Curriculum Design:

Including Endpoints

Science

Science Overview

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	**Understanding the world (The Natural World)**					
Year 1	**Animals including Humans**		**Plants**		**Everyday Materials (Properties)**	
	'Seasonal Changes' and Working 'Scientifically' taught throughout the year.					
Year 2	**Animals including humans** Offspring which grow into adults	**Animals including humans** Describe the importance for humans of exercise, eating the rights amounts of different types of food and hygiene.	**Uses of everyday materials** How can solid objects be changed by squashing, bending, twisting and stretching.	**Uses of everyday materials** Compare suitability of materials	**Plants (trees)** How plants need water, light and a suitable temperature to grow and stay healthy	**Living things and their habitats.**
	Plants – pupils should use the local environment throughout the year to observe how different plants grow					
Year 3	**Animals including humans** Nutrition, skeletons and muscles.	**Animals including humans** **Begin Rocks**	**Rocks**	**Forces and magnets**	**Plants**	**Light**

Year 4	**Sound** Parts of the ear, pitch, amplitude.	**Electricity** Circuits	**States of Matter** Solids, liquids, gasses and their properties.	**Animals/Humans** Body parts and digestive system	**Animals/Humans** Body parts and digestive system/ Teeth and their functions	**Living things and their Habitats:** Environmental changes/ Dangers posed by humans/Farming
Year 5	**Forces**	**Forces/Materials and their properties**	**Materials and their properties**	**Earth & Space**	**Living Things and their Habitats**	**Animals including humans**
Year 6	**Animals including Humans** Digestive system and bodies	**Light** Travels in straight lines, light sources.	**Living things and their habitats**	**Evolution and Inheritance** Charles Darwin	**Evolution and Inheritance** Charles Darwin	**Electricity**

Science Overview

Rec	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Understanding the World- The natural World	Animals Including Humans - Plants - Everyday Materials - 'Seasonal Changes' and Working 'Scientifically' taught throughout the year.	Animals including Humans - Uses of everyday materials - Plants(trees) - Living things and their habitats - Plants – pupils should use the local environment throughout the year to observe how different plants grow.	Animals including Humans - Rocks - Forces and Magnets - Plants - Light	Sound - Electricity - States of Matter - Animals including Humans - Living things and their Habitats	Forces - Materials and their Properties - Earth and Space - Living things and their Habitats - Animals including Humans	Animals including Humans - Light - Living things and their Habitats - Evolution and Inheritance - Electricity

EYFS

Understanding the World
The Natural World
Children at the expected level of development will: ● Explore the natural world around them, making observations and drawing pictures of animals and plants. ● Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. ● Understand some important processes and changes in the natural world around them, including the seasons and the changing states of matter.

Year 1

Animals including Humans
Science
Working Scientifically: ● Children observe and identify animals in the world around them. With a support resource, they sort and classify them into simple groups. ● Children make careful observations of animals in the same group and can use simple features to compare living things (animals). ● Children can use simple secondary sources to find answers to help them sort and classify animals according to what they eat. ● Children can use their senses to carry out simple practical tests, using simple equipment. After making careful observations, they can draw simple conclusions and can, with support, record and communicate their findings in a range of ways. ● Children use simple sorting diagrams to sort and classify objects (animals) into simple groups of their choice and are beginning to explain why they have sorted them this way.
Vocabulary: ● Amphibians, birds, fish, mammals, reptiles, carnivore, herbivore, omnivore, sight, hearing, touch, taste, smell

Knowledge:

- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds)

Plants

Science

Working Scientifically:

- Children can make careful observations, sometimes using equipment to help them, of seeds and plants.
- They can explore the world around them, leading them to ask some simple scientific questions about how and why things happen.
- Children can make close observations of plants.
- Children can observe the natural world around them.
- Children can observe closely. They can identify, classify and sort plants from their observations.
- They begin to explain their choices using simple scientific language.
- Children can identify similarities and differences between plants and begin to sort them according to a given criteria.

Vocabulary:

- Wild plants, garden plants, weed, deciduous, evergreen

Knowledge:

- 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.

Everyday Materials

Science

Working Scientifically:

•Make a prediction.
• Perform simple tests.
• Use their observations to answer simple questions.
• Sort objects 3 ways.

Vocabulary:

- Object, material, hard, soft, stretchy, shiny, dull, rough, smooth, bendy, not bendy, waterproof, not waterproof, absorbent, not absorbent, transparent, opaque.

Knowledge:

- Distinguish between an object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.

Year 2

Animals including Humans

Science

Working Scientifically:

- Using their observations and ideas to suggest answers to questions.
- Use experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources.
- Recognise 'biggest and smallest', 'best and worst' etc. from their data.

