

SCIENCE · Y3

# Plants

Knowledge Organiser — Year 3 Science

## Key vocabulary

1

**Roots**

Underground part of plant. Take up water and nutrients from the soil. Anchor the plant.

2

**Stem**

Holds up the plant. Carries water and nutrients to the leaves.

3

**Leaf**

Where the plant makes food using sunlight.

4

**Flower**

Where the plant makes seeds. Often colourful to attract bees.

5

**Petal**

Coloured part of a flower.

6

**Stamen**

Male part of a flower. Makes pollen.

7

**Pistil**

Female part of a flower. Receives pollen and grows seeds.

8

**Photosynthesis**

How plants make food using sunlight, water, and carbon dioxide. Releases oxygen.



9

**Pollen**

Yellow powder made by flowers. Carries 'father' part to female part of another flower.

10

**Pollination**

When pollen moves from one flower to another (often by bees, butterflies, wind).

11

**Germination**

When a seed begins to grow into a plant.

12

**Nutrient**

A substance plants need to grow, found in soil.

## Parts of a plant

What each part does

- ROOTS — anchor the plant in soil; absorb water and nutrients
- STEM — supports the plant; transports water UP and food DOWN
- LEAVES — make food (photosynthesis); absorb sunlight
- FLOWER — produces seeds for the next generation
- FRUIT — contains seeds (apples, tomatoes, peas)
- SEED — starts a new plant
- Each part has a JOB. Without one, the plant struggles to live.

## What plants need

Five essentials

- 1. SUNLIGHT — for photosynthesis
- 2. WATER — for everything (cells, transport, photosynthesis)
- 3. AIR (specifically CARBON DIOXIDE) — for photosynthesis
- 4. NUTRIENTS — from the soil. Plants get tiny amounts of nitrogen, phosphorus, potassium and others.



- 5. SPACE — to grow without too much competition
- If any one of these is missing, the plant cannot grow well.
- Some plants (cacti) survive on very little water; some (water lilies) live in water.

## Photosynthesis (the magic of plants)

How plants make their own

- Plants make their own FOOD — they don't need to eat anything!
- INPUT: SUNLIGHT + WATER + CARBON DIOXIDE (from air)
- OUTPUT: GLUCOSE (sugar — the plant's food) + OXYGEN (released into the air)
- Photosynthesis happens in the LEAVES, in tiny green parts called chloroplasts.
- Chloroplasts contain CHLOROPHYLL — a green substance that absorbs sunlight.
- That's why most leaves are GREEN.
- Without plants doing photosynthesis, there would be no oxygen for animals to breathe.
- Plants are the START of almost every food chain on Earth.

## Pollination and seeds

How plants make new plants

- POLLINATION: pollen moves from one flower to another.
- Bees, butterflies, birds and even bats carry pollen on their bodies.
- Some plants (like grass) use the WIND to carry pollen.
- After pollination, FERTILISATION happens — and SEEDS form inside the flower.
- Seeds are spread (DISPERSED) in different ways:
  - - WIND (dandelions, sycamores)
  - - ANIMALS (eaten and pooped out, or stuck on fur — burdock)



- - WATER (coconut palms)
- - EXPLOSION (some pods burst!)
- When a seed lands in good soil with water and warmth, it GERMINATES.
- A new plant grows — and the cycle starts again.

