

What plants need to grow

Before we can plant, we need to know what a plant needs to grow healthy and strong. What are the major parts of a plant? How do they help the plant get what it needs?

Let's look at a diagram of a plant.

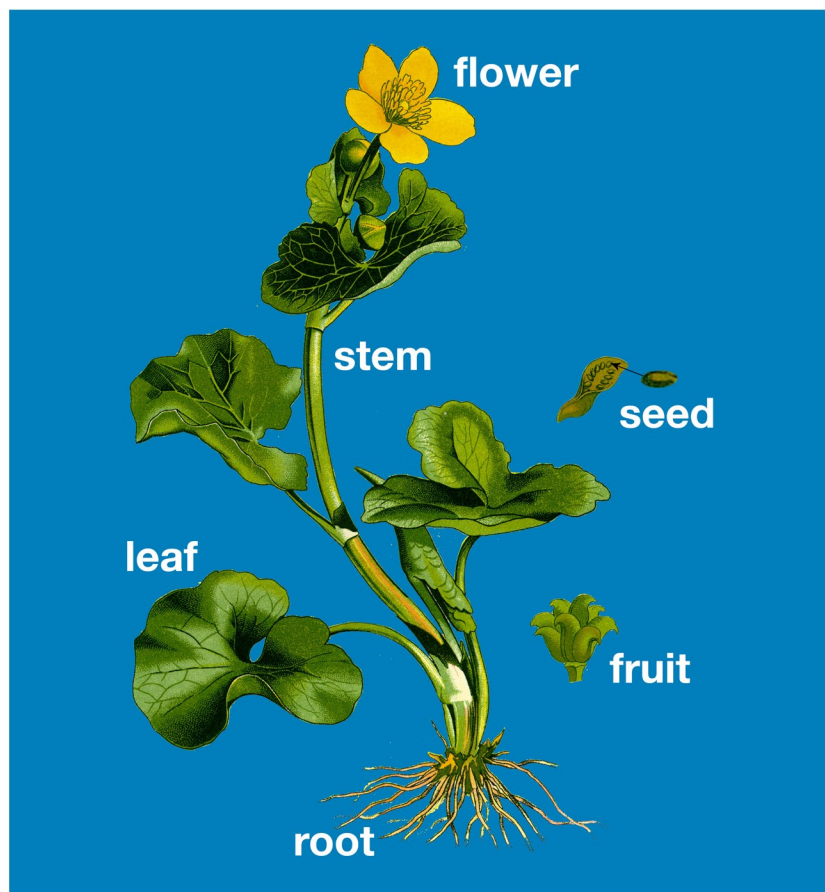


Diagram of a Marsh Marigold

Roots are usually in the soil where they grow out looking for water. The water contains nutrients that are dissolved from the soil and goes upwards to other parts of the plant that need it. The roots also help to anchor the plant in the soil. If there is too much water in the soil, the roots can rot and the plant dies. But if there is not enough water the leaves, stem and flowers will wilt and dry out. The plant can die like this too!

Fruits are the swollen, ripened ovaries of flowers. They contain the seeds. Many things we call fruit are not fruit at all. For example, the real fruit of the apple are the seeds in the core, not the flesh. Strawberry fruits are really in the seeds on the outside of the strawberry. We call these 'false fruits'. Some vegetables that we eat are really fruits, because they contain seeds. Pumpkins, courgettes, cucumbers, tomatoes, peppers and aubergine are all fruits.

Flowers are the part of the plant from which seeds and fruit develop. This is one way that plants reproduce. Flowers are often brightly coloured to attract pollinating insects like bees. These insects transfer pollen grains from the male parts of the flower to the female parts of the same or a different flower. This process is called pollination.

Stems are the parts of the plant that support the leaves and flowers above the ground. Inside the stem, water is transported from the roots up to the other parts of the plant. Stems also help to give the plant stability. Different parts need different amounts of water. Plants like sedums have adapted to grow in dry climates. They have fleshy leaves and stems which store water for the plant to use during times of drought.

Leaves absorb sunlight which the plant needs to produce energy for growth. This process is called photosynthesis. Photosynthesis lets the plant convert water and carbon dioxide into sugar. Carbon dioxide is taken into the leaf through tiny breathing holes called stomata on the surface. Plants need light to photosynthesise. During photosynthesis, oxygen is released by the plant as a waste product. Humans need oxygen to breathe – so plants are essential for humans to survive.

When **seeds** are fertilised, they can grow into new plants. We eat the seeds of many fruits, including pumpkins and pomegranates! Seeds from other plants are used as spices to flavour food, for example aniseed, caraway, cardamom, cumin, coriander, dill, fennel and mustard.