

Castle View Primary School Science Curriculum

Year 3 – Plants

Prior learning:

- Know how to identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.
- Identify and describe the basic structure of a variety of common flowering plants, including trees.
- Observe and describe how seeds and bulbs grow into mature plants.
- Describe how plants need water, light and a suitable temperature to grow and stay healthy.

National Curriculum Objectives:

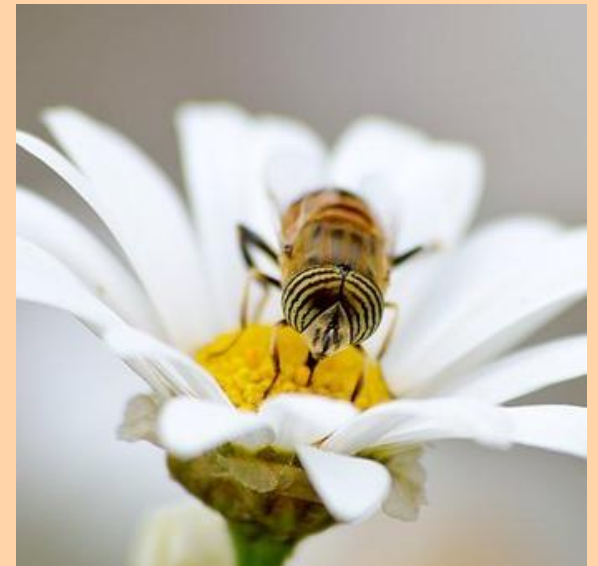
- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
- Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.
- Investigate the way in which water is transported within plants.
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Assessment Questions:

- Look at a picture of a plant. What are male and female parts of a plant called?
- What happens to plants when conditions for growth are not favourable?
- What is the function of the stem?
- What is pollination? What is germination?
- What is seed dispersal, how might this happen?
- What did you learn in Year 1 and 2? How did this help your learning for this unit?

Key vocabulary:

filament, style, sepal, stem, ovary, stamen, anther, petal, conditions, water, sunlight, warmth, temperature, photosynthesis, capillary action, roots, pollination, germination, seed dispersal, botanists



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Year 3 – Light

Prior learning:

- Some knowledge of where light comes from.
- Will have seen shadows and may know that they appear when it is sunny.
- Some understanding of a reflection.
- May understand that light is needed to be able to see things.

National Curriculum Objectives:

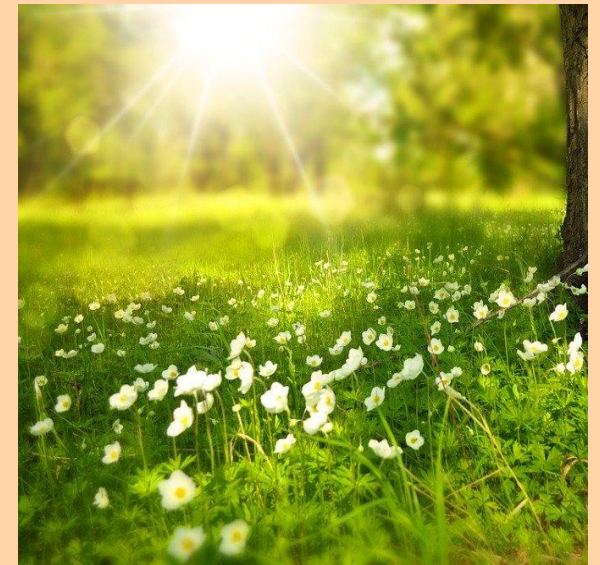
- Recognise that they need light in order to see things and that dark is the absence of light.
- Notice that light is reflected from surfaces.
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.
- Recognise that shadows are formed when the light from a light source is blocked by an opaque object.
- Find patterns in the way that the size of shadows change.

Assessment Questions:

- What is darkness?
- What happens to light that is not reflected?
- Why are ultraviolet rays dangerous?
- How is a shadow formed? Do all objects and materials have shadows?
- What happens to our shadows when the sun is lower in the sky?
- Which material would make a useful pair of curtains, and why?

