

Plant nutrition and reproduction

Knowledge

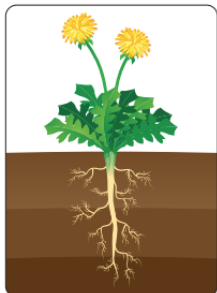
Plant parts

Plant parts have different functions. The flowers, stems, leaves and roots each have an important role.

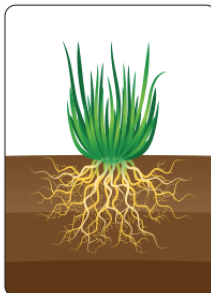
Roots

Roots have two main functions. They anchor the plant securely in the ground and take in water and nutrients from the growing medium, such as soil.

There are two main types of root systems: taproots and fibrous roots.



taproot



fibrous roots

Stems

Stems have two main functions.

They transport water, nutrients and food around the plant and they support the leaves and flowers.

Stems transport water, nutrients and food around the plant through vessels called xylem and phloem. Xylem transport water and nutrients from the roots to the leaves. Phloem transport food made in the leaves to the rest of the plant.

A stem also supports the flowers to attract pollinators and the leaves so they can capture sunlight.



Important jobs and people

Life cycle of a plant

There are four stages in the life cycle of a plant.

Seed

A seed contains a tiny new plant and a food store in a protective seed coat. Germination is the process of a plant beginning to grow from a seed.

Seedling

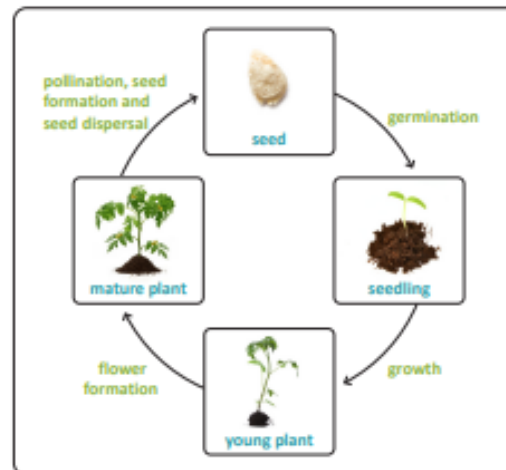
If a seedling has sunlight, nutrients, warmth, water and is protected from strong winds and heavy rain, it goes through a process of growth to form a young plant.

Young plant

As a young plant grows and matures, it begins the process of flower formation and buds form.

Mature plant

When a flowering plant has matured, pollen is moved from the stamens of one flower to the carpel of another during pollination. Seed formation then occurs in the carpel. Seeds are moved away from the parent plant during a process called seed dispersal.



Vocabulary

Glossary

anther	A male part of a flower where pollen grains are made.
pollinator	An animal that transfers pollen for the process of pollination.
stamen	A flower's male reproductive organ consisting of an anther and filament.
stigma	A female part of a flower .
vessel	A tube that transports liquids.

Pollination

Pollination is the process where pollen is transferred from the male anther at the top of the stamen to the female carpel of another flower.

Flowering plants can be pollinated by insects, such as bees. The pollen sticks to an insect as it drinks nectar from a flower. The pollen on the insect then lands on the stigma at the top of the carpel of another flower. It travels down into the carpel to make seeds. Wind can also disperse the pollen of some flowering plants.



Seed dispersal

Seeds are moved away from the parent plant so that new plants do not have to compete for sunlight and water. This process is called seed dispersal. Seeds are dispersed in different ways.