



Redbrook Hayes Community Primary School

Connected Curriculum

Upper Key Stage 2

I'm a school child... get me out of here!

As **scientists** we will learn how to survive if we were trapped on a desert island. We will use the properties of materials to create shelters to protect us from the weather. We will discover how to collect and purify water as well as what medicines to choose if we are bitten by a deadly scorpion!

Once we've managed to survive on the island, our thoughts will turn to escape. We will use chemical reactions to create rescue flares and use our materials knowledge to build successful escape rafts.

As **geographers** we will look at how we would have to adapt our survival skills if we were trapped in different environments around the world, including the UK.

We will learn about different physical and human features of these environments that could help survive.

I'm a child... get me out of here!

As **artists** we will look at the landscape work of Georgia O'Keefe and examine how she uses blocks of colour to create different textures and effects.

We will collect natural resources, use fabrics and collage techniques to build up layers of texture.

This unit contributes to the whole-school plans for SMSC, British Values and Learning and Life Skills in the following ways.

British Values: Democracy, Rule of Law, Individual Liberty, Mutual Respect.

SMSC: Spiritual (Explore what other people value, understand how to support the religious and moral beliefs of others), Moral (Recognise and describe a range of emotions, demonstrate the ability to negotiate and compromise, consider how I am perceived by others); Social (Help to create rules for the benefit of all, discuss why groups can be discriminated against); Cultural (Find out about cultures I have little knowledge of, recognise and nurture own gifts and talents as well as the gifts and talents of others).

Learning and Life Skills: Working with others; Knowing me, Knowing you.

Other Opportunities:

Links to Literacy: South Sea Adventure, Willard Price (trapped on a desert island); Explanation texts – How to survive on... ; Swallows & Amazons, Arthur Ransome ; Swiss Family Robinson, Johann David Wyss

Enhancement Opportunities:



	Strand	Progression Statement	Working Towards Expectations	Meeting Expectations	Exceeding Expectations
Planning	a) Pupils can ask questions				
	b) Pupils can plan an enquiry	With prompting, plan different types of scientific enquiries to answer questions.	<i>Pupil can plan investigations using different types of scientific enquiry.</i>	<i>Pupil can, with support, can answer questions using evidence gathered from different types of scientific enquiry, e.g. comparing life cycles of different plants using change over time, surveys and secondary research.</i>	<i>Pupil can answer questions using evidence gathered from different types of scientific enquiry.</i>
	c) Pupils can identify and manage variables	With prompting, recognise and control variables where necessary.	<i>Pupil can set up comparative and fair tests.</i>	<i>Pupil can, with prompting, identifies and manages variables, e.g. when exploring falling paper cones.</i>	<i>Pupil can identify and manage variables.</i>
Conducting Experiments	a) Pupils can use equipment to take measurements	Select, with prompting, and use appropriate equipment to take readings.	<i>Pupil can, following discussion, follow guidance to use equipment, e.g. timer.</i>	<i>Pupil can, following discussion of alternatives, selects appropriate equipment, e.g. using a shadow stick and measuring length and angle of shadow.</i>	<i>Pupil can use appropriate equipment, such as meter rule, to take measurements, such as distance travelled.</i>
	b) Pupils explore how to improve the quality of data				
	c) Pupils understand the role of repeat readings	Take precise measurements using standard units.	<i>Pupil can recognises importance of using standard units and measures accurately.</i>	<i>Pupil can take measurements that are precise as well as accurate, e.g. measuring the force needed to pull different shapes of boat through the water.</i>	<i>Pupil can consider how by modifying instrument or technique , measurements can be improved.</i>
Evidence	a) Pupils record work with diagrams and label them	Take and process repeat readings.	<i>Pupil can, with prompting, can take repeat readings.</i>	<i>Pupil can know how to process repeat readings, e.g. when timing falling objects.</i>	<i>Pupil can identify situations in which taking repeat readings will improve the quality of evidence.</i>

