



**Science Progression of Skills** are under Key Stage headings. Teachers follow a two year cycle outline by NYCC. Teachers fill in assessment sheets to ensure all objectives are covered by the end of Key Stage 2.

	EYFS	KS1	LKS2	UKS2
<b>Plants</b>	<p>Develop understanding of growth</p> <p>Spot plants in EYFS outside area and school grounds</p> <p>Shows care and concern for the environments</p> <p>Make observations of plants and explain why things occur and talk about changes</p> <p>Can talk about some of the things they have observed, such as plants.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p> <p>Observe and describe how seeds and bulbs grow into mature plants</p> <p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</p>	<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p>Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow <i>and the correct temperature</i>) and how they vary from plant to plant</p> <p>Investigate the way in which water is transported within plants.</p> <p>Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>	<p><i>Describe how seed dispersal ensures that new plants survive</i></p> <p><i>Describe how nutrients are taken in through plant roots</i></p> <p><i>Recognise that leaves use light to make food for the plant</i></p> <p><i>Find out and describe how keys are a way of identifying different living things, including plants.</i></p>
<b>Animals including humans</b>	<p>Children identify different parts of their body</p> <p>Have some understanding of healthy food and the need for variety in their diets</p> <p>Show care and concern for living things</p> <p>Show understanding of growth and change</p> <p>Can talk about things they have observed, including animals</p>	<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> <p>Notice that animals, including humans, have offspring which grow into adults</p> <p>Find out about and describe the basic need of animals, including humans, for survival (water, food and air)</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>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</p> <p>Identify that humans and some other animals have skeletons and muscles for support, protection and movement</p> <p>Describe the simple functions of the parts of the digestive system in humans</p> <p>Identify the different types of teeth in humans and their simple functions</p> <p>Construct and interpret a variety of food chains, identifying producers</p>	<p>Describe the changes as humans develop to old age</p> <p>Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p>Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p>Describe the ways in which nutrients and water are transported within animals, including humans</p>

<p><b>Living things and their habitats</b></p>	<p>Children can comment and ask questions about the place they live or the natural world</p> <p>Show care and concern for living things and the environment</p> <p>Can talk about things they have observed such as plants and animals</p> <p>Notice features of objects in their environment</p> <p>Comments and asks questions about their familiar world.</p>	<p>Explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>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</p> <p>Identify and name a variety of plants and animals in their habitats, including micro-habitats</p> <p>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.</p>	<p>Recognise that living things can be grouped in a variety of ways</p> <p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p>Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>Describe the life process of reproduction in some plants and animals</p> <p>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and difference, including micro-organisms, plants and animals</p> <p>Give reasons for classifying plants and animals based on specific characteristics.</p>
<p><b>Evolution and inheritance</b></p>				<p>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p>Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>
<p><b>Materials</b></p>	<p>Children should be able to ask questions about the place they live</p> <p>Talk about why things happen and how things work</p> <p>Discuss the things they have observed such as natural materials</p> <p>Manipulates materials to achieve a desired effect.</p>	<p><b>Everyday materials</b> Distinguish between an object and the material from which it is made</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</p> <p>Describe the simple physical properties of a variety of everyday materials</p> <p>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> <p><b>Uses of everyday materials</b> Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p><b>States of matter</b> Compare and group materials together, according to whether they are solids, liquids or gases</p> <p>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)</p> <p>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p><b>Properties and changes of materials</b> 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</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>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.</p>

