays or hoops for an optional shared class sort                                  | 2   | class | school kit  | two large sheets of paper on the floor as class place-mats          |
| Investigation Journal pages                                                                   | 1   | pupil | classroom   | a blank A4 page folded in half to make two sides for drawing        |

**Safety watch-point**

Cling film stays in hands or on the tray — never near mouths, faces or hair. Bend foil gently (sharp crumpled edges). Cups are for looking through, not biting.

### Teaching moves

- **Look and wonder:** Keep only the two bold words on the board. Hold cling film to the window and peep, then hold card so the view is blocked. Lock each word to the live object. Head off 'it glows so it's see-through' by saying peeping means you can still make out what is on the other side.
- **Watch me peep:** Whole-class model only — children stay seated. Live I wonder... I think... I try... I noticed... with cling film then card. Invite choral peep or blocked thumbs. Flash the full five-sample tray so they know what is coming, but do not hand trays out yet.
- **Your turn at the window:** One tray between two at the brightest place. Stay close to keep cling film off faces and hair. Ask which piece surprised them and whether paper only glows or lets them peep a clear picture. Freeze after a few minutes and invite two children to show one see-through and one not.
- **Sort see-through or not:** Name two desk sides aloud — no written labels needed. Pairs place each real sample and say a short reason. If paper lands on see-through, re-run the peep test together. Optional: pairs bring one sample to two class trays so everyone agrees the sort.
- **Show and draw:** Hand the Investigation Journal page and give one spoken prompt: one thing you could peep through, one you could not. A simple mark or shape in each group is enough. Sit with unsure children — they point to a sample first, then mark it. Scribe a word only if asked.
- **Make-sense talk:** Revoice into see-through and not see-through. Draw out cling film and cup versus foil, card and paper. Weave in a window-maker choosing glass so we can see out while staying warm. Oral check: point to one see-through sample and name one everyday place (window is enough).

### What it should show

Expect cling film and the clear cup sorted as see-through; foil, thick card and ordinary paper as not. Paper may glow a little but children usually cannot peep a clear face or tree through it — guide that pair back to the peep test. A successful journal page has at least one mark in each group that matches their sort.

### Misconceptions & interventions

- **It looks bright / it glows, so it must be see-through.** — Hold the glowing paper up together and ask: can you still make out my face or the tree? Revoice that peeping means seeing what is on the other side, not only light getting through.
- **Thin things are always see-through and thick things never are.** — Compare foil (thin, blocks the view) with the clear cup (thicker, still peepable). Sort by the peep test, not by how thick it feels.

**Differentiation**

| Emerging                                                                                                                                                                                                       | Developing                                                                                                                                                               | Proficient                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Child points to what they can still see while you name see-through or not; sit beside them at sort and journal so they point to a sample then make one mark.</li></ul> | <ul style="list-style-type: none"><li>• Pair tries two pieces and tells a partner which one lets them peep; say a short reason as each sample lands on a side.</li></ul> | <ul style="list-style-type: none"><li>• From their spot, point to one more see-through thing already in the room (window, clear bottle) and say why a window-maker chooses glass.</li></ul> |

**Cross-curricular hook**

Oral language: pairs use full sentences — I can peep through... / It blocks the view — then revoice in the make-sense circle.