

Year: 3

Subject: Science

Unit of Study: How does your garden grow?

Linked Literature: The Story of Frog Belly Rat Bone by Timothy Ering

Rocks, Soils and Fossils

Food and Our Bodies

Light and Shadow

How does your garden grow?

Forces and Magnets

The Nappy Challenge

Prior knowledge:

- Basic structure of a plant (Year 1).
- That plants need water, light and a suitable temperature to grow and stay healthy. How seeds and bulbs can grow into mature plants (Year 2).

Vocabulary

Botany	The study of plants.
Carpel	Female part of the flower– made of stigma, style and ovary.
Germinate	When a seed starts to grow and produce a root and shoot.
Nutrients	Materials in the soil that help to nourish plants.
Ovary	The part of the flower that contains ovules.
Ovules	These are like eggs; they develop into seeds.
Photosynthesis	How green plants make their own food.
Pollen	Dust-like powder made in the stamen of a flower.
Pollination	Transferring pollen grains from one flower to another so that new plants can be made.
Seed dispersal	The way seeds get from the parent plant to a new place so they can grow.
Sepals	Protect the rest of the flower as it grows.
Stamen	The male part of the flower which produces pollen.
Stigma	Part of the carpel that pollen grains attach to during pollination.
Xylem	Tubes that transport water inside the stem.

I need to know :

The main parts of a flowering plant are: the roots, the stem, the leaves, the flower.

The roots of a plant anchor it into the soil. They absorb water and **nutrients**. These are then transported to the rest of the plant via bundles of tubes inside the stem called **xylem**. The stem is the main support structure of the plant, allowing it to stay upright and providing a frame for the leaves. The leaves are where the plant makes its food in a process called **photosynthesis**. They take in carbon dioxide from the air and water from rain, converting them into oxygen and a sugar called glucose. Flowers are the reproductive organs of the plant.

For plants to grow healthily they need a number of things, such as: water, light, air, space and a supply of minerals and nutrients.

They do not need soil to grow as long as they have a good supply of minerals and nutrients.

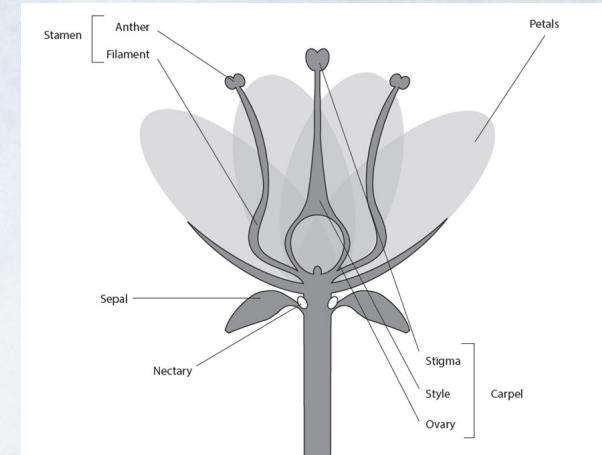
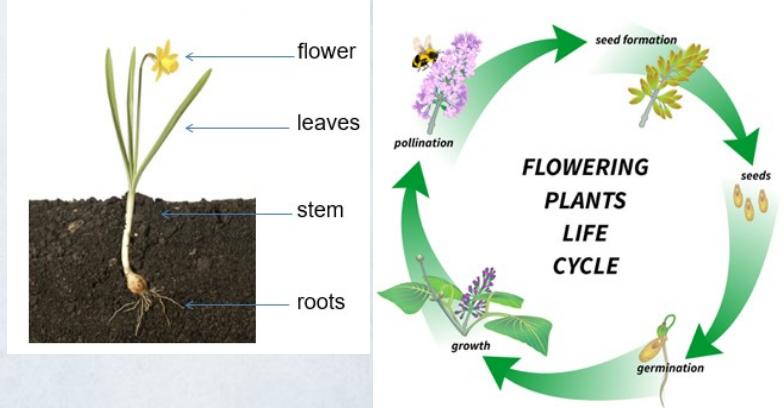
Flowers play a big part in the life cycle of the plants. Flowers have male parts, **stamen**, and female parts, **carpel**. Through a process called **pollination**, **pollen** is transferred from one flower to another either by insects or wind. Flower **petals** are often brightly coloured to attract insects for this purpose.

When pollen lands on the **stigma** it joins with the ovule and then develops into a seed. Seeds get from the parent plant to a new place so they can grow in a process called **seed dispersal**. They may be found in fruits which are then eaten and dispersed or travel on the wind or by water. New seeds just need warmth and water to **germinate** (grow and produce a root and shoot).

Joseph Banks was an English scientist who studied plants. The study of plants is called **botany**. He became famous when he took part in Captain Cook's first voyage to Brazil, Tahiti, New Zealand and Australia. He introduced a number of non-native plants to the UK from around the world.

I need to do:

- Ask relevant questions and use scientific enquiry to answer them.
- Set up simple practical enquiries, comparative and fair tests.
- Make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment .
- Gather, record, classify and present data in a variety of ways to help in answering questions.
- Record findings using scientific language, drawings, diagrams, keys, bar charts and tables.



What are the functions of different parts of the plant?

How is water transported around the plant?

How much water do plants need to be healthy?

What is inside a flower?

What part do flowers play in the life cycle of a plant?

How did different plant species get to the UK?