Vocabulary:

- adult, develop, life cycle, offspring, young, live young, diet, exercise, germs, hygiene, nutrition.

Knowledge:

- Notice that animals, including humans, have offspring which grow into adults.
- Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene

Uses of everyday Materials

Science

Working Scientifically:

- Ask simple questions and recognising that they can be answered in different ways.
- While exploring the world, develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, answer these questions.
- Answer questions developed with the teacher often through a scenario.
- The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.

Vocabulary:

- Materials, suitability, properties, soft, stretchy, waterproof.

Knowledge:

- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching

Plants

Science

Working Scientifically:

- Observe closely, using simple equipment.
- Explore the world around them. Make careful observations to support identification, comparison and noticing change. Use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations.
- Begin to take measurements, initially by comparisons, then using non-standard units.

Vocabulary:

- Germination, shoot, seed dispersal, sunlight, water, temperature, nutrition.

Knowledge:

- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.
- Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)

Living things and their Habitats

Science

Working Scientifically:

- Identifying and classifying -Use observations and testing to compare objects, materials and living things. Sort and group these things, identifying own criteria for sorting.
- Use simple secondary sources (such as identification sheets) to name living things. Describe the characteristics used to identify a living thing.

Vocabulary:

- Life processes, living, dead, never living, food chain, food sources, habitat, micro-habitat, survive, depend

Knowledge:

- Explore and compare the 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.
- Identify and name a variety of plants and animals in their habitats, including microhabitats.
- Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.
- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

Year 3

Animals including Humans

Science

Working Scientifically:

- Ask relevant questions and use different types of scientific enquiries to answer them.
- Consider their prior knowledge when asking questions. Independently use a range of question stems. Where appropriate, answer these questions.
- Answer questions posed by the teacher.
- Given a range of resources, decide for themselves how to gather evidence to answer the question.
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Vocabulary:

- Healthy, nutrients, energy, saturated fats, unsaturated fats, vertebrate, invertebrate, muscles, tendons, joints.

Knowledge:

- 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.

Rocks

Science

Working Scientifically:

- Reporting on findings from enquiries.
- Communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary.

Vocabulary:

- Igneous rock, sedimentary rock, metamorphic rock, magma, lava, sediment, permeable, impermeable, fossilisation, erosion, paleontology.

Knowledge:

- 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.

Forces and Magnets

Science

Working Scientifically:

- Gather, record and present data (in a table or bar chart) to help in answering questions.
- Decide how to record and present evidence. Record their observation e.g. using photographs, videos, pictures, labelled diagrams or writing. Record their measurements e.g. using tables, tally charts and bar charts (given templates, if required, to which they can add headings).
- Record classifications e.g. using tables, Venn diagrams, Carroll diagrams.
- Present the same data in different ways in order to help with answering a question.

Vocabulary:

- Forces, friction, surface, magnet, magnetic, magnetic field, poles, repel, attract.

Knowledge:

- 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.

Plants

Science

Working Scientifically:

- Making systematic and careful observations and measurements using standard units. Children make systematic and careful observations.
- Use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements.

Vocabulary:

- Roots, stem, leaves, flowers, nutrients, evaporation, fertilisation, petal, stamen, carpel, sepal, pollination, pollinator, seed dispersal, germination.

Knowledge:

- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.
- Explore 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.

Light

Science

Working Scientifically:

- Gather and record data to answer questions. Sometimes decide how to record and present evidence.
- They record their observation e.g. using photographs, videos, pictures, labelled diagrams or writing.
- Record their e.g. using tables, tally charts and bar charts (given templates, if measurements required, to which they can add headings).
- They record classifications e.g. diagrams, Carroll diagrams, Venn diagrams.
- Children are supported using tables. Present the same data in different ways in order to help with answering the question.

Vocabulary:

- Light, light source, dark, reflection, reflect, reflective, ray, pupil, retina, shadow, opaque, translucent, transparent.

Knowledge:

- 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.

Year 4

Sound

Science

Working Scientifically:

- Ask relevant questions and use different types of scientific enquiries to answer them.
- Consider their prior knowledge when asking questions. Independently use a range of question stems. Where appropriate, answer these questions.
- Answer questions posed by the teacher.
- Given a range of resources, decide for themselves how to gather evidence to answer the question.
- Recognise when secondary sources can be used to answer questions that cannot be answered through practical work. They identify the type of enquiry that they have chosen to answer their question.
- Identify differences, similarities or changes related to simple scientific ideas and processes.
- Interpret their data to generate simple comparative statements based on their evidence.
- Begin to identify naturally occurring patterns and causal relationships.

