

Set up our plant investigation

Lesson at a glance

Open by showing one healthy plant beside a pale, leggy one and ask what the pale plant might have missed. Pupils name roots, stem and leaves on the plant-parts interactive, then the class votes for one comparison — light vs dark or water vs no water — and speaks two predictions with a because. Pairs plant two matching cups, label them, and place them as agreed. Day-one drawings and an optional short prediction go on the Investigation Journal page before a quick talk on what to watch over the weeks.

Learning objectives

- Ask a simple question about what plants need and set up two matching pots to compare light or water
- Predict what will happen to the plants and say why, then start a watching log

Before the bell – prep

Print one Investigation Journal page per pupil. Gather clear cups (two per pair/three), bean or cress seeds, damp compost or cotton wool, labels, newspaper mats, and a jug. Confirm windowsill space plus a press or light-blocking boxes big enough for every dark pot if light is chosen. Have one healthy and one pale plant (or clear photos) ready for the hook.

Materials

Item	Qty	Per	Source	Low-cost substitute
healthy potted plant for comparison hook	1	class	classroom	clear photos of a healthy plant and a pale leggy plant on the IWB
pale leggy potted plant for comparison hook	1	class	classroom	clear photos on the IWB
clear plastic cups	2	group	supermarket	clean empty yoghurt pots
bean or cress seeds	about 6 bean seeds or 2 small pinches of cress (enough for 2 cups)	group	school kit	dried beans from the supermarket (check they will sprout) or kitchen cress seeds
damp compost or cotton wool	2 small scoops of compost or 2 pads of cotton wool	group	supermarket	damp kitchen paper for cress
jug of water	1	group	classroom	shared class jugs
plant labels or masking-tape labels	2	group	classroom	paper strips taped to cups
dark box or access to a dark press cupboard with space for every dark pot	1	class	classroom	extra lidded cardboard boxes with no light gaps if the press is small
shallow tray to hold pots	1	group	classroom	lid of a photocopy-paper box
newspaper or wipeable mat to protect desks	1	group	classroom	old magazines
Investigation Journal page	1	pupil	classroom	plain A4 paper if a reprint is needed mid-lesson

Safety watch-point

Wash hands after compost; do not eat seeds. Cover desks, wipe spills, and keep water away from electrics and the IWB.

Teaching moves

- **Getting Started:** Show the healthy plant beside the pale, leggy one (or the two photos). Take a few quick notices only — what looks different, what the pale plant might have missed. Do not name variables or hand out cups yet.
- **Name the plant parts:** Drive the plant-parts interactive on the IWB. Pupils call out; you drag roots, stem, leaf, flower and petal. Stress the three they will watch on seedlings: roots take in water, stem stands up, leaves meet light. Keep flower and petal as a quick aside.
- **Our question and predictions:** Offer light or water; class votes for one comparison only. Write both ways of looking after the pots on the board in child words (e.g. Pot A: light / Pot B: dark), turn it into one shared question, then capture two spoken predictions with a because. Use the stem I think the ... pot will ... because ... if needed.
- **Plant our two pots:** Demo one full set-up in 2–3 minutes: same seeds, same cup, same starting dampness; only the chosen care differs. Groups of two or three plant and label two cups, then place light pots on the sill and dark pots straight into the press or box (or both in the same light place if water was chosen).
- **Day one on our journal page:** Hand out the Investigation Journal page. First draw both pots as they look today; then optional short prediction said, drawn or teacher-scribed. Remind them this page is added to each week — not homework.
- **What will we look for?:** Draw out greener leaves, stronger stem, new leaves and height. Revoice that one day is not enough — growers watch over weeks, and unexpected results are useful data.
- **Reflect and tidy:** Take two or three answers on why we watch over time. Run the tidy checklist: pots in agreed places, dark pots fully dark, tables wiped, hands washed, journals stored with the project.

What it should show

Little or no visible growth today — day one is the starting picture only. Shoots usually appear over several days. A successful set-up has two matching cups that differ only in the chosen care (light/dark or water/no water), clear labels with group name, and a day-one drawing of both pots. Cups that tip, soggy compost, or a dark box that leaks light are set-up fixes, not findings.

Misconceptions & interventions

- **Plants only need soil — light and water do not really matter.** — Point back at the pale plant from the hook and ask what it might have missed. Keep the focus on the two care ways the class chose to compare.
- **A plant in the dark will die straight away, so there will be nothing to watch.** — Say we are watching gently over days and weeks, not waiting for a plant to die. Day one often looks the same in both pots — change comes later.
- **Both label words go on one cup, or the two pots can be set up differently aside from light or water.** — Hold up your demo pair: one label word per cup, same seeds and same starting dampness. Only the agreed care differs.



Lesson 6

Differentiation

Emerging	Developing	Proficient
• Allow drawing-only on the journal page plus a teacher-scribed prediction using the board stem. • Pair quieter pupils to whisper a prediction to a partner before sharing.	• Prompt one simple because tied to leaves needing light or roots taking in water. • Ask which parts they will look at first when shoots appear (roots, stem, leaves).	• Note one thing that must stay the same about both pots (same seeds, same cup type) so the comparison stays clear. • Spot early whether a dark box is fully dark or compost is damp not soggy, and fix it.

Cross-curricular hook

Links to English oral language — speaking a prediction with because using the class sentence stem.

