

Overview:

During this sequence of learning, pupils will describe the functions of parts of the plant, investigate the way that water is transported and explore the part that flowers play in the life cycle of flowering plants. They will also understand that animals require the right amount of nutrition to stay healthy and the functions of the skeleton.

What should I already know?

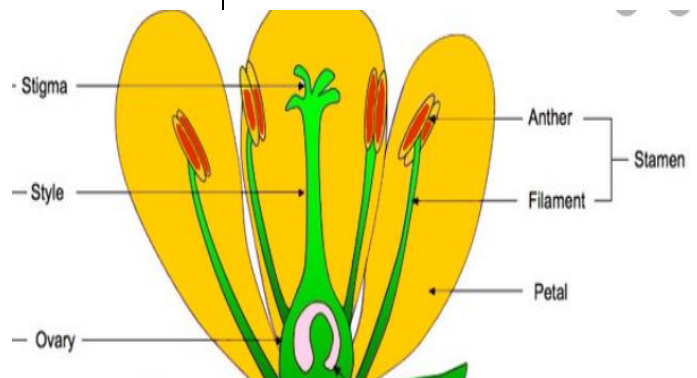
- Evergreen trees maintain their leaves throughout the year and that deciduous trees shed their leaves in autumn.
- Flowering plants consist of roots, stem, leaves and flowers, and that a tree's stem is called a trunk.
- Living things move, grow, consume nutrients and reproduce; that dead things used to do these things, but no longer do; and that things that never lived have never done these things.
- Plants absorb energy from the Sun; that this energy is consumed by herbivorous animals; and that carnivorous animals eat other animals.
- Seeds and bulbs need to be buried underground in soil and that they will grow into adult plants under the right conditions (water, warmth).
- Plants that are deprived of light, food or air will not grow and will die.
- Animals, including humans, need food, water and air to survive.
- There are food groups: fruit and vegetables, carbohydrates, protein, dairy, fat and sugary foods.
- More than half of our diet should be made up of carbohydrates, fruit and vegetables.
- Fats and sugary foods should be eaten rarely and in small amounts.

What will I know by the end of the unit?

- Different parts of the plant have more than one function (job).
- The roots collect the water and nutrients from the soil and hold the plant firmly in place.
- The stem transports the water and nutrients to other parts of the plant and holds the plant upright.
- The leaves are where the food is made by a process that requires light, water and carbon dioxide.
- The flower is where pollination occurs - the petals are bright and scented to attract the insects.
- Different plants have different requirements for growth e.g. a cactus will grow in the sand with little water whereas a sunflower plant wouldn't.

Vocabulary:

nectar	The sweet, sticky liquid given off by plants.
anther	The part of the flower that produces and holds pollen.
ovary	The part of the flower where the seeds are stored.
petal	The outer part of a flower that is brightly coloured and scented to attract insects.
pollen	Looks like a yellow dust and is needed to fertilise plants.
stigma	The part right in the middle of the flower that receives the pollen during pollination.
style	A stalk that connects the stigma and the ovary.
stamen	A part of the flower that consists of the anther and the filament.



function The job that something has.

exchange When something is given in return for something else.

- If too many plants are grown in the same area this can affect how well they grow, as they have to compete for water and nutrients.
- Pollination occurs mainly through insects when they are attracted to the flower. Whilst they are trying to get nectar, pollen sticks to their body which is then transported to another plant. Once pollen has been transferred between plants, the plant can then produce seeds which can grow into new plants.
- Seed dispersal happens in a number of ways including by the wind, water and also just falling from the plant (gravity). Animals like birds often eat berries which are then passed through their digestive system and end up back in the ground.
- There are five main food groups and they all have a different function within the body.
- Protein is essential for muscle repair and growth whilst carbohydrates give you energy.
- Calcium which is often found in dairy foods helps your bones and teeth become strong.
- Fruit and vegetables contain many of the vitamins and minerals that keep us healthy.
- Eating the right amount of each food group is called a balanced diet and this is important in order to stay healthy.
- Eating too much of certain food groups is not good for you e.g. eating too much sugar can cause tooth decay and eating too much fats and sugars can cause obesity.
- Some animals such as humans have a skeleton made up of solid bones.
- The skeleton provides support to the body and protects many of the vital organs - the skull protects the brain and the ribcage protects the heart and the lungs.
- The human skeleton is made up of bones and cartilage.
- Muscles are arranged in pairs which work together to help with movement.
- Some animals such as insects have an exoskeleton which is a hard outer surface on the outside of their body.
- Many invertebrates such as earthworms and slugs have water inside them that helps with support.

seed dispersal	The movement of seeds from the parent plant to another area.
pollination	When pollen is transferred from one plant to another meaning it can then produce seeds.
vitamin	Substances that are present in foods that help keep us healthy.
balanced diet	Eating the right amount of each different food group.
cartilage	Elastic tissue which makes up parts of the skeleton.
vertebrate	An animal that has a spine.
invertebrate	An animal that doesn't have a spine such as a worm or spider.
contract	When something is shortened or made smaller - muscles have to contract to be able to move parts of the body.
ribcage	The bony structure around the chest area.
insect	A small invertebrate animal such as a spider or centipede.

