Bowesfield Primary School Science Curriculum Overview

Year 1	**Everyday materials** 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 **Seasonal change** Observe and describe weather associated with the seasons and how day length varies Identify and discuss changes in Autumn – Term 1 Identify and discuss changes in Winter – Term 2	**Animals including humans (seasonal change)** 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 and mammals, including pets) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense **Seasonal change** Observe and describe weather associated with the seasons and how day length varies Identify and discuss changes in Spring		**Plants (seasonal change)** 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 – roots, stem, leaves, petals **Seasonal change** Observe and describe weather associated with the seasons and how day length varies Identify and discuss changes in Summer	**Revise and consolidate**
Year 2	**Uses of Everyday Materials** 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.	**Living Things and their habitats** 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.	**Animals including Humans** 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	**Plants** 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	**Revisit and consolidate**

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Year 3 / 4 Cycle A	**Living things and their habitats** 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	**Electricity** 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.	**Animals including humans** 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.	**States of Matter** Compare groups of 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. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	**Sound** 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.	**Revisit and consolidate**
Year 3/ 4 Cycle B	**Rocks** 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	**Light** Recognise that they need light in order to see things and that the 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 a solid object Find patterns in the way that the size of shadows changes.	**Forces and Magnets** Compare and group together a variety of everyday materials on whether they are attracted to a magnet and identify some magnetic materials. Observe how magnets attract or repel each other and attract some materials and not others. Compare how things move on different surfaces Notice that some forces need contact between two objects, but magnetic forces can act at a distance predict whether two magnets will attract or repel each other, depending on which poles are facing. Describing magnets as having 2 poles	**Plants** 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	**Animals including Humans** 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 human and some other animals have skeletons and muscles for support, protection and movement	**Revisit and consolidate**
Year 5	**Living things and their habitats** Describe the differences in the life cycle of a mammal, an amphibian, an insect and a bird. Understand the term metamorphosis, caterpillar to butterfly.	**Earth and Space** Describe the movement of the Earth and other planets. The Sun is a star. Learn that the planets travel around the sun in a fixed orbit. Describe the movement of the Moon relative to the Earth.	**Forces** Know a force causes an object to start/stop moving, slow down/speed up, or change direction. Learn that gravity is a force that acts at a distance and gravity causes	**Animals including Humans** Describe the changes as humans develop to old age	**Properties and their materials** Compare and group together everyday materials based on their properties and response to magnets.	**Revise and consolidate**

	Describe the life process of reproduction in some plants and animals. Know that plants produce sexually through pollination and asexually- only one parent.	Use the Earth's rotation to explain day and night. Earth Sun and Moon are spherical	unsupported objects to fall to the Earth. Know that air resistance, water resistance and friction are contact forces act between moving surfaces. Recognise that some mechanisms, including levers pulley and gears allow a smaller force to have a greater effect.		Know that some materials dissolve in the solution, describe how to recover substance from the solution. Give reasons based on comparative tests for use of everyday materials. Know that dissolving and mixing are reversible changes and some changes form new materials –not reversible	
Year 6	**Light** 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.	**Electricity** 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.	**Evolution and Inheritance** 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.	**Living things and their habitats** Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics.	**Animals including humans** 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.	**Revise and consolidate**