Vocabulary:

- Vibration, sound wave, amplitude, volume, pitch, ear, particles, soundproof, distance, absorb, vacuum, eardrum.

Knowledge:

- 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

Electricity

Science

Working Scientifically:

- Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions.
- Communicate their findings to an audience both orally and in writing, using appropriate scientific vocabulary.

Vocabulary:

- Electricity, appliances, batteries, circuit, mains electricity, electrical conductor, electrical insulator.

Knowledge:

- 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.

States of Matter

Science

Working Scientifically:

- Set up a fair test.
- Select from a range of practical resources to gather evidence to answer questions generated by themselves or the teacher.
- Follow their plan to carry out: observations and tests to classify; comparative and simple fair tests; observations over time; and pattern seeking.

Vocabulary:

- States of matter, solids, liquids, gases, melt, freeze, evaporate, condense, precipitation.

Knowledge:

- 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.

Animals including Humans

Science

Working Scientifically:

- Use results to draw simple conclusions, suggest improvements and raise further questions.
- Identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.
- Use their evidence to suggest values for different items tested using the same method e.g. the distance travelled by a car on an additional they have gained from secondary sources. The answers are consistent with the evidence. surface. Following a scientific experience, the children ask further questions which can be answered by extending the same enquiry.
- Using straightforward scientific evidence to answer questions or to support their findings Answer their own and others' questions based on observations they have made, measurements they have taken or information.

Vocabulary:

- **Digest, oesophagus, stomach, small intestine, large intestine, rectum, teeth, herbivore, carnivore, omnivore, producer, prey, predator.**

Knowledge:

- 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.

Living things and their Habitats

Science

Working Scientifically:

- Gather, record and classify data.
- Sometimes decide how to record and present evidence. Record their observation e.g. using photographs, videos, pictures, labelled diagrams or writing. They record their measurements e.g. using tables, tally charts and bar charts (given templates, if required, to which they can add headings). They record classifications e.g. using tables, Venn diagrams, Carroll diagrams. Children are supported to present the same data in different ways in order to help with answering the question.

Vocabulary:

- Organisms, life processes, respiration, sensitivity, reproduction, excretion, nutrition, habitat, environment, endangered species, extinct, classification, vertebrates, invertebrates, specimen, characteristics.

Knowledge:

- 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

Year 5

Forces

Science

Working Scientifically:

- Measure, taking repeat readings.
- Select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale.
- During an enquiry, make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); or check further secondary sources (researching); in order to get accurate data (closer to the true value).

Vocabulary:

- Forces, gravity, earth's gravitational pull, weight, mass, friction, air resistance, water resistance, buoyancy, streamlined, mechanism, upthrust.

Knowledge:

- Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.
- Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.
- Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.

Materials and their Properties

Science

Working Scientifically:

- Plan scientific enquiry to answer questions and recognise and control variables where necessary.
- Select from a range of practical resources to gather evidence to answer their questions.
- Carry out fair tests, recognising and controlling variables. Decide what observations or measurements to make over time and for how long. Look for patterns and relationships using a suitable sample.
- Report and present findings from enquiries, including conclusions and explanations of degree of trust in results.
- In their conclusions: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge.

Vocabulary:

- Materials, solids, liquids, gases, melting, freezing, evaporating, condensing, conductor, insulator, transparency.

Knowledge:

- Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.
- Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.
- Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.
- Demonstrate that dissolving, mixing and changes of state are reversible changes.
- Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Earth and Space

Science

Working Scientifically:

- Gather and record data using tables and graphs.
- Decide how to record and present evidence. They record observations e.g. using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing. Record measurements e.g. using tables, tally charts, bar charts, line graphs and scatter graphs. They record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys.
- Present the same data in different ways in order to help with answering the question.

Vocabulary:

- Sun, star, moon, planet, sphere, spherical bodies, satellite, orbit, rotate, axis, geocentric model, heliocentric model, astronomer.

Knowledge:

- Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.
- Describe the movement of the Moon relative to the Earth.
- Describe the Sun, Earth and Moon as approximately spherical bodies.
- Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.

Living things and their Habitats

Science

Working Scientifically:

- Report and present findings from enquiries, in oral and written forms such as displays and other presentations, using appropriate scientific language.
- In their conclusions: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge.
- Evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used.
- Identify any limitations that reduce the trust they have in their data.
- Communicate their findings to an audience using relevant scientific language and illustrations.

Vocabulary:

- Asexual reproduction, fertilise, gestation, life cycle, metamorphosis, pollination, reproduction, sexual reproduction.

