

Curriculum intent (overview) – To deepen students’ skills and knowledge through a broad and balanced curriculum which prepares students for adulthood.

8.2 - Explorer Curriculum- Science 6 Lessons Weekly

Click here for [SoW access](#)

Year	2022 – 2023 Autumn 1 Unit 1	2022 – 2023 Autumn 2 Unit 2	2022 – 2023 Spring 1 Unit 3	2022 – 2023 Spring 2 Unit 4	2022 – 2023 Summer 1 Unit 5	2022 – 2023 Summer 2 Unit 6
	<p>Topic: (1) Living Things (2) Plants</p> <p>Suggested Key Questions: What are living things? What do plants need?</p> <p>Key Skills and Knowledge: Living Things</p> <ul style="list-style-type: none"> To be able to differentiate between alive and never alive To know some of the features of living things To be able to describe life processes using correct vocabulary. To know that micro-organisms are very small . To know that microorganisms can cause disease. To know that the body can defend itself against 	<p>Topic: (1) Separating Materials (2) Changing Materials</p> <p>Suggested Key Questions: How can we separate mixtures? How can the properties of materials be changed?</p> <p>Key Skills and Knowledge: Separating Materials</p> <ul style="list-style-type: none"> To be able to separate solids using different sizes of sieves To be able to explain how sieving works. To be able to explain what dissolving means. To know that a liquid with a solid dissolved in it is called a solution. To be able to separate using filtering. 	<p>Topic: (1) Light (2) Sound</p> <p>Suggested Key Questions: What are the properties of light? What are the properties of sound?</p> <p>Key Skills and Knowledge: Light</p> <ul style="list-style-type: none"> To be able to identify and sort a range of sources e.g. sun, TV, fire, etc To be able to identify dark places. To be able to link shadows and darkness. To be able to explore making shadows. To know that light travels from sources. To know that light travels in straight lines. 	<p>Topic: (1) Human skeleton (2) Heart and circulation</p> <p>Suggested Key Questions: Why do humans have a skeleton? What is the circulatory system?</p> <p>Key Skills and Knowledge: Human skeleton</p> <ul style="list-style-type: none"> To know that the skeleton is used for support, movement and protection. To be able to show that muscles work in pairs and can only pull. To know that ‘meat’ is muscle. To know that bones are joined by joints. To be able to name types of joints (<i>hinge, ball & socket</i>). 	<p>Topic: (1) Acids & Alkalis (2) Rocks & weathering (pollution)</p> <p>Suggested Key Questions: How can we tell if something is acid or alkali? Are all rocks the same?</p> <p>Key Skills and Knowledge: Acids & Alkalis</p> <ul style="list-style-type: none"> To recognise that acids have a sour taste. To be aware that many everyday chemicals and foods contain acids To understand that acids can burn you and can be dangerous To know that we must wear goggles when using acids To recognise common hazard 	<p>Topic: (1) Electricity (2) Forces & motion (magnets)</p> <p>Suggested Key Questions: Why is electricity important? What do forces do?</p> <p>Key Skills and Knowledge: Electricity</p> <ul style="list-style-type: none"> To know that electricity can be dangerous. To know that electricity can produce light, heat, sound, movement. To be able to connect given circuit components to light the bulb/make the buzzer sound. Does the number of batteries in a circuit make a difference to the brightness of the bulb?

Curriculum intent (overview) – To deepen students’ skills and knowledge through a broad and balanced curriculum which prepares students for adulthood.

