

SCIENCE			
	Milestone 1	Milestone 2	Milestone 3
TO WORK SCIENTIFICALLY	<p>Ask simple questions.</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 in answering questions.</p>	<p>Ask relevant questions.</p> <p>Set up simple practical enquiries and comparative and fair tests.</p> <p>Make accurate measurements using standard units, using a range of equipment, e.g. thermometers and data loggers.</p> <p>Gather, record, classify and present data in a variety of ways to help in answering questions.</p> <p>Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</p> <p>Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</p> <p>Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests.</p> <p>Identify differences, similarities or changes related to simple, scientific ideas and processes.</p> <p>Use straightforward, scientific evidence to answer questions or to support their findings.</p>	<p>Plan enquiries, including recognising and controlling variables where necessary.</p> <p>Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.</p> <p>Take measurements, using a range of scientific equipment, with increasing accuracy and precision.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.</p> <p>Report findings from enquiries, including oral and written explanations of results, explanations involving causal relationships, and conclusions.</p> <p>Present findings in written form, displays and other presentations.</p> <p>Use test results to make predictions to set up further comparative and fair tests.</p> <p>Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas or arguments.</p>

<p><b>BIOLOGY</b></p>	<p><b>To Understand Plants</b> 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.</p> <p><b>To Understand Animals and Humans</b> Notice that animals, including humans, have offspring which grow into adults. Investigate 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.</p> <p><b>To investigate living things</b> Explore and compare the differences between things that are living, that are dead and 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 micro-habitats. 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><b>To understand evolution and inheritance</b> Identify how humans resemble their parents in many features.</p>	<p><b>To Understand Animals and Humans</b> 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.</p> <p><b>To investigate living things</b> Identify and name a variety of living things (plants and animals) in the local and wider Give reasons for classifying plants and animals based on specific characteristics. Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats.</p> <p><b>To understand evolution and inheritance</b> Identify how plants and animals, including humans, resemble their parents in many features. Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. Identify how animals and plants are suited to and adapt to their environment in different ways.</p>	<p><b>To Understand Animals and Humans</b> Identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood (including the pulse and clotting). Recognise the impact of diet, exercise, drugs and lifestyle on the way human bodies function. Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p><b>To investigate living things</b> Explain the classification of living things into broad groups according to common, observable characteristics and based on similarities and differences, including plants, animals and micro-organisms. Give reasons for classifying plants and animals based on specific characteristics.</p> <p><b>To understand evolution and inheritance</b> 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. Describe how adaptation leads to evolution. Recognise how and why the human skeleton has changed over time, since we separated from other primates.</p>
<p><b>CHEMISTRY</b></p>	<p><b>To investigate materials</b> Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. Identify and compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard.</p>	<p><b>To investigate materials</b> 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 the temperature at which this happens in degrees Celsius (°C), building on their teaching in mathematics. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	

<b>PHYSICS</b>		<p><b>To investigate sound and hearing</b>                  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 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's source increases.</p> <p><b>To understand electrical circuits</b>                  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.</p>	<p><b>To understand light and seeing</b>                  Understand 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 eyes.                  Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then 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, and to predict the size of shadows when the position of the light source changes.</p> <p><b>To understand electrical circuits</b>                  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.</p>
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