

Previous Knowledge

Observe and describe how seeds and bulbs grow into mature plants. Plus describe how plants need water, light and a suitable temperature to stay healthy.

Project Hook or 'Wow' memory

Growing our own plants in the school garden—peas, broad beans, carrots and radishes.

Learning Steps

Key Knowledge (answers)

What are the functions of the different parts of a plant?
(Identifying and classifying)

Roots anchor the plant into the ground + absorb water and nutrients from the soil. A stem holds the plant up + carries water and nutrients from the soil to the leaves. A trunk is the stem of a tree. Leaves make food for the plant using sunlight and carbon dioxide. The flowers make seeds to grow into new plants. The petals attract the pollinators to the plant.

Which conditions help seeds to germinate faster? (Comparative testing) Over 2 weeks.
Which plants can survive in the shade, cold and with little water? (Identifying and classifying)

Seeds—no water will not germinate. Seeds - cold environment will be slow to germinate. Seeds - without sunlight will grow tall and have yellow leaves —searching for light and have no chlorophyll. Seeds— correct conditions grow tall, strong and healthy.
Shade— lady fern, lily of the valley, hosta etc .
Cold— kale, leeks, carrots, conifers etc .
Little water— cactus, succulents, palms etc.

What happens to celery when it is left in a glass of coloured water? (Observing over time)
How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals? (Fair testing)

Set up on week 3. Record results daily and write conclusion on week 4.
The small "vessels" in the celery stalks carry the water and colour to the leaves, like the way blood travels through your body. This is capillary action. The stem of the flower still "drinks" up the water and provides it to the leaves and flowers. The shorter the stem the faster the colour will reach the petals. The tiny tubes in the stem run all the way through the stem from the water to the petals of the flowers.

What are the different parts of a flower? (Identifying and classifying)

The four main parts of a flower are the **petals**, **sepals**, **stamen**, and **carpel** (sometimes known as a **pistil**). If a flower has all four of these key parts, it is considered to be a complete flower.

What is the life cycle of a plant? (Identifying)
What colour flowers do pollinating insects prefer? (Pattern spotting)
What are the different ways that seeds disperse? (Research)

The major stages of the **flower life cycle** are the seed, germination, **growth**, reproduction, pollination, and seed spreading stages.

The colour of flowers that pollinating insects prefer is different: White 19, Blue 23, Yellow 32 and Green 16.

Seeds can be dispersed by :water, shaking, dropping, carrying, eating and bursting.

The key skills we want pupils to use during this topic:

I can ask relevant questions and use different types of scientific enquiries to answer them. I can set up simple practical investigations, compare things and make fair tests.

I can make organised, careful observations and take accurate measurements using the right units using a range of equipment. I can gather, record, sort and present data in a variety of ways to help in answering questions. I can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables.

I can report findings from investigations, including explaining by talking and writing about them, displaying or presenting results and conclusions. I can use results to draw simple conclusions, make predictions, suggest improvements and ask more questions. I can identify differences, similarities or changes related to simple scientific ideas and processes

Key vocabulary

Nutrients

Substances needed by living plants to grow and survive.

Photosynthesis

A process in which green plants (leaves) use sunlight to make their own food.

Pollination

When pollen is moved from the male anther of the flower to the female stigma.

Seed dispersal

A method of moving seeds away from a parent plant so that the seeds have the best chance of survival.

Germination

When a seed starts to grow.

Fertilisation

The male and female parts of the flower have mixed to make seeds for new plants.

Stamen

Male parts of the flower—made up of anther and filament.

Carpel

Female parts of the flower—made up of stigma, style and ovary.

Statutory Requirements

I can identify and describe the functions of different parts of flowering plants, roots, stem/trunk, leaves and flowers.

I can explore the needs of plants for life and growth and how they are different from plant to plant.

I can investigate the way in which water is transported within plants.

I can explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

