



## Y5 Medium Term Plan Autumn 1

	Science	Humanities	RE	Computing
<b>Theme</b>	<p><b>Theme: Properties and Changes of Materials</b>  <b>Key skills:</b> planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary; recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, and bar and line graphs; reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of results, in oral and written forms such as displays and other presentations  <b>Key knowledge:</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; 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 solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating; give reasons, based on evidence from comparative and fair tests, for</p>	<p><b>Theme: Lines of significance</b>  <b>Key skills:</b>  <b>Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</b>  <b>-Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world</b></p> <p><b>Key knowledge</b>  <b>-Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities</b>  <b>-Identify the position and</b></p>	<p><b>TOPIC - Sikhism</b>  <b>Theme: Belief into action</b>  <b>Enquiry question: How far would a Sikh go for his/her religion?</b>  <b>(Short videos are on Discovery RE - community. Login needed)</b></p> <p><b>Key skills</b>  - I can identify different levels of commitment I show to different things and explain the priorities</p> <p><b>Key knowledge</b></p> <ul style="list-style-type: none"> <li>I can make links between how Sikhs practise their religion and the beliefs that underpins this (5 Sikhs beliefs - God is in everything, treated as equals, should share what they can, earn their living honestly)</li> <li>Know the 5 K's (comb, shorts, turban, bangle, knife)</li> </ul>	<p>Unit 5.1 Coding  <b>Key skills:</b></p> <ul style="list-style-type: none"> <li>To turn a specified real-life situation into an algorithm for a program by deconstructing it into manageable parts</li> <li>To translate algorithms that include sequence, selection and repetition into code</li> <li>test and debug their program</li> </ul> <p><b>Key Knowledge:</b></p> <ul style="list-style-type: none"> <li>To know the terms - algorithm, code, program</li> <li>displays an understanding of the function of variables in coding</li> <li>can explain how programs simulate physical systems</li> <li>To know what a physical system is (technology that responds to an input and can be used in real life)</li> <li>To know the term - simulation (means creating a program where the objects behave as they would in the real world)</li> </ul>

	<p>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 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>Enrichment:</b></p> <p><b>Trips:</b> Science Museum Natural History Museum</p> <p><b>Visitors</b></p>	<p><b>significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</b></p>		
<p><b>Week 1</b></p>	<p><b>LO:</b> To use my knowledge of solids and liquids to separate mixtures by sieving and filtering/to record data and results using scientific data and diagrams</p> <p><b>Key skills</b> To be able to report and present findings from enquiries, including conclusions, causal relationships and explanations.</p> <p><b>Key knowledge</b> To be able to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. E.g. sand / water - use a filter Sand / marbles - use a sieve Water / sugar - evaporate</p>	<p><b>LO: To be able to locate the Equator and understand why it is important.</b></p> <p><b>Key skills</b> -Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>--Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</p> <p><b>Key knowledge:</b></p> <p>--Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere,</p>	<p><b>Engagement lesson -</b></p> <p><b>LO</b> to know what commitment is and how people show it</p> <p><b>Key skills</b> Empathy - to understand that other people can show their commitment in different ways</p> <p><b>Key knowledge</b> Know commitment is something you: - think is important to you Show it: - give your time to - put effort in - give money to - want to learn about Why: - may help you or others (e.g. a hobby, family, friendships, work / job, health)</p> <p>Are there different forms of commitment? Different levels of commitment? What determines</p>	<p>LO: To design a program</p> <p>Key Skills:</p> <ul style="list-style-type: none"> <li>• Create a simple program</li> </ul> <p>Key Knowledge:</p> <ul style="list-style-type: none"> <li>• Using prior knowledge to create a simple algorithm</li> <li>• To know the terms - algorithm, code, program</li> </ul>

