



Explorer

## Explorer Curriculum – Building block to Formal Curriculum

- The building block before a fully formal curriculum.
- Strong focus on Early Literacy and Numeracy.
- Key skills and knowledge to understand the world around them.
- Functional Skills to apply basic knowledge.
- For children with moderate learning difficulties, autism and other learning needs. Learning takes place through tangible 'real life situations' with regular revisiting of learning.
- Students follow an Entry Level (1-3) Pathway at KS4 and KS5.

# 8.2 - Explorer Curriculum- Science 6 Lessons Weekly

Click here for [SoW access](#)

	2020 – 2021 Autumn 1 Unit 1	2020 – 2021 Autumn 2 Unit 2	2020 – 2021 Spring 1 Unit 3	2020 – 2021 Spring 2 Unit 4	2020 – 2021 Summer 1 Unit 5	2020 – 2021 Summer 2 Unit 6
	<b>Knowledge</b>					
Year 8	<p><b>Topic:</b></p> <p>(1) Living Things (2) Acids &amp; Alkalis</p> <p><b>Key Questions:</b> What are living things? How can we tell if something is acid or alkali?</p> <p>Living Things</p> <ul style="list-style-type: none"> <li>• To be able to differentiate between alive and never alive</li> <li>• To know some of the features of living things</li> <li>• To be able to describe life processes using correct vocabulary.</li> <li>• To be able to classify plants and animals into main taxonomic groups</li> </ul>	<p><b>Topic:</b></p> <p>(1) Light (2) Heart and circulation</p> <p><b>Key Questions:</b> What are the properties of light? What is the circulatory system?</p> <p>Light</p> <ul style="list-style-type: none"> <li>• To be able to identify and sort a range of sources e.g. sun, TV, fire, etc</li> <li>• To be able to compare light sources for brightness</li> <li>• To be able to identify dark places.</li> <li>• To be able to link shadows and darkness.</li> <li>• To be able to</li> </ul>	<p><b>Topic:</b></p> <p>(1) Separating Materials (2) Sound</p> <p><b>Key Questions:</b> How can we separate mixtures? What are the properties of sound?</p> <p>Separating Materials</p> <ul style="list-style-type: none"> <li>• To be able to separate solids using different sizes of sieves</li> <li>• To be able to explain how sieving works.</li> <li>• To be able to explain that some solids seem to “disappear” in water and some don’t</li> <li>• To know that this “disappearing” is</li> </ul>	<p><b>Topic:</b></p> <p>(1) Plants (2) Changing Materials</p> <p><b>Key Questions:</b> What do plants need? How can the properties of materials be changed?</p> <p>Plants</p> <ul style="list-style-type: none"> <li>• To be able to find out practically what happens if a plant is deprived of light and water.</li> <li>• To know that both light and water are important to a plant.</li> <li>• To be able to investigate the best place for growing a plant.</li> <li>• To know the main parts of flowering</li> </ul>	<p><b>Topic:</b></p> <p>(1) Electricity (2) Human skeleton</p> <p><b>Key Questions:</b> Why is electricity important? Why do humans have a skeleton?</p> <p>Electricity</p> <ul style="list-style-type: none"> <li>• To know that electricity can be dangerous.</li> <li>• To know that electricity can produce light, heat, sound, movement.</li> <li>• To be able to connect given circuit components to light the bulb/make the buzzer sound.</li> <li>• To be able to contribute to class discussion and</li> </ul>	<p><b>Topic:</b></p> <p>(1) Rocks &amp; weathering (pollution) (2) Forces &amp; motion (magnets)</p> <p><b>Key Questions:</b> Are all rocks the same? What do forces do?</p> <p>Rocks &amp; weathering (pollution)</p> <ul style="list-style-type: none"> <li>• To know that rocks are natural materials</li> <li>• To know how rocks and minerals can be very useful to us</li> <li>• To sort rocks by their appearance and texture.</li> <li>• To know that water passes through some rocks and not others.</li> <li>• To group rocks by their hardness.</li> <li>• To group rocks by how they were</li> </ul>

