Science Skills Progression

Skill Area	KS1	LKS2	UKS2
Raise questions	Simple questions	Relevant scientific questions	Testable, variable-linked questions
Plan Investigations	Simple tests	Simple fair tests with guidance	Independent planning & variable control
Observing and measuring	Basic observations	Accurate basic measurements	Precise, repeatable measurements
Recording	Pictures, simple tables	Tables, bar charts, diagrams	Line graphs, complex tables
Analysing	Notice things	Spot simple patterns	Identify trends, anomalies, reliability
Conclusions	Describe what happened	Evidence-based simple conclusions	Reasoned, scientific explanations, application of prior knowledge
Vocabulary	Everyday terms	Expanding scientific words	Advanced, precise terminology

Beechwood Primary School

Explore, Discover, Achieve

	Living Things and Their Habitats	Animals including Humans	Plants	Electricity	Light and Sound	Materials, Rocks and States of Matter	Space and Forces
Year 1		To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals To identify and name a variety of common animals that are carnivores, herbivores and omnivores. To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets) To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	To identify and describe the basic structure of a variety of common flowering plants including trees. To identify and name a variety of common wild and garden plants including deciduous and evergreen trees			I can distinguish between an object and the material from which it is made. I can identify and name a variety of everyday materials including wood, plastic, glass, metal, water and rock. I can describe the simple properties of a variety of everyday materials. I can compare and group together a variety of everyday materials on the basis of their simple properties.	
Year 2		To notice that animals including humans have offspring which grow into adults. To find out about and 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	To observe and describe how seeds and bulbs grow into mature plants. Find and describe how plants need water, light and a suitable temperature to grow and stay healthy.			To identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper, cardboard for particular uses. I can find out how the shape of solid objects made from materials can be changed by squashing, bending, twisting and stretching.	
Year 3	Explore and compare the differences between	To identify that humans and some other animals	I can identify and describe the functions of			Rocks	

	things that are living, dead and things that have never been alive. Identify most living things live in habitats to which they are suited and describe how different habitats provide for basic needs of different kinds of animals and plants and how the depend on each other. Identify and name a variety of plants and animals in their habitat, 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.	have skeletons and muscles for support, protection and movement. To 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.	different parts of a flowering plant. I can explore the requirements of plant life and growth. I can investigate the way in which water is transported within plants. I can explore the part that flowers play in the lifecycle of flowering plants including pollination, seed formation and seed dispersal.			To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed when things that have lived are trapped within rock. To recognise that soils are made from rock and organic matter.	
Year 4	To recognise that living things can be grouped in a variety of ways. To explore and use classification keys to help group. Identify and name a variety of living things in the environment. Recognise that environments can change and this can sometimes pose dangers to living things.	-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.	(Link to living things) Describe the life process of reproduction in some plants and animals.	-Identify common appliances that run on electricity. Construct 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 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	-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 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.	<u>States of Matter</u> -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. -Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	

				insulators, and associate metals with being good conductors.			
Year 5	Describe the differences in life cycles of a mammal, an amphibian, an insect and a bird. Describe the life process of reproduction in some plants and animals.	Describe the changes as humans develop from birth to old age.				**Properties of materials** Compare and group together everyday materials based on their properties, including hardness, solubility, transparency, conductivity 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 solid, liquid and gas to decide how mixtures might be separated including through filtering, sieving and evaporation. Give reasons based on evidence from comparative 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 this kind of change is not usually reversible including changes associated with burning and the action of acid on bicarbonate of soda.	**Space** 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 approximate spherical bodies. Use Earth rotation to explain day and night due to the apparent movement of the sun across the sky. **Forces** I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces I can recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect

Year 6	Describe how living things are classified into broad groups based on similarities and differences.	To identify the main parts of the human circulatory system and describe the function of the heart, blood vessels and blood. To describe the ways in which nutrients and water and transported within animals including humans. To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. **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.		To 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. To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. To use recognised symbols when representing a simple circuit in a diagram.	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.		

Seasonal Changes (taught throughout the year in Year 1)

I can observe changes across four seasons.

I can observe and describe weather associated with the seasons and how day length varies.