

How Does Your Garden Grow?



What are the key biological facts that I need to know?								
Scientific Fact 1	Scientific Fact 2	Scientific Fact 3	Scientific Fact 4	Scientific Fact 5	Scientific Fact 6			
Plants are one of the five kingdoms of living things. They are made up of many cells and are usually rooted in soil.	Their green leaves capture sunlight to make food by photosynthesis, providing food other living organisms on Earth, as well as lifegiving oxygen.	The carnivorous Venus flytrap takes essential minerals from insects. The plant's leaves form a trap. If an insect lands on the pads, it snaps shut and the insect is digested.	Plants cannot move around like animals, but they still show movements. Shoots grow; leaves turn toward the Sun.	Trees are the biggest of all plants. The tallest tree is the Californian coast redwood, which reaches over 110 metres.	Plants cannot escape from hungry plant-eaters, but they have a range of defences. Some have thorns that cut and pierce its mouth if eaten. Some produce foul tasting chemicals that may be poisonous.			

Key Scientific Vocabulary - words that are related to the topic you are investigating and that must be used in your work						
Word	Definition					
bud	A small closed part that grows on a plant and from which a flower, leaf or stem develops.					
carpel	The part of a plant in which seeds are produced.					
dispersal	The process of sending seeds in different directions.					
flowering	The time when a plant produces flowers.					
fruit	The part of a plant that has seeds and a soft inner part, which can be eaten and is usually sweet.					
reproduce	If people, plants or animals reproduce, they produce young.					
stamen	A small, thin male part in the middle of a flower that produces pollen.					
stigma	The part in the middle of a flower where pollen is received.					

Sticky Knowledge- what we want you to know at the end of the unit To know that our senses helps us explore the world around us.

To know why plants have leaves

- plants make their own energy from the sun
- this process is photosynthesis and uses light from the sun

To know the function of a plant's roots

- they are usually hidden underground
- take up water and nutrients from the soil
- they also anchor the plant to the ground and keep it steady
- store food for the plant

To know what the two main types of roots are

- taproots are long and thick roots that points straight down, for example, carrots
- ifibrous roots are made up of many small roots, all about the same size, for example, grass

To know what pollen is

pollen is the male part of the flower

To know how pollen is transferred from one plant to the next

- pollen is transferred from one plant to the next by pollinators
- insects and the wind are examples of pollinators

To know why some flowers are brightly coloured

- bright colours and scent attract insects and birds so that they can pollinate the plant
- the most common types of pollination are:
 - wind pollination: flowers are small and dull, with little or no scent, and often no petals at all
 - insect pollination: flowers show well in the ultraviolet range, often have honey guides, lines leading from the petal to the nectar and they use scent to attract them
 - bird pollination: large, colourful flowers with nectar

The scientific skills that you will be learning to use to answer the scientific questions

What is science?

Science is the exciting study of the nature and behaviour of natural things and the knowledge that we obtain about them. We ask questions that need answers. In order to answer these questions successfully, you will lean to use all these skills.

Grouping and classifying:

In this type of enquiry, you will observe and take measurements to find similarities and differences in the plants that you will be studying.

What features are common in all plants?

Observing changes over time:

You will determine how plants change over time.

What changes does a plant go through over time?

Can you explain your answer?

Using secondary sources:

You will use your research skills to find out about the life cycle of a plant.

What are all the different ways in which seeds can be dispersed?

Can you explain your answer?

Making careful and systematic observations:

You will learn to make careful observations during the experiment. This year you will focus on ensuring that you make these observations in a logical manner.

Why are all flowers not brightly coloured? Can you explain your answer?