	<ul style="list-style-type: none"> <li>• To know that micro-organisms are very small</li> <li>• To know microorganisms are living organisms.</li> <li>• To know that microorganisms can be good or bad.</li> <li>• To know that microorganisms can cause disease.</li> <li>• To know that the body can defend itself against dangerous micro-organisms</li> <li>• To know that immunisation/vaccination and medicines help to defend against dangerous micro-organisms</li> <li>• To know that plants and animals are found in many different places</li> <li>• To be able to sort living things into an appropriate environment (e.g. place picture of tree in forest or farm, not sea).</li> <li>• To be able to identify some simple adaptations of living things to their environment.</li> <li>• To be able to identify plants and animals found in habitats</li> <li>• To be able to identify the physical features in a habitat</li> <li>• To be able to identify plants and animals found in</li> </ul>	<p>explore making shadows.</p> <ul style="list-style-type: none"> <li>• To know that light travels from sources.</li> <li>• To know that light travels in straight lines.</li> <li>• To be able to explain how shadows are formed.</li> <li>• To know that light bounces off all surfaces.</li> <li>• To know that when light bounces off shiny, regular surfaces we can see an image.</li> <li>• To be able to explain what reflection is and how it is different to an image.</li> <li>• To be able to explain why dull, uneven surfaces do not produce images.</li> <li>• To know that our eyes receive light.</li> <li>• To be able to describe how light travels through the air to our eyes.</li> <li>• To be able to draw and show direction of the path of light involved in seeing an object.</li> <li>• To be able to identify the outside features of eyes.</li> </ul> <p><b>Heart and circulation</b></p> <ul style="list-style-type: none"> <li>• To know that everybody needs a</li> </ul>	<p>dissolving.</p> <ul style="list-style-type: none"> <li>• To be able to explain what dissolving means.</li> <li>• To know that a liquid with a solid dissolved in it is called a solution.</li> <li>• To be able to separate using filtering.</li> <li>• To know that a solid which does not dissolve is insoluble.</li> <li>• To be able to explain how filtering works.</li> <li>• To know that dissolved solids are present in a solution.</li> <li>• To know that water turns into invisible water vapour if it is in a warm place</li> <li>• To know that the solvent (liquid) will evaporate and not the solute (solid)</li> <li>• To know some factors that can affect evaporation.</li> <li>• To know that there is a limit to how much solid will dissolve in a liquid.</li> <li>• To explain simply what a saturated solution is</li> <li>• To know that if the solid is changed this will affect this limit.</li> <li>• To know which mixtures of solids, liquids and gases can be separated by which method</li> </ul>	<p>plants and be able to recognise these parts on different plants (including trees and bushes)</p> <ul style="list-style-type: none"> <li>• To know that trees and bushes are flowering plants.</li> <li>• To know when a seed is starting to grow.</li> <li>• To understand a simple life cycle.</li> <li>• To be able to find out the conditions for seed growth.</li> <li>• To be able to describe the effects of water on plant growth.</li> <li>• To be able to describe the effects of light on plant growth.</li> <li>• To be able to describe the effects of temperature on plant growth.</li> <li>• To know that all plants have roots but different plants have different roots.</li> <li>• To know that roots hold the plant in the ground.</li> <li>• To know that plants produce their own food in their leaves.</li> <li>• To know that light (sunshine) is necessary for this to happen.</li> <li>• To know that water passes through the roots and up the stem.</li> <li>• To know that nutrients are needed for healthy</li> </ul>	<p>questioning.</p> <p><b>Human skeleton</b></p> <ul style="list-style-type: none"> <li>• To know that skeletons are made of lots of bones.</li> <li>• To know that the skeleton is used for support, movement and protection.</li> <li>• To be able to show that muscles work in pairs and can only pull.</li> <li>• To know that 'meat' is muscle.</li> <li>• To know that bones are joined by joints.</li> <li>• To be able to name types of joints (<i>hinge, ball &amp; socket</i>).</li> </ul>	<p>formed.</p> <ul style="list-style-type: none"> <li>• To understand how sedimentary rocks were formed.</li> <li>• To recognise examples of sedimentary rocks</li> <li>• To understand how igneous rocks were formed</li> <li>• To recognise examples of igneous rocks</li> <li>• To know that metamorphic rocks were made when rocks were heated or squashed</li> <li>• To know that if a rock is heated and cooled lots of times it eventually cracks</li> <li>• To understand how repeated freezing and thawing of water can make cracks on rocks bigger</li> <li>• To know that rain and wind can cause the weathering of rocks.</li> </ul> <p><b>Forces and motion</b></p> <ul style="list-style-type: none"> <li>• To explore and observe different pushes and pulls.</li> <li>• To describe movements as fast, slow, turn, go round</li> <li>• To use vocabulary correctly to describe movement</li> <li>• To describe how to make things speed up, slow down, stop or change direction.</li> <li>• To identify movements as pushes and pulls</li> <li>• To know that</li> </ul>
