

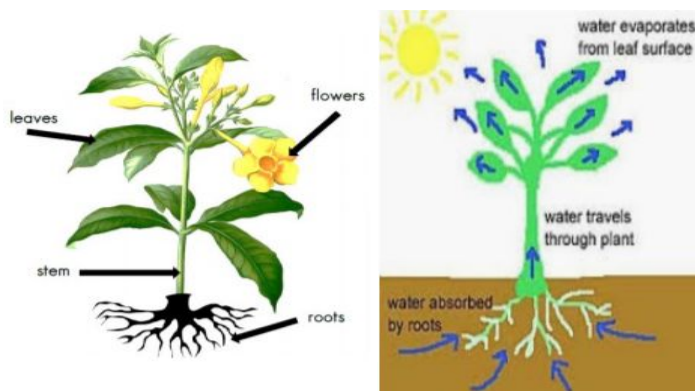
Plants

Significant Scientist

Katherine Esau



A Russian-born American botanist (1898-1997) who did groundbreaking work on the structure and workings of plants. Her book Plant Anatomy is a classic in the field.



Working Scientifically Skills

Oral and written explanations, conclusion, predictions, classify, collect data and evidence, improve, use secondary sources.

Ask relevant questions.

Data – gather, record, classify, present

Record – drawings, labelled diagrams, tables

Enquiry Skills

Observing over time
Fair testing
Pattern seeking
Identifying and classifying
Research

Key Knowledge

The roots of a plant take up water and nutrients from the soil. The roots also keep the plant steady and upright in the soil; they 'anchor' the plant.

The stem carries water and **nutrients** to different parts of the plant. It keeps the plant upright.

The leaves use light from the sun, along with carbon dioxide from the air and water to make food for the plant. This process is called **photosynthesis**.

The flowers are often brightly coloured and smell to attract insects. Insects help with the plants **reproduction** through **pollination**.

Water is absorbed from the soil by the roots. It is then **transported** from the roots to the stem and then to the rest of the plant. Leaves use this water to make food.

Plants need air, water, sunlight, nutrients from the soil, room to grow, sustainable temperature. The amount of each of these may vary depending on the type of plant. For example, cacti need less water than other plants.

Plants reproduce in 3 different ways:

Pollination - Pollen is carried by insects or blown by the wind from one flower to another. This process is called pollination.

Fertilisation - Pollen sticks to the flower and then travels to the ovary where it fertilises egg cells (ovules) to make seeds. This process is called fertilisation.

Seed Dispersal - The seeds are scattered by animals or the wind. This process is called dispersal. Some of the seeds will grow into new plants.



Key Vocabulary

transport	Taking something from one place to another.
nutrients	Substances that help plants and animals to grow.
reproduce	The process by which a living organism creates copies of itself.
seed dispersal	The scattering, separating, or spreading of seeds over a large area.
pollination	To pollinate a plant or tree means to fertilise it with pollen. This is often done by insects.
fertilisation	In plants, where pollen meets the ovule to form a seed.
pollen	The fine yellow dust made by the stamens of flowers that fertilise the seeds.
photosynthesis	A process where green plants use sunlight to make their own food.