	<p>dangerous micro-organisms</p> <ul style="list-style-type: none"> To know that immunisation/vaccination and medicines help to defend against dangerous micro-organisms To be able to sort living things into an appropriate environment identify some adaptations (e.g. place picture of tree in forest or farm, not sea). To be able to identify plants and animals found in habitats To be able to draw food chains for familiar plants and animals. To be able to draw simple food webs <p>Plants</p> <ul style="list-style-type: none"> To be able to find out practically what happens if a plant is deprived of light and water. To know that both light and water are important to a plant. To be able to investigate the best place for growing a plant. To know the main parts of flowering plants and be able 	<ul style="list-style-type: none"> To know that a solid which does not dissolve is insoluble. To be able to explain how filtering works. To know that water turns into invisible water vapour if it is in a warm place To know that the solvent (liquid) will evaporate and not the solute (solid) To explain simply what a saturated solution is To know that if the solid is changed this will affect this limit. To know which mixtures of solids, liquids and gases can be separated by which method and why it works Pupils to see distillation. Pupils to be able to explain how distillation works. Pupils to carry out chromatography.. <p>Changing Materials</p> <ul style="list-style-type: none"> To be able to explore a variety of materials for different properties. To be able to use the scientific vocabulary in discussion. 	<ul style="list-style-type: none"> To be able to explain how shadows are formed. To know that light bounces off all surfaces. To know that when light bounces off shiny, regular surfaces we can see an image. To be able to explain what reflection is and how it is different to an image. To know that our eyes receive light. To be able to describe how light from sources travels through the air to our eyes. To be able to draw and show direction of the path of light involved in seeing an object. To be able to identify the outside features of eyes <p>Sound</p> <ul style="list-style-type: none"> To experience a range of sounds. To explore making and changing sounds 	<p>Heart and circulation</p> <ul style="list-style-type: none"> To know that everybody needs a working heart to stay alive. To be able to locate the position of the heart. To experience own heartbeat (use touch or stethoscope) To know that the heart can beat faster. To know that that heart pumps blood round the body and to the lungs. To know that everybody needs to take air in and out of own body. To know that each person has a pair of lungs. To be able to locate the position of the lungs. To know that arteries carry blood away from the heart and veins to it. To know that blood is carried round the body in veins and arteries. To know that blood carries 	<p>symbols associated with acids</p> <ul style="list-style-type: none"> To observe the effect of acids on bicarbonate of soda To use litmus paper as a more sophisticated method of detecting an acid To use the term “indicator” when describing an acid To recognise that there are some substances that are not acids To recall that the opposite to an acid is an alkali To understand that a substance that is neither acidic nor alkaline is called neutral To know that tap water is (more or less) neutral To know that we can make an acid neutral if we add an alkali To understand that we can use neutralisation to treat bee stings wasp stings and indigestion. <p>Rocks & weathering (pollution)</p>	<ul style="list-style-type: none"> 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. <p>Forces and motion</p> <ul style="list-style-type: none"> To explore and observe different pushes and pulls. To describe movements as fast, slow, turn, go round To use vocabulary correctly to describe movement To describe how to make things speed up, slow down, stop or change direction. To identify movements as pushes and pulls To know that squeezing, bending, twisting and stretching can change the shape of objects To know that squeezing, bending etc are types of forces To be able to use the word “force” in the correct way To use the correct vocabulary when describing forces To explore what happens when
--	---	---	---	--	---	---

Curriculum intent (overview) – To deepen students’ skills and knowledge through a broad and balanced curriculum which prepares students for adulthood.