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	<p>habitats</p> <ul style="list-style-type: none"> <li>• To use keys to identify local plants and animals.</li> <li>• To be able to draw food chains for familiar plants and animals.</li> <li>• To be able to draw simple food webs</li> <li>• To know that plants and animals in specific habitats are interdependent.</li> </ul> <p><b>Acids &amp; Alkalis</b></p> <ul style="list-style-type: none"> <li>• To recognise that acids have a sour taste (SAFETY SYMBOL)</li> <li>• To be aware that many everyday chemicals and foods contain acids</li> <li>• To understand that acids can burn you and can be dangerous</li> <li>• To know that we must wear goggles when using acids</li> <li>• To recognise common hazard symbols associated with acids</li> <li>• To observe the colour changes that occur when acids are added to certain plant dyes</li> <li>• To observe the effect of acids on bicarbonate of soda</li> <li>• To use litmus paper as a more sophisticated method of detecting an acid</li> <li>• To use the term</li> </ul>	<p>working heart to stay alive.</p> <ul style="list-style-type: none"> <li>• To be able to locate the position of the heart.</li> <li>• To experience own heartbeat ( use touch or stethoscope)</li> <li>• To know that the heart can beat faster.</li> <li>• To know that that heart pumps blood round the body and to the lungs.</li> <li>• To know that everybody needs to take air in and out of own body.</li> <li>• To know that each person has a pair of lungs.</li> <li>• To be able to locate the position of the lungs.</li> <li>• To know that arteries carry blood away from the heart and veins to it.</li> <li>• To know that blood is carried around the body in tubes called blood vessels</li> <li>• To know that blood is carried round the body in veins and arteries.</li> <li>• To know that blood carries food and oxygen to all parts of the body and waste away.</li> <li>• To develop the skills of measuring and recording.</li> <li>• To be able to find</li> </ul>	<p>and why it works</p> <ul style="list-style-type: none"> <li>• Pupils to see distillation.</li> <li>• Pupils to be able to explain how distillation works.</li> <li>• Pupils to carry out chromatography.</li> <li>• Pupils to know what chromatography separates dissolved solids.</li> </ul> <p><b>Sound</b></p> <ul style="list-style-type: none"> <li>• To experience a range of sounds.</li> <li>• To explore making and changing sounds</li> <li>• To be able to identify common sounds and sound sources.</li> <li>• To be able to recognise warning sounds.</li> <li>• To be able to use the scientific vocabulary when talking about sounds and how they are made.</li> <li>• To be able to demonstrate how notes of different loudness and pitch can be produced.</li> <li>• Can explain the difference between pitch and volume</li> <li>• To know that sound travels in all directions and through objects</li> <li>• To know that sound has to enter the ear and ears are used to hear</li> </ul>	<p>growth.</p> <ul style="list-style-type: none"> <li>• To know that nutrients also pass through the roots and stem.</li> <li>• To be able to sequence the life cycle of a plant.</li> <li>• To be able to name the reproductive parts of a plant.</li> <li>• To understand the role of insects in reproduction.</li> <li>• To know how seeds are dispersed.</li> </ul> <p><b>Changing Materials</b></p> <ul style="list-style-type: none"> <li>• To be able to explore a variety of materials for bendiness, squashiness, twistability and stretchiness.</li> <li>• To be able to use the scientific vocabulary in discussion.</li> <li>• To begin to comment on, and record simply, their observations</li> <li>• To be able to explore a range of changes when materials are heated or cooled.</li> <li>• To know some of the ways materials can change when mixed.</li> <li>• To be able to discuss a range of changes.</li> <li>• To explore how varying factors affect changes.</li> <li>• To be able to</li> </ul>		<p>squeezing, bending, twisting and stretching can change the shape of objects</p> <ul style="list-style-type: none"> <li>• To know that squeezing, bending etc are types of forces</li> <li>• To be able to use the word “force” in the correct way</li> <li>• To use the correct vocabulary when describing forces</li> <li>• To explore what happens when magnets are put near one another</li> <li>• To use the correct vocabulary to describe magnetism</li> <li>• To know that friction slows things down</li> <li>• To recognise some everyday examples of friction</li> <li>• To recognise that friction can be useful and it can be a nuisance</li> <li>• To know that friction happens when two surfaces rub over each other</li> <li>• To describe the effects of pushing and pulling springs</li> <li>• To recognise situations in which springs are useful to us</li> <li>• To know that the bigger the force the greater the effect</li> <li>• To use various force meters to measure pushes and pulls</li> <li>• To measure forces</li> </ul>
