

Growing Plants

Science Knowledge Organiser: Plants

I already know...

- ...that plants need **sunlight**, **air** and **water**.
- ...how to spot some plant parts like **roots**, **stem** and **leaves**.

Vocabulary



seed – a tiny part of a plant that can grow into a new plant.

sow – to plant seeds.

bulb – a plant starter that contains a store of food for the plant.

shoot – the new green part that grows up from a seed/bulb.

root – the part that grows down into the soil to take in water.

germination – when a seed starts to grow and produce shoots.

dormant – alive but “resting”; seeds can wait until conditions are right.

seedling – a very young plant.

mature – fully grown.

fruit – the part of a plant that carries the seed.

seed dispersal – how seeds are spread away from the parent plant.

fair test – when you change only one thing and keep the rest the same.

Key knowledge

- Plants can grow from **bulbs** as well as **seeds**. A bulb is larger because it contains stored **food** for the plant to start growing.
- The **fruit** is the part of the plant that carries the seeds.
- Plants often make **lots** of seeds because it **increases the chance** that some will grow into new plants.
- **Germination** is when a seed starts to grow and produce shoots. Seeds can stay **dormant** until conditions are right.



Seeds



Bulb

- Seeds can be dispersed in different ways, including **wind**, **animals**, **water**, and **explosive pods**.



Scientific enquiry



- **Plan a fair test** by changing **one thing** and keeping others the same (same seeds, same soil, same place, same number of seeds, same water).

we are changing the amount of water:



Pot A

Pot B

Pot C

• Same Seed

• Same Soil

• Same temperature

• Same pot

• Same light

• Same time

Thinking questions



- Which **dispersal** method (wind/animals/water/explosive) do you think is best, and why?
- If a seed has water but does not **germinate**, what else might it need?
- How can we make sure an experiment is **fair**?

I should now be able to...

- Name at least two ways seeds are **dispersed**.
- Explain what **germination** means and use the word **dormant**.
- Observe** a plant over time and describe how it **changes** as it matures.

Super Scientists

Science Knowledge Organiser: Working Scientifically

I already know...

- ...that I can **say what I see** and talk about what I think will happen.

Vocabulary



scientist – a person who finds out about the world.

question – something we want to find out.

predict – to say what you think will happen before you test it.

test – a safe try-out to find something out.

fair test – changing **one thing** and keeping the rest the same.

result – what happened in the test.

force – a push or a pull.

light – helps us to see.

rainbow – lots of colours you can sometimes see in the sky.

germs – tiny living things that can make us ill.

circuit – a loop that electricity travels around.

Scientific enquiry

In this unit, I will...

• Ask questions

I will start with one clear question that I can test.

I will use “What happens if...?” or “Which one...?”

e.g. Which material lets the most light through?

• Make predictions

Before I test, I will say what I think will happen.

I will give a simple reason using what I already know.

e.g. “I think the clear plastic will let more light through because I can see through it.”

• Conduct simple fair tests

I will only change one thing so I know what caused the result.

I will keep other things the same

I will try to do the test the same way each time.

• Record results clearly

I will write down what happened so I don't forget.

I might draw pictures, use tally marks, or fill in a simple table with headings.

I may repeat the test and record again to check it is similar.

• Say what I found out

After the test, I will look at my results and talk about what they show.

I will use: “I noticed...” and “This means...”.



Key knowledge

- **Scientists ask questions** and do tests to help answer them.
- Gravity pulls objects **down**. When you drop something, gravity makes it fall.
- We need light to **see**. Some materials let lots of light through and some do not.
- Wind is moving air and it can **push** and **move** objects.
- Sounds are made when something **vibrates**. Sound can travel through some materials.
- Germs can spread by **touch**. **Handwashing** helps remove germs and helps keep us healthy.



Thinking questions



- What makes something a **good test**?
- Why is it important that we **measure carefully** in a science test?
- If we did the same test again, do you think we would get the **same** result? Why?
- Why do objects fall down when we drop them?

I should now be able to...

- ask a test question.
- make a prediction about what I think might happen.
- carry out a fair test.
- record results with pictures, tallies or a simple table.