		<p><b>Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</b></p> <p>Children should know that:</p> <ul style="list-style-type: none"> <li>-The equator is an imaginary line that divides the Earth in half.</li> <li>-The equator is an equal distance between the North and South Poles.</li> <li>-The weather on the equator is hot all year round.</li> <li>-At the equator, day and night are both 12 hours long.</li> <li>-The tropic of Cancer is an imaginary line in the northern hemisphere. It is also called the northern tropic. It is the furthest north you can ever go and still have the sun directly overhead. This happens once a year in June. This day is called the solstice.</li> <li>-The tropic of Capricorn is an imaginary line in the southern hemisphere. It is the opposite of the tropic of Cancer. Similar to the tropic of Cancer, it is the furthest south you can go and still have the sun directly overhead. This happens once a year in December. This day is also called the solstice.</li> </ul>	<p>these levels?</p>	
<p><b>Week 2</b></p>	<p><b>LO: To group materials based on their conductivity of heat/To make accurate measurements using a thermometer</b></p> <p><b>Key skills</b> To be able to measure accurately using a thermometer.</p> <p>To be able to record data in a line graph.</p>	<p><b>LO: To be able to locate the hemispheres on a world map and name some of the continents and countries in each one.</b></p> <p><b>Key skills</b></p> <p><b>-Locate the world's countries, using maps to focus on Europe (including the location of Russia)</b></p>	<p><b>Investigation lesson -</b></p> <p><b>LO</b> To know what Sikhs believe in</p> <p><b>Key skills</b> Investigation - what are Sikhs prepared to give to their religion?</p> <p><b>Key knowledge</b> The five key Sikh beliefs are:  <ul style="list-style-type: none"> <li>• God is in everything (Sikhs see God as an energy source rather than</li> </ul> </p>	<p>This lesson use Micro:bits/Crumble Kit or online physical system</p> <p>LO: To design and write a program that simulates a physical system.</p> <p>Key Skills:</p> <ul style="list-style-type: none"> <li>• To create a physical system (in person or using a program)</li> <li>• Can explain how their</li> </ul>

	<p>To be able to use test results to make predictions to set up further comparative and fair tests.</p> <p><b>Key knowledge</b> To be able to compare and group together everyday materials based on evidence from comparative and fair tests, including their conductivity of heat. E.g foil, spoon, (range of metal and non-metal objects).</p>	<p><b>and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities</b></p> <p><b>Key knowledge</b></p> <p><b>-Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</b></p> <p>Children should know that:</p> <ul style="list-style-type: none"> <li>-the part of the Earth north of the equator is called the northern hemisphere.</li> <li>-80% of the world's population lives in the northern hemisphere.</li> <li>-90% of land is in the northern hemisphere.</li> <li>-the northern hemisphere includes all of north America, Europe and most of Asia and Africa.</li> <li>-the part of the Earth south of the equator is called the southern hemisphere.</li> <li>-Only 20% of the world's population lives in the southern hemisphere.</li> <li>-90% of the planet's water is in the southern hemisphere.</li> <li>-The southern hemisphere includes all of Australia, Antarctica and most of South America.</li> <li>- children should name continents and some countries in each hemisphere</li> </ul>	<p>as a physical entity)</p> <ul style="list-style-type: none"> <li>• It is a Sikh's duty to serve others</li> <li>• All people should be treated as equals</li> <li>• Sikhs should share what they can with others</li> <li>• Sikhs should earn their living honestly</li> </ul>	<p>program simulates a physical system</p> <p>Key Knowledge:</p> <ul style="list-style-type: none"> <li>• To know what a physical system is (technology that responds to an input and can be used in real life)</li> <li>• To know the term - simulation (means creating a program where the objects behave as they would in the real world)</li> </ul>
<p><b>Week 3</b></p>	<p><b>LO:</b> <b>To use my knowledge of solids, liquids and gases to separate a</b></p>	<p><b>LO: To be able to identify and locate lines of latitude and longitude</b></p>	<p><b>Investigation lesson -</b> <b>LO To know what the Langar is</b></p>	<p>LO: To use text variables</p> <p>Key Skills:</p>