	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	Record data and results.	<i>Pupil can use words and diagrams to record findings.</i>	<i>Pupil can start to use labelled diagrams to show more complex outcomes, e.g. comparing the time of day at different places on the earth.</i>	<i>Pupil can use labelled diagrams to show complex outcomes.</i>
	c) Pupils can display data using line graphs	Record data using labelled diagrams, keys, tables and charts.	<i>Pupil can use various ways to record evidence.</i>	<i>Pupil can, with prompting, use various ways to record complex evidence, e.g. when investigating how gears and levers enable a small force to have a larger effect.</i>	<i>Pupil can use various ways, as appropriate, to record complex evidence.</i>
Reporting Findings	a) Pupils process findings to develop conclusions and identify causal relationships	Use line graphs to record data.	<i>Pupil can, with prompting, use line graphs.</i>	<i>Pupil can use a line graph to record basic data, e.g. length and mass of a baby as it grows.</i>	<i>Pupil can use line graphs to display complex data.</i>
	b) Pupils use displays and presentations to report on findings	Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships.	<i>Pupil can write a conclusion based on evidence.</i>	<i>Pupil can, with prompting, write a conclusion using evidence and identifying causal links, e.g. investigating what makes a parachute fall quicker.</i>	<i>Pupil can write a conclusion using evidence and identifying causal links.</i>
	c) Pupils explain confidence in findings	With support, present findings from enquiries orally and in writing.	<i>Pupil can present findings either in writing or orally.</i>	<i>Pupil can, with support, display and present key findings from enquiries orally and in writing, e.g. suggesting reasons for similarities and differences between various animals.</i>	<i>Pupil can display and present key findings from enquiries orally and in writing.</i>
Conclusions and Predictions	a) Pupils can analyse data	With prompting, identify that not all results may be trustworthy.	<i>Pupil can indicate individual results that might be suspect.</i>	<i>Pupil can, with support, indicate why some results may not be entirely trustworthy, e.g. when timing falling objects.</i>	<i>Pupil can, in conclusions, indicate how trustworthy they are.</i>
	b) Pupils can draw conclusions				
	c) Pupils can develop	Suggest how evidence can	<i>Pupil can, with prompting, show</i>	<i>Pupil can show how evidence</i>	<i>Pupil can identify how an idea is</i>

	investigation further	support conclusions.	<i>how evidence supports a conclusion.</i>	<i>supports a conclusion, e.g. researching gestation periods of various mammals and relating them to adult mass.</i>	<i>supported or refuted by evidence.</i>
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	Strand	Progression Statement	Working Towards Expectations	Meeting Expectations	Exceeding Expectations
Planning	a) Pupils can ask questions				
	b) Pupils can plan an enquiry	Plan different types of scientific enquiries to answer questions.	<i>Pupil can, with support, can answer questions using evidence gathered from different types of scientific enquiry.</i>	<i>Pupil can answer questions using evidence gathered from different types of scientific enquiry, e.g. operation of circulatory system from experiment, survey and secondary research.</i>	<i>Pupil can suggest which type of enquiry is likely to be more successful at providing answers to a particular question.</i>
	c) Pupils can identify and manage variables	Recognise and control variables where necessary.	<i>Pupil can, with prompting, identifies and manages variables.</i>	<i>Pupil can identify and manage variables, e.g. distances and sizes in shadow formation.</i>	<i>Pupil can identify and manage variables and recognises variables that cannot be easily managed.</i>
Conducting Experiments	a) Pupils can use equipment to take measurements	Take measurements using a range of scientific equipment.	<i>Pupil can, following discussion of alternatives, select appropriate equipment, e.g. measuring jug to measure volume.</i>	<i>Pupil can use appropriate equipment, such as meter rule, to take measurements, such as distance travelled by light.</i>	<i>Pupil can recognise limitations of available equipment, e.g. accuracy of balance.</i>
	b) Pupils explore how to improve the quality of data				
	c) Pupils understand the role of repeat readings	Take measurements with increasing accuracy and precision.	<i>Pupil can take measurements that are precise