<p><b>Forces</b></p>	<p>Children know about similarities and differences in relation to places, objects, materials and living things</p> <p>They talk about the features of their own immediate environment and how environments might vary from one another</p> <p>They make observations of animals and plants and explain why some things occur, and talk about change</p>		<p>Compare how things move on different surfaces</p> <p>Notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>Observe how magnets attract or repel each other and attract some materials and not others</p> <p>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</p> <p>Describe magnets as having two poles</p> <p>Predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>
<p><b>Light and Sound</b></p>	<p>Develop an understanding of change</p> <p>Comments and questions about the place they live or the natural world</p>		<p>Recognise that they need light in order to see things and that dark is the absence of light</p> <p>Notice that light is reflected from surfaces</p> <p>Recognise that light from the Sun can be dangerous and that there are ways to protect their eyes</p> <p>Recognise that shadows are formed when the light from a light source is blocked by a solid object</p> <p>Find patterns in the way that the sizes of shadows change</p> <p>Identify how sounds are made, associating some of them with something vibrating</p> <p>Recognise that vibrations from sounds travel through a medium to the ear</p> <p>Find patterns between the pitch of a sound and features of the object that produced it</p> <p>Find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p><i>Recognise that sounds travel away from their source</i></p> <p>Recognise that sounds get fainter as the distance from the sound source increases.</p>	<p><i>Recognise that sounds can be high or low (pitched)</i></p> <p><i>Describe how sounds are made when objects vibrate</i></p> <p><i>Recognise that not all objects can be seen to vibrate</i></p> <p><i>Recognise that vibrations can travel at different speeds through different mediums.</i></p> <p>Recognise that light appears to travel in straight lines</p> <p>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</p> <p>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</p> <p>Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p>
<p><b>Electricity</b></p>	<p>May have some understanding that objects need electricity to work</p> <p>May understand that a switch will turn something on or off</p>		<p>Identify common appliances that run on electricity</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells (batteries), wires, bulbs, switches and buzzers</p> <p>Identify whether or not a lamp (bulb) will light in a simple series circuit, based on whether or not the lamp (bulb) is part of a complete loop with a battery</p>	<p>Associate the brightness of a lamp (bulb) or the volume of a buzzer with the number and voltage of cells (batteries) used in the circuit</p> <p>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</p> <p>Use recognised symbols when representing a simple circuit in a diagram.</p>

			<p>Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp (bulb) lights in a simple series circuit</p> <p>Recognise some common conductors and insulators, and associate metals with being good conductors.</p>	
<p><b>Space and seasonal change</b></p>	<p>Develop an understanding of change</p> <p>Observe and explain why things may occur (e.g leaves falling off trees, changes in weather)</p> <p>Comments and questions about the place they live or the natural world</p>	<p>Observe changes across the four seasons</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p><b>Earth and space</b></p> <p><i>Observe how the Sun appears to move across the sky from East to West</i></p> <p><i>Observe how the Sun appears to move and this causes shadows to change</i></p> <p><i>Describe how we can see the Moon because the Sun's light reflects off it</i></p> <p><i>Describe how the Earth and Moon go around the Sun in one year</i></p> <p><i>Recognise that humans have been to the Moon.</i></p>	<p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>Describe the movement of the Moon relative to the Earth</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky</p>
<p><b>Working scientifically</b></p>	<p>Show curiosity about objects, events and people.</p> <p>Questions why things happen.</p> <p>Makes links and notices patterns in their experiences</p> <p>Answer how and why questions about their experiences</p> <p>Develop idea of grouping, sequences</p> <p>Choose the resources they need for their chosen activities</p>	<p>Ask simple questions and recognise they can be answered in different ways</p> <p>Observe closely using simple equipment</p> <p>Perform simple tests</p> <p>Identify and classify</p> <p>Use observations and ideas to suggest answers to questions</p> <p>Gather and record data to help answer different questions</p>	<p>Asking relevant questions and using different types of scientific enquires to answer them -setting up simple practical enquiry, comparative and fair tests</p> <p>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p>Recording findings using simple scientific language, drawings, labelled diagram, keys, bar charts, and tables</p> <p>Reporting on findings from enquires including oral and written explanations, displays or presentations of results and conclusions</p> <p>Using results to draw simple conclusion, make predictions for new value, suggest improvements and raise further questions</p> <p>Identifying difference, similarities or changes related to simple scientific ideas and processes</p> <p>Using straightforward scientific evidence to answer questions or to support their findings.</p>	<p>Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</p> <p>Taking measurement, using a range of scientific equipment, with increasing accuracy and precision</p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs</p> <p>Using text results to make predictions to set up further comparative and fair tests -using simple models to describe scientific ideas</p> <p>Reporting and presenting findings from enquires, including conclusion, casual relationships and explanations of results, in oral and written forms such as displays and other presentations</p> <p>Identifying scientific evidence that has been used to support</p>