Key vocabulary:

light, light source, darkness, natural, artificial, reflection, absorb, ultraviolet rays, radiation, emit, sun cream, factor, shadow, transparent, translucent, opaque, east, west, data logger, LUX, absence of light



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Year 3 – Animals including humans

Prior learning:

- Should be able to notice that animals, including humans, have offspring which grow into adults.
- Describe the basic needs of animals, including humans, for survival.
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.

National Curriculum Objectives:

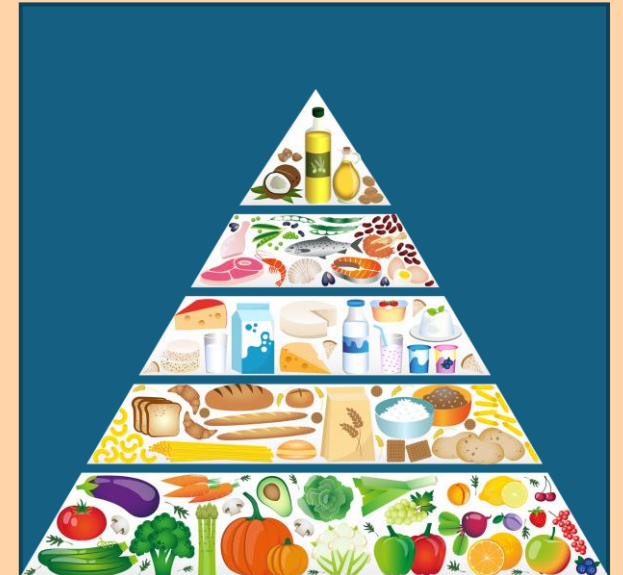
- Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat.
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Assessment Questions:

- Why does the human body contain a skeleton?
- Why is warming up important when we exercise?
- What is an animal with an exoskeleton?
- How do our bodies protect our organs?
- Does 'diet' on a label mean there is no sugar?
- Why is it important to have a balanced diet?

Key vocabulary:

skeleton, move, joint, carbohydrate, dairy, sugar, protein, bones, muscle, support, protection, movement, vertebrate, invertebrate, exoskeleton, endoskeleton, body, fluid, brain, diet, exercise, hygiene, survive, fibre, vitamins, minerals, balanced diet, nutrition, sugars



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Year 3 – Rocks

Prior learning:

- Some understanding of a variety of different rocks in the natural world.
- Some understanding of what soil is.
- Some knowledge of what a fossil is.

National Curriculum Objectives:

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.
- Describe in simple terms how fossils are formed when things that have lived are trapped within rock.
- Recognise that soils are made from rocks and organic matter.

Assessment Questions:

- Are all rocks hard?
- What are the three groups that rocks are classified into?
- How can you test which rock is the hardest?
- Who was Mary Anning? What was she famous for?
- What is the role of a geologist?
- Can you name some layers that can be found in a soil sample?

Key vocabulary:

rocks, fossil, stone, pebble, crystal, layer, classify, igneous, sedimentary, metamorphic, natural, man-made, anthropic, durable, permeable, impermeable, hard, Mary Anning, decompose, mould, weathering, compact, magma, geologist, organic matter, soil



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Year 3 – Forces and magnets

Prior learning:

- An awareness of how to make things stop and start.

National Curriculum Objectives:

- Compare how things move on different surfaces.
- Notice that some forces need contact between two objects, but magnetic forces can act at a distance.
- Observe how magnets attract or repel each other and attract some materials and not others.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.
- Describe magnets as having two poles.
- Predict whether two magnets will attract or repel each other, depending on which poles are facing.

Assessment Questions:

- How does friction occur?
- Who was John McAdam? What questions did he ask?
- Are all metals magnetic? Can you explain your reasoning?
- How is a magnetic force different to other forces?
- What will happen if two north pole magnets are placed together?
- How does a compass work?

Key vocabulary:

force, push, pull, friction, metre, Newton metre, surface, magnet, magnetic, attract, contact, non-contact, repel, magnetic field, pole, north, south, compass, Albert Einstein