	<p><b>solution through evaporation/to report and present findings from enquiries, including causal relationships</b></p> <p><b>Key skills</b> To be able to report and present findings from enquiries, including conclusions, causal relationships and explanations.</p> <p><b>Key knowledge</b> To be able to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution through heat.</p> <p>To be able to demonstrate that dissolving, mixing and changes of state are reversible changes. E.g. sugar and water is a reversible change, melting chocolate, water states</p>	<p><b>Key skills</b> <b>Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</b></p> <p><b>Key knowledge</b></p> <p><b>-Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</b></p> <p><b>Children should know:</b> <b>-Invisible lines of latitude and longitude form a grid over the Earth.</b> <b>These lines help to create a co-ordinate to locate a place accurately.</b> <b>-Lines of latitude (also known as parallels) circle the Earth from east to west.</b> <b>These invisible lines are all the same distance apart. One line to the next is known as 1 degree.</b></p> <p><b>-The Equator is an important line of latitude. It is an imaginary line half way between the North and South Poles. Countries near to the Equator are very hot as this is the Earth's closest point to the Sun.</b> <b>-other important lines of latitude: the Tropic of Cancer and Capricorn, the Arctic Circle</b> <b>-These are the lines which run north and south and are known as lines of longitude or meridians of longitude. These lines are measured in the same way as the</b></p>	<p><b>and how it shows commitment</b></p> <p><b>Key skills</b> Investigation - Which of the key beliefs are highlighted through the 'Langar'?</p> <p><b>Key knowledge</b> The Langar is: - a meal - an act of sharing and giving - symbolises people are equal</p> <p>Children to jot down anything that Sikhs give/ give up e.g. their money to buy food for and time to make and serve the Langar. Sikh services are always followed by a meal called the Langar. The Langar is important to Sikhs because it is a meal that symbolises the Sikh belief that all people are equal.</p> <p>Which of the key beliefs are highlighted through the 'Langar'? Establish that Sikhs believe it is a good thing to treat people equally and share with people. Sikhs see the Langar as an opportunity to give, more than as a sacrifice.</p>	<ul style="list-style-type: none"> <li>• To identify text variables</li> <li>• To set/change the variable values appropriately</li> </ul> <p>Key Knowledge:</p> <ul style="list-style-type: none"> <li>• To know what a 'variable' is in programming (Variables are like boxes in which the computer can store information)</li> <li>• know some ways that text variables can be used in coding.</li> </ul>
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		<p>lines of latitude.  <b>Lines of longitude are not equal distances (equidistant) from each other.</b>  <b>The Prime Meridian or Greenwich Meridian line is a line of longitude at 0 degrees.</b>  <b>It passes right through Greenwich in London.</b></p>		
<p><b>Week 4</b></p>	<p><b>LO:</b>  <b>To investigate the electrical conductivity of materials/to plan an enquiry to answer a question</b></p> <p><b>Key skills</b>  To be able to plan a scientific enquiry that will answer a question.</p> <p><b>Key knowledge</b>  To be able to compare and group together everyday materials based on evidence from comparative and fair tests, including their conductivity of electricity. (a range of metal objects and non-metal objects and natural objects (lemons))  Which one completes the circuit?  Which one is the brightest?</p>	<p><b>LO: To identify time zones around the world.</b></p> <p><b>Key skills</b>  -Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</p> <p>-Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world</p> <p><b>Key knowledge</b></p> <p>-Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night)</p> <p>Children should know:  -The Earth is a sphere divided into 360 degrees. The Earth turns 360 degrees in 24 hours. 360 divided by 24 is 15 degrees so the Earth turns 15 degrees each hour.</p>	<p><b>Investigation lesson -</b></p> <p><b>LO to understand the importance of The Golden Temple of Amritsar to Sikhs</b></p> <p><b>Key skills</b>  Investigation - Which of the key beliefs are highlighted through the 'Langar'?</p> <p><b>Key knowledge</b>  Know that The Golden Temple of Amritsar is:  - a temple Sikhs travel to  - temple built in 1581, covered in gold  - a very holy site because Sri Guru Granth Sahib Ji, the eternal Guru of the Sikhs is located inside the temple</p> <p>When/why do Sikhs travel to the Golden Temple?</p> <p>Sikhs believe God is everywhere so they don't have to go to Amritsar but may choose to go to see such a beautiful and historic place.</p>	<p>Lessons 4 and 5</p> <p>LO: To create a playable, competitive game.</p> <p>Key Skills:</p> <ul style="list-style-type: none"> <li>To create a game which has a timer and score pad.</li> <li>To use variables to control the objects in the game.</li> <li>To create loops using the timer and If/else statements.</li> </ul> <p>Key Knowledge:</p> <ul style="list-style-type: none"> <li>Know that variables control different parts of the simulation</li> <li>Know the features of a game and how to make it interactive</li> </ul>

