



PLANTS

KNOWLEDGE ORGANISER



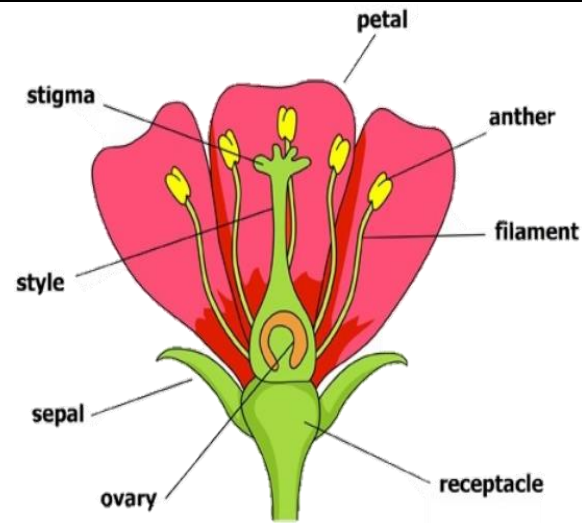
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What you should already know...



- To grow plants need water and nutrients, light, the right temperature, space and time.
- Plants begin life as seeds or bulbs. Seeds do not need sunlight as they have their own food store.
- Water and oxygen allow seeds and bulbs to germinate (start to grow).
- Plants have a life cycle, that includes the seed, seedling and flowering stages.

The Role of Flowers



- Flowers enable reproduction of plants.
- The male part is the **stamen** – it is made of a filament and an anther. The anther contains pollen.
- The female part is the **carpel**. It is made of a stigma, a style and an ovary.
- When the male pollen lands on the female stigma pollination occurs.
- This process means that a seed is produced.
- Insects are drawn to flowers by bright petals. When they feed on the flower's nectar they are dusted with pollen. They then spread this to other places when they leave.



Functions of Different Plant Parts



Roots

- The roots grow into the ground.
- They pull water and minerals to the plant.
- They expand into the ground to widen the area they can find water.
- They anchor the plant into the ground.



Stem/Trunk

- The stem/trunk carries the water and nutrients up to the leaves.
- The stem also carries food from the leaves to the rest of the plant.
- Stems grow upwards, reaching up for the sun.



Leaves

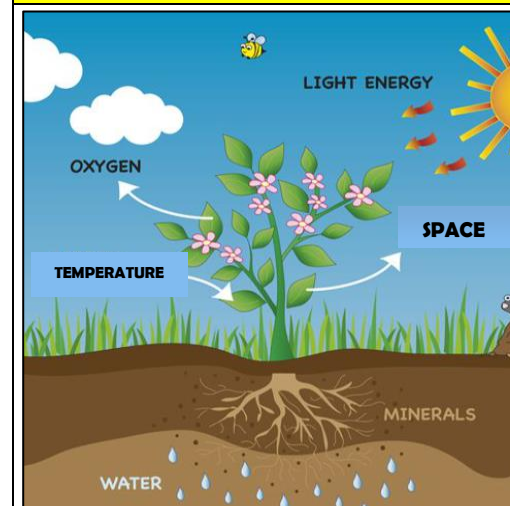
- Leaves catch sunlight. They also allow both air and water to enter the plant.
- Leaves have veins inside them, so water and nutrients flow. There are many different sizes & shapes of leaves, to fit the plant's needs.



Flowers

- Flowers make both food and seeds.
- The petals of a flower attract insects for pollination. The flower has male and female parts, which work together to make seeds.

Requirements for Life



- Plants need air, light, water, nutrients, temperature and space in order to live and grow.
- A plant that is kept in a dark place will grow tall and spindly, as it searches for light.
- A plant that is not watered will have a weak stem. Its leaves will dry up and eventually it will die.
- A plant that is not given enough space will have stunted growth, and may die if it cannot reach enough light.
- A seed will not germinate at all if the temperature is too cold.

Water Transport in Plants

Water is found in the soil by the roots.

The water is drawn up from the roots to the stem.

The water travels up small tubes in the stem called xylem.

Water reaches the leaves and flowers, keeping them hydrated.

Water escapes from the plant as vapour (a gas) through tiny holes

Assessment question: How is the flower important in the life cycle of a plant?