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	<p>“indicator” when describing an acid</p> <ul style="list-style-type: none"> <li>• To recognise that there are some substances that are not acids</li> <li>• To recall that the opposite to an acid is an alkali</li> <li>• To understand that a substance that is neither acidic nor alkaline is called neutral</li> <li>• To know that tap water is (more or less) neutral</li> <li>• To know that we can make an acid neutral if we add an alkali</li> <li>• To understand that we can use neutralisation to treat bee stings wasp stings and indigestion.</li> </ul>	<p>and count the pulse rate.</p> <ul style="list-style-type: none"> <li>• To know that a pulse is caused by heart beat.</li> <li>• To be able to describe the effect of exercise and rest on pulse rate.</li> <li>• To understand, simply, why the pulse goes up with exercise.</li> </ul>	<p>sound.</p> <ul style="list-style-type: none"> <li>• To know that materials can be used to reduce vibrations entering the ear.</li> <li>• To be able to identify parts of an ear.</li> </ul>	<p>describe some of the changes caused by heating and cooling</p> <ul style="list-style-type: none"> <li>• To be able to name some reversible changes.</li> <li>• To be able to name some non-reversible changes.</li> <li>• To be able to predict which things might change permanently and which could be reversible.</li> <li>• To know that burning is generally a permanent change</li> <li>• To know some things are made by burning e.g. smoke, ash</li> <li>• To know that air is needed for burning.</li> <li>• To be able to identify solids, liquids and gases.</li> <li>• To know that solids have a fixed shape and volume</li> <li>• To know that liquids have a fixed volume, take the shape of the container and flow easily.</li> <li>• To know that gases have the shape and volume of the container and flow very easily.</li> <li>• To know that these processes are reversible, to be able to explain melting, boiling, condensing,</li> </ul>		<p>in Newtons (N) as the unit</p> <ul style="list-style-type: none"> <li>• To know that objects fall down because the force of the Earth pulls them</li> <li>• To know that this force is called gravity</li> <li>• To identify weight as a force and is due to the pull of gravity</li> </ul>
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				freezing and evaporating in terms of solids, liquids and gases. <ul style="list-style-type: none"> <li>• To be able to describe the water cycle.</li> <li>• To know that water condenses and evaporates</li> </ul> To be able to use the scientific vocabulary for the water cycle correctly.		
	<b>Key Skills:</b> Planning, observing, recording, concluding and evaluating	<b>Key Skills:</b> <i>Practising Skills predicting, observing, recording and concluding.</i>	<b>Key Skills:</b> Pupil could predict what they think will happen. Practising skill predicting use W/S 1a or 1b They also can also practise skill recording and concluding.	<b>Key Skills:</b> Use of scientific vocabulary, observations, scientific investigation, explore factors.	<b>Key Skills:</b> <ul style="list-style-type: none"> <li>• Does the number of batteries in a circuit make a difference to the brightness of the bulb?</li> <li>• Does the length of wire or colour of wire or knots in wire make a difference to the brightness of the bulb or whether the bulb lights up.</li> <li>• Obtaining evidence, recording and concluding.</li> </ul>	<b>Key Skills:</b> <ul style="list-style-type: none"> <li>• Practising observing, recording and concluding</li> </ul>
	<b>Assessment outcome:</b> Pre and post topic tests	<b>Assessment outcomes:</b> Pre and post topic tests	<b>Assessment outcomes:</b> Pre and post topic tests	<b>Assessment outcomes:</b> Pre and post topic tests	<b>Assessment outcomes:</b> Pre and post topic tests	<b>Assessment outcome:</b> Pre and post topic tests
	Use icould/ UCAS video to links careers as part of a starter ONE lesson per week.	Use icould/ UCAS video to links careers as part of a starter ONE lesson per week.	Use icould/ UCAS video to links careers as part of a starter ONE lesson per week.	Use icould/ UCAS video to links careers as part of a starter ONE lesson per week.	Use icould/ UCAS video to links careers as part of a starter ONE lesson per week.	Use icould/ UCAS video to links careers as part of a starter ONE lesson per week.
	STEM linked careers trip/ visitor - AM		STEM linked careers trip/ visitor - AM		STEM linked careers trip/ visitor - AM	