Knowledge:

- Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.
- Describe the life process of reproduction in some plants and animals.

Animals including Humans

Science

Working Scientifically:

- Take measurements using a range of equipment.
- Select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale.
- During an enquiry, they make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); or check further secondary sources (researching); in order to get accurate data (closer to the true value)

Vocabulary:

- Fertilisation, pre-natal, gestation, reproduce, asexual reproduction, sexual reproduction, life cycle, adolescence, puberty, menstruation, adulthood, life expectancy.

Knowledge:

- Describe the changes as humans develop to old age.

Year 6

Animals including Humans

Science

Working Scientifically:

- Use test results to make predictions to set up further comparative and fair tests.
- Independently ask scientific questions. This may be stimulated by a scientific experience or involve asking further questions based on their developed understanding following an enquiry.
- Choose a type of enquiry to carry out and justify their choice. Recognise how secondary sources can be used to answer questions that cannot be answered through practical work.
- Select from a range of practical resources to gather evidence to answer their questions. Carry out fair tests, recognising and controlling variables. Decide what observations or measurements to make over time and for how long. Look for patterns, resources decide for themselves how to gather evidence to answer a scientific question. and relationships using a suitable sample.
- Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
- In their conclusions: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge.
- Evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources used.
- Identify any limitations that reduce the trust they have in their data.
- Communicate their findings to an audience using relevant scientific language and illustrations Using test results to make predictions to set up further comparative and fair tests.
- Use the scientific knowledge gained from enquiry work to make predictions they can investigate using comparative and fair tests.

Vocabulary:

- Circulatory system, heart, bloody vessels, oxygenated blood, deoxygenated blood, drug, alcohol, nutrients.

Knowledge:

- Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood.
- Recognise the impact of diet, exercise, drugs and lifestyle on the way their body's function.
- Describe the ways in which nutrients and water are transported within animals, including humans.

Light

Science

Working Scientifically:

- Take accurate measurements and record data on a graph.
- Select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale.
- During an enquiry, they make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); or check further secondary sources (researching); in order to get accurate data (closer to the true value).
- Decide how to record and present evidence. Record observations e.g. using annotated photographs, videos, labelled diagrams, observational drawings, labelled scientific diagrams or writing. They record measurements e.g. using tables, tally charts, bar charts, line graphs and scatter graphs. They record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys.

Vocabulary:

- Light, light source, reflection, incident ray, reflected ray, the law of reflection, refraction, visible spectrum, prism, shadow, transparent, translucent opaque,

Knowledge:

- Recognise that light appears to travel in straight lines.
- Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.
- Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.
- Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

Living things and their Habitats

Science

Working Scientifically:

- Report and present findings from enquiries using appropriate scientific language.
- Communicate their findings to an audience using relevant scientific language and illustrations.
- Record the results of a survey using a classification key.
- Record classifications e.g. using tables, Venn diagrams, Carroll diagrams and classification keys. Present the same data in different ways in order to help with answering the question.

Vocabulary:

- Characteristics, classify, taxonomist, key, bacteria, microorganism, microscope, species.

Knowledge:

- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals.
- Give reasons for classifying plants and animals based on specific characteristics.

Evolution and Inheritance

Science

Working Scientifically:

- Identifying scientific evidence that has been used to support or refute ideas or arguments.
- Answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. When doing this, they discuss whether other evidence, e.g. from other groups, secondary sources and their scientific understanding, supports or refutes their answer.
- Talk about how their scientific ideas change due to new evidence that they have gathered.
- Talk about how new discoveries change scientific understanding.

Vocabulary:

- Offspring, inheritance, variations, characteristics, adaption, habitat, environment, evolution, natural selection, fossil, adaptive traits, inherited traits.

Knowledge:

- Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.
- Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.
- Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

Electricity

Science

Working Scientifically:

- Plan a scientific enquiry to answer a question, recognising and controlling variables.
- Independently ask scientific questions. This may be stimulated by a scientific experience or involve asking further questions based on their developed understanding following an enquiry. Given a wide range of resources, the children decide for themselves how to gather evidence to answer a scientific question. They choose a type of enquiry to carry out and justify their choice. They recognise how secondary sources can be used to answer questions that cannot be answered through practical work. Select from a range of practical resources to gather evidence to answer their questions. They carry out fair tests, recognising and controlling variables.
- Decide what observations or measurements to make over time and for how long. Look for patterns and relationships using a suitable sample.

Vocabulary:

- Circuit, symbol, cell, battery, current, amps, voltage, resistance, electrons,

Knowledge:

- Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.
- Compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.
- Use recognised symbols when representing a simple circuit in a diagram.