		<p>-The Earth has 24 different time zones and local time depends on which time zone you are in.</p> <p>-All time zones are measured from a starting point at England's Greenwich Observatory. This point is known as the Greenwich Meridian or the Prime Meridian. Time at the Greenwich Meridian is known as Greenwich Mean Time (GMT) or Universal Time.</p> <p>-The Eastern time zone in the United States is known as GMT minus five hours (see map on the next slide). This means that when it is noon in the Eastern USA, it is 5pm in Greenwich.</p> <p>The International Date Line (IDL), another 'invisible' line, is located on the opposite side of the planet from the Greenwich Observatory.</p>		
<p><b>Week 5</b></p>	<p><b>LO: To be able to identify reversible and irreversible changes/To be able to present findings about causal relationships from enquiries</b></p> <p><b>Key skills</b> To be able to report and present findings from enquiries, including conclusions, causal relationships and explanations.</p> <p><b>Key knowledge</b> To be able to 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. E.g. fried egg, baking a cake,</p>	<p><b>LO: To use an atlas and symbols.</b></p> <p><b>Key skills</b></p> <p><b>Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied</b></p> <p><b>-Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world</b></p> <p><b>Key knowledge</b></p>	<p><b>Evaluation lesson -</b></p> <p><b>LO to know what the 5 K's represent and why they are important to Sikhs</b></p> <p><b>Key skills</b> Evaluation - Why do Sikhs put so much effort into their religion? Is it OK that not all Sikhs put the same amount of effort in?</p> <p><b>Key knowledge</b> <b>To know what the 5 Ks are:</b> Kesh (uncut hair) - acceptance of the Will of God Kara (a steel bracelet) - God having no beginning or end Kanga (a wooden comb) - clean mind and body Kaccha (cotton underwear) - chastity Kirpan (steel sword) - defence of</p>	

		<p><b>-Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities</b></p> <p>Children should know:</p> <ul style="list-style-type: none"> <li>-how to look up the co-ordinates of a location.</li> <li>-how to find a location on a page by using simple co-ordinates</li> <li>-how to identify physical features on a map.</li> <li>-how to use a key to identify physical features.</li> <li>-how to use an index to find a place name.</li> <li>-how to find the correct page in an atlas by using the index.</li> </ul>	<p>good and injustice</p>	
<p><b>Week 6</b></p>	<p><b>LO:</b> To investigate how quickly carbon dioxide is created in a chemical reaction</p> <p><b>Key skills</b> To be able to recognise and control variables.</p> <p><b>Key knowledge</b> To be able to 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. E.g. - vinegar / bicarbonate of soda</p>	<p><b>LO: To be able to use compass directions and grid references.</b></p> <p><b>Key skills</b></p> <p><b>-Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world</b></p> <p><b>Key knowledge</b></p> <p><b>-Locate the world's countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key</b></p>	<p><b>Expression lesson -</b></p> <p><b>LO</b> To identify times when it is easy and hard to show a commitment to something</p> <p><b>Key skills</b> Reflection &amp; synthesis - Is it easy to commit to something? Do we all show commitment in the same way?</p> <p><b>Key knowledge</b> <b>Recap enquiry question: How far would a Sikh go for his/her religion?</b></p> <p>Give children picture cards depicting a range of the aspects studied in the investigation lesson, e.g. Story of the Khalsa/5 Ks/wedding/Guru Granth Sahib/Golden Temple/Langar/Amrit</p>	<p>LO:To create a program to inform others</p> <p>Key Skills:</p> <ul style="list-style-type: none"> <li>• To use the launch command within a program</li> <li>• To link programs with webpages/other programs</li> </ul> <p>Key Knowledge:</p> <ul style="list-style-type: none"> <li>• To know the function of the launch command (link to another program or webpage)</li> <li>•</li> </ul>



		<p><b>physical and human characteristics, countries, and major cities</b></p> <p>Children should know:</p> <ul style="list-style-type: none"><li>-how to tell the eight compass points.</li><li>-how to follow directions using the eight compass points.</li><li>-how to give directions using the eight compass points.</li><li>- how to give co-ordinates by going across first and then up.</li><li>-how to find a location from four or six-figure co-ordinates.</li></ul>	<p>Ceremony... and ask them to rank order them, the aspect that would take the most effort/sacrifice for a Sikh down to the easiest.</p> <p>Children think about something that is really important to them - it could be a hobby. What might you be prepared to give up/how much effort do you give to your hobby? What are you committed to and why you make these choices.</p> <p>Nowadays what do people feel so strongly about that they would be willing to fight or die for e.g. wars fought for what?</p>	
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