	<p>to recognise these parts on different plants (including trees and bushes)</p> <ul style="list-style-type: none"> • To know that trees and bushes are flowering plants. • To know when a seed is starting to grow. • To be able to describe the effects of water, light, temperature on plant growth. • To know that all plants have roots but different plants have different roots. • To know that plants produce their own food in their leaves. • To know that water passes through the roots and up the stem. • To know that nutrients are needed for healthy growth. • To be able to sequence the life cycle of a plant. • To be able to name the reproductive parts of a plant. • To understand the role of insects in reproduction. • To know how seeds are dispersed. <p>Key Skills:</p>	<ul style="list-style-type: none"> • To begin to comment on, and record simply, their observations • To be able to explore a range of changes when materials are heated or cooled. • To know some of the ways materials can change when mixed. • To be able to name some reversible changes. • To be able to name some non-reversible changes. • To know that air is needed for burning. • To be able to identify solids, liquids and gases. • To know the particle model for solid, liquid, gas. • To know and explain melting, boiling, condensing, freezing and evaporating in terms of solids, liquids and gases. • To be able to describe the water cycle. • To be able to use the scientific vocabulary for the water cycle correctly. <p>Key Skills:</p>	<ul style="list-style-type: none"> • To be able to identify common sounds and sound sources. • To be able to recognise warning sounds. • To be able to use the scientific vocabulary when talking about sounds and how they are made. • To be able to demonstrate how notes of different loudness and pitch can be produced. • Can explain the difference between pitch and volume • To know that sound travels in all directions and through objects • To know that sound has to enter the ear and ears are used to hear sound. • To know that materials can be used to reduce vibrations entering the ear. • To be able to identify parts of an ear. <p>Key Skills: Begin to see a pattern in my results.</p>	<p>food and oxygen to all parts of the body and waste away.</p> <ul style="list-style-type: none"> • To know that a pulse is caused by heart beat and measure it. • To be able to describe the effect of exercise and rest on pulse rate. • To understand, simply, why the pulse goes up with exercise. <p>Key Skills: Use of scientific vocabulary, observations, scientific investigation, explore factors.</p> <p>Key Skills: Gather, record, and begin to classify and present data in a variety of ways to help in answering questions. Begin to record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and tables. Begin to talk about criteria for grouping,</p>	<ul style="list-style-type: none"> • To know that rocks are natural materials • To know how rocks and minerals can be very useful to us • To sort rocks by their appearance and texture. • To know that water passes through some rocks and not others. • To group rocks by their hardness. • To group rocks by how they were formed. • To understand how sedimentary, metamorphic and igneous rocks are formed. • To know that if a rock is heated and cooled lots of times it eventually cracks • To know that rain and wind can cause the weathering of rocks. <p>Key Skills: Use simple secondary sources to find answers.</p> <p>I am beginning to use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>	<p>magnets are put near one another</p> <ul style="list-style-type: none"> • To use the correct vocabulary to describe magnetism • To know that friction slows things down • To describe the effects of pushing and pulling springs • To know that the bigger the force the greater the effect • To measure forces in Newtons (N) as the unit • To that gravity is a force gravity. • To identify weight as a force and is due to the pull of gravity <p>Key Skills: Use some scientific language to talk and, later, write about what they have found out. Use relevant scientific language. Begin to use comparative and superlative language.</p>
--	---	---	---	---	--	--

Curriculum intent (overview) – To deepen students’ skills and knowledge through a broad and balanced curriculum which prepares students for adulthood.

	<p>Ask relevant questions and use different types of scientific enquiries to answer them.</p> <p>Raise their own questions about the world around them.</p>	<p>Begin to make systematic and careful observations and, where appropriate, take accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p>Learn to use new equipment appropriately.</p>	<p>Recognise when a simple fair test is necessary and help to decide how to set it up.</p>	<p>sorting and classifying and use simple keys. Begin to compare and group according to behaviour or properties, based on testing.</p>		
<p>Links to Gatsby Benchmarks:</p>	<p>Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance</p> <p>Students to consider what skills are needed to be a police officer or a detective... lead onto looking at what skills are needed for different roles they are interested in and what qualifications.</p>	<p>Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 4 – Linking Curriculum to learning Benchmark 8 – Personal Guidance</p> <p>Students to consider what skills are needed to access the opportunities they are interested in. Going into work places/remote visits. Research. Writing C.Vs and cover letters.</p>	<p>Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 5- Encounters with employers and employees</p> <p>Students to consider what skills are needed to access the opportunities they are interested in. Research.</p>	<p>Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 5- Encounters with employers and employees</p> <p>Students to consider what skills are needed to access the opportunities they are interested in. Research.</p>	<p>Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 6 – Experience of Work places</p> <p>Students to consider what skills are needed to access the opportunities they are interested in. Looking at careers in sports and researching sports.</p>	<p>Benchmark 2, – Learning from the Career and Labor Market information. Benchmark 3 – Addressing the needs of the student and * - Personal Guidance Benchmark 6 – Experience of Work places</p> <p>Students to consider what skills are needed to access the opportunities they are interested in. Looking at careers in sports and researching sports.</p>