

living-things

The eye and reacting to a stimulus

Lesson at a glance

Open with everyday moments — stepping from a dim corridor into sun, blinking when something comes near the face. Name the dark circle as the pupil on the board image, then pairs predict size change in bright light versus hand-shade and whether a gentle clap will force a blink. At bright window zones, watchers compare a partner's pupil bright-versus-shade and jot on the Investigation Journal; then pairs hold a clear plastic sheet as a window and clap once beside it on a staggered table signal. Close with display-only talk that light and the clap are stimuli and the blink can be an automatic response.

Learning objectives

- Observe and describe how the pupil changes between bright light and shade
- Describe the blink response as something the body does without us deciding
- Follow safety rules for looking at eyes and testing a gentle blink stimulus

Before the bell – prep

Gather one clear plastic sheet per pair and wipe smudges clean. Mark two or three bright zones by windows or under the brightest ceiling lights before the bell. Have Investigation Journal pages ready; no torches or phones needed.

Materials

Item	Qty	Per	Source	Low-cost substitute
clear plastic sheet or face visor	1	pair	school kit	a clear plastic document wallet held upright between partners
Investigation Journal page	1	pupil	classroom	plain A4 paper with two labelled spaces: pupil watch and blink test

Safety watch-point

Hands off eyes; no torches or phones shone at faces; only the watched child shades their own eye; one gentle clap beside the sheet, never toward a face.



Teaching moves

- **How the eye reacts:** Project only the eye image and short board text. Point to the dark circle on the board, then briefly to your own eye without touching it, and say pupil once each time. Preview that some body actions happen without deciding, but hold the words stimulus and automatic response for the share-out.
- **What do you think will happen?:** Run two short think-pair-shares: first bright-versus-shade only, jotting words like smaller/bigger on the board; then hold up one clear sheet and take blink/no-blink predictions. Rehearse safety aloud before anyone looks closely — hands off eyes, shade with own hand only, clap beside never at the face.
- **Watching the pupil:** Model one tight cycle at the front: look in the bright zone, jot, then partner holds a cupped hand-roof for about ten seconds with a small front gap so the dark circle stays visible. Prefer every pair at the brightest spot they can reach; if space is short, waiting pairs stand a step back as second watchers and jot too. Circulate asking bigger or smaller now? and stop any eye-touching or torches.
- **Testing the blink:** Demonstrate once with the sheet between you and a volunteer: one gentle clap beside the sheet. Signal one table group at a time so two or three pairs clap together, jot blink or no blink, swap roles for one more signal, then move on. Stop any clap toward the face or tapping the sheet and remodel beside-not-at. Children who find sudden sounds hard may watch and note only.
- **Record what you saw:** Keep this as the paper recording beat inside the lesson. Prompt short evidence only: pupil bigger or smaller in bright and shade; blink or no blink. Offer oral stems — In bright light the pupil looked... When we clapped, my partner... — without requiring stimulus or automatic response on the page yet.
- **Automatic responses all around us:** Display-only science talk. Draw out the two findings, then revoice: light and the sudden clap are each a stimulus; the blink (and pupil change) can be an automatic response that helps keep us safe. Optionally invite one more everyday example orally — hand from something too warm, sneeze in bright sun — without new writing.

What it should show

Expect the dark circle to look smaller in brighter light and larger under a steady hand-shade within a few seconds. Almost every child blinks at least once at the gentle clap beside the sheet, even when trying to stay still. No size change usually means the shade fully blocked the view or the room contrast is too weak — coach the front gap or move nearer a window. No blink is accepted as data; do not clap louder or nearer the face.



Misconceptions & interventions

- **The pupil is just a black spot drawn or stuck on the eye.** — Point again at the board image and your own eye: it is an opening that lets light in and can change size. If a child asks what moves it, say the coloured part opens and closes like a tiny curtain — add iris only if they ask.
- **We decide every blink; blinking is always a choice.** — After the clap test, ask who blinked even when trying not to. Revoice the clap as the stimulus and the blink as an automatic response the body makes quickly to help protect the eye.
- **Automatic means the body is broken or out of control.** — In the share-out, stress that automatic means a fast helpful path for some jobs, not something wrong — same idea as pulling a hand back from something too warm.

Differentiation

Emerging	Developing	Proficient
• Pair with the teacher table for the model cycle; use oral stems only — bright smaller/shade bigger, blink or no blink — and act as note-taker if sudden sound is difficult. • As second watcher, stand a step back and jot the same bright-versus-shade comparison when invited.	• After one clear contrast, add why the pupil might change size so a helpful amount of light enters. • On the journal page, note one safety rule they actually used in the pair test.	• In the share-out, name one more everyday automatic response and its stimulus without a new investigation. • Critique the blink test: what would make it unfair or unsafe (clap at the face, surprise lunge, whole-class clap at once)?

Cross-curricular hook

Link to SPHE body awareness — naming how the body protects itself — and oral English using bigger/smaller and because when sharing evidence.