

Castle View Primary School Science Curriculum

Year 4 – Living things and their habitats

Prior learning:

- Comment about the place they live or the natural world and show care for living things and the environment.
- Identify and name a variety of plants and animals in their habitats, including microhabitats.
- Compare differences between things that are living, dead, and things that have never been alive.
- Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other.

National Curriculum Objectives:

- Recognise that living things can be grouped in a variety of ways.
- Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.
- Recognise that environments can change and that this can sometimes pose dangers to living things.

Assessment Questions:

- What are features that all living things have? Does that mean all living things are the same?
- What is classification? How might you use this?
- What is meant by 'vertebrate'? What is meant by 'invertebrate'?
- What does evergreen mean? What does deciduous mean?
- How are sea creatures becoming endangered?
- Name 3 ways the environment can change to endanger animals.

Key vocabulary:

classification, classification keys, environment, habitat, vertebrate, invertebrate, insects, mammals, reptiles, birds, fish, amphibians, deciduous, evergreen, endangered, species, human impact, positive impact, negative impact



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Year 4 – Sound

Prior learning:

- Some understanding that objects make different sounds.
- Some understanding that they use their ears to hear sounds.
- Know about their different senses.

National Curriculum Objectives:

- Identify how sounds are made, associating some of them with something vibrating.
- Recognise that vibrations from sounds travel through a medium to the ear.
- Find patterns between the pitch of a sound and features of the object that produced it.
- Find patterns between the volume of a sound and the strength of the vibrations that produced it.
- Recognise that sounds get fainter as the distance from the sound source increases.

Assessment Questions:

- Sounds are made by _____?
- What unit is sound measured in?
- Can you hear a scream in space?
- What happens to sound as the distance increases?
- Explain the science behind instruments making sounds.
- What is the purpose of ear defenders, why are they necessary in some professions?

Key vocabulary:

vibration, amplified, loud, quiet, energy, sound waves, decibels, volume, pitch, particles, vacuum, frequency, distance, fainter, increases, sound, instrument, ear



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Year 4 – Animals including humans

Prior learning:

- Should be able to notice that animals, including humans, have offspring which grow into adults.
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement.
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
- 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.

National Curriculum Objectives:

- Describe the simple functions of the basic parts of the digestive system in humans.
- Identify the different types of teeth in humans and their simple functions.
- Construct and interpret a variety of food chains, identifying producers, predators and prey.

Assessment Questions:

- Where can the oesophagus be found in our body? What is its role?
- What do we use our canines for?
- Why is it important to keep our teeth clean and healthy?
- Why do herbivores and carnivores have different teeth?
- What's the difference between a producer and a consumer?
- What do you know about the digestive system, including teeth?

Key vocabulary:

digestive system, stomach, small intestine, oesophagus, mouth, large intestine, anus, teeth, canine, molar, pre-molar, incisor, decay, fluoride, plaque, herbivore, omnivore, carnivore, producer, consumer, prey, predator



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Year 4 – Changing state

Prior learning:

- Distinguish between an object and the material from which it is made and describe its simple physical properties.
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
- Find out how the shapes of solid objects can be changed by squashing, bending, twisting and stretching.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.
- Compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

National Curriculum Objectives:

- Compare and group materials together, according to whether they are solids, liquids or gases.
- Observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C).
- Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

Assessment Questions:

- What is the significance of an atom?
- What will happen when bicarbonate of soda is mixed with vinegar?
- What does the process of melting mean?
- What role does salt have when added to ice?
- What is evaporation? What is condensation?
- Can you walk on custard?

Key vocabulary:

solid, liquid, gas, particles, state, atom, materials, pressure, energy, reaction, heat, melting, evaporation, vapour, melting point, boiling, freeze, ice, water, temperature, condensation, water vapour, precipitation, collection



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Year 4 – Electricity

Prior learning:

- May have some understanding that objects need electricity to work.
- May understand that a switch will turn something on or off.

National Curriculum Objectives:

- Identify common appliances that run on electricity.
- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.
- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.
- Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.
- Recognise some common conductors and insulators, and associate metals with being good conductors.

Assessment Questions:

- Can you name an appliance that is mains operated? Battery operated?
- What would happen if the cell were removed from a simple circuit?
- Can you list an electrical conductor? Can you list an electrical insulator?
- Would a paper clip make an effective switch and why?
- What do you think the future is for electricity?
- What is renewable energy?

Key vocabulary:

electrical current, battery, bulb, wire, mains, electricity, electron, cell, motor, buzzer, switch, conductor, insulator, appliances, current, volt, renewable energy

