



ADULT GUIDE · KEEP THIS PAGE

How plants grow and stay healthy

England national curriculum · Year 2

What this pack helps with

Connect plant parts and a common flowering-plant sequence to safe observation and evidence-led comparisons of water, light and temperature.

Start safely

The child can name a familiar plant and can describe one visible feature. An adult supplies any real seed, bulb or plant and checks handling and placement.

Use a pencil. Real observations are optional and adult-supported. Never taste or handle an unknown plant; keep water away from electrical items and wash hands after soil.

Print and use

Print A4 at actual size (100%). Child pages: **2–6**. Answers and feedback: **7**. Colour is optional; every task works in black and white. Pages may be used separately.

Use the supplied data when real plants are unavailable. Record adult help and actual observations, including no change or not sure. This is teaching practice, not a standardised test.

What to try next

Lists parts without jobs	Ask what the part helps the plant do in the printed example.
Changes several conditions	Circle the one condition being investigated and match every other condition.
Invents an expected change	Record what is actually visible, including no change or not sure.
Makes a universal claim	Add “in this comparison” and name the evidence used.

Scope and source

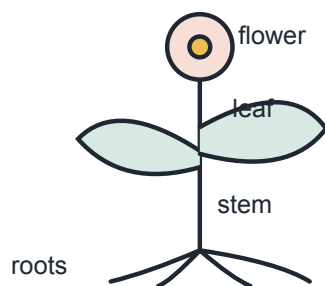
The pack uses common flowering-plant examples and one supplied classroom data set. It separates observation from explanation and does not diagnose plant health, promise growth or establish one ideal condition for every species. Based on DfE Year 2 Science (England; OGL v3.0). Original TheLearnDen tasks, data and diagram; not an official assessment. Free to print and share.



LEARN TOGETHER

How plants grow and stay healthy

Name: _____ Date: _____

**Parts work together**

Roots absorb water. The stem carries water. Leaves use light to help the plant make food.

A flower may help the plant make seeds.

Plan before deciding

A fair comparison changes one condition and keeps the others stated. If light changes, use similar plants, the same water, containers, temperature and observation times.

Observe what happens. Do not change an honest result to match a prediction.



PRACTISE AND OBSERVE

Parts and life cycles

1 Match each part to one job

roots

use light to help the plant make food

stem

anchor the plant and absorb water and minerals

leaves

may help the plant make seeds

flower

supports the plant and carries water

Draw four lines. How do two parts work together?

2 Order one common flowering-plant cycle

mature plant

seed

flower

root and shoot appear

new seeds may form

seedling

1.

2.

3.

4.

5.

6.

What could you observe at one stage?



PRACTISE AND OBSERVE

Observe and plan

3 Seed, bulb or both?

Statement	Seed / bulb / both
can grow into a mature plant when conditions suit	
can grow roots and a shoot	
store food for early growth	
an onion bulb has thick fleshy leaf bases around a short stem	
has a seed coat around a young plant and food store	

Start one adult-supplied seed

1. Ask an adult for one suitable seed and safe growing material.
2. Place the seed in or on damp, not flooded, material as instructed.
3. Label the seed and date; keep it where air reaches it at an adult-chosen suitable temperature.
4. Observe for the coat splitting, a root or a shoot; record no change too.

Circle: damp / flooded air can reach it / sealed with no air

4 Record a seed start or supplied plant

Choose: ☐ seed I started ☐ bulb ☐ supplied plant. Name or not sure: _____

Date	Root, shoot or leaves	Height if useful	What changed / no change / not sure

Adult help: _____



PRACTISE AND OBSERVE

Use supplied evidence

5 Plan a fair seed-germination comparison

How does water affect germination in two batches of the same cress seeds?

Change: water condition Batch 1: _____ Batch 2: _____

Seed kind/number

Material/container

Temperature

Light

Air access

Observation times

Observe: roots emerged / root length / no change or not sure

Adult help: _____

6 Use supplied seed and seedling evidence

A–C used ten cress seeds, the same paper towel, container, daylight, air access and observation times. D–E used similar seedlings after germination with the same water, temperature and observation times.

