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, ad 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

Castle View Primary School Science Curriculum

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 ray 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

Castle View Primary School Science Curriculum

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 humas 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

Castle View Primary School Science Curriculum

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

Castle View Primary School Science Curriculum

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