Record	Stage	Water	Light	Place	Result
A	germination	damp	daylight	20°C room	8 of 10 roots emerged
B	germination	dry	daylight	20°C room	0 of 10 roots emerged
C	germination	damp	daylight	8°C cool place	2 of 10 roots emerged
D	later seedling growth	same small amount	daylight	20°C room	green; 4 cm taller; 2 new leaves
E	later seedling growth	same small amount	dark	20°C room	pale; 2 cm taller; 1 new leaf

Germination water pair: _____ and _____

Germination temperature pair: _____ and _____

Later-growth light pair: _____ and _____



USE EVIDENCE

Conclude and improve

7 What does each clue support?

healthy growth in this example

may need water

light may be involved

not enough evidence to name a cause

upright stem, green leaves and a new leaf Evidence statement: _____

dry soil, drooping leaves

Evidence statement: _____

pale leaves after time in a dark place

Evidence statement: _____

one spotted leaf

Evidence statement: _____

8 Conclude, question and improve

Use the A–E table from task 6. Keep germination and later growth separate.

Which pair supports a germination–water conclusion? _____

Which pair supports a germination–temperature conclusion?

Which pair supports a later–growth light conclusion? _____

What result would make you less certain?

Name one fair next comparison.



ADULT ANSWER GUIDE

Answers and evidence

Ask what the evidence supports. Accept drawings, words or adult scribing where the rubric allows it.

- 1 **Roots—anchor/absorb; stem—support/carry water; leaves—use light to help make food; flower—may help make seeds.** Match the named part to the bounded job, then explain that parts work together. Accept all four matches. “May” matters for the flower statement because plants and life stages vary. These are common flowering-plant functions at Year 2; the task does not describe every plant structure or every exception.
- 2 **Seed; root and shoot appear; seedling; mature plant; flower; new seeds may form.** Order one common flowering-plant sequence, then identify what could be observed at each stage. Accept the six printed stages in order and an observation tied to the supplied example. This is a common flowering-plant example. Not every plant starts from seed, flowers on the same timetable or follows one visible cycle.
- 3 **Seed coat—seed; onion fleshy leaf bases—bulb; food storage, roots/shoot and possible mature growth—both. Start with damp material and air access.** Compare structure and shared early growth, then make a safe, labelled plan for starting one adult-supplied seed. Accept all five placements, damp rather than flooded material, air access, a label/date and later observation of root, shoot or no change. Seeds and bulbs both store food and can grow roots and shoots; the named seed coat and onion-bulb fleshy leaf bases are bounded structural examples. Growth depends on species and conditions.
- 4 **Open observation; identify the seed start, bulb or supplied plant and preserve the actual dated result.** Choose the seed-start option when investigating growth from seed, then record repeated observations of the same safe adult-supplied specimen. Accept dated drawings, measurements or words that identify the starting specimen and preserve the actual result, including root, shoot, no change or not sure. Do not dig up, taste or touch an unknown plant. Adult help is recorded separately. Germination is the start of growth from seed; later leafy growth is a different stage.
- 5 **Change water. Keep seed kind/number, material/container, temperature, light, air and times the same. Observe germination.** Change the water condition only and state every comparison control before beginning. Accept water condition as the changed factor, all six explicit controls and at least two named germination observations. Use adult-supplied cress seeds and safe placement. Keep the damp batch damp rather than flooded. A two-batch classroom comparison is not a universal result.
- 6 **A/B for germination water; A/C for germination temperature; D/E for light during later seedling growth.** Compare only records at the same named stage and cite the actual root or seedling result. Accept A/B for germination water, A/C for germination temperature and D/E for light during later seedling growth. Keep germination and later leafy growth distinct. The table is supplied evidence, not the child’s own experiment. Associations are bounded to these examples; suitable conditions vary by species and soil is not plant food.
- 7 **Healthy growth; may need water; light may be involved; not enough evidence.** Use the whole printed clue and separate observation from a possible cause. Accept all four evidence statements. “May” or “not enough evidence” is required where the cause is uncertain. Appearance is a clue, not a diagnosis. Ask an adult before moving, watering or handling an unfamiliar plant.
- 8 **A/B for germination water; A/C for germination temperature; D/E for later-growth light. Accept a relevant uncertainty and one fair stage-specific repeat.** Cite same-stage comparisons, name a result that could challenge them, then improve one next test. Accept A/B for germination water, A/C for germination temperature, D/E for later-growth light, a relevant uncertainty and one fair stage-specific repeat. A conclusion is provisional and evidence-bound. Germination and later leafy growth are different stages; the task does not prove one exact recipe for all species.

My practice trail

Optional: colour one circle for each task tried and discussed. This records practice, not a test score.



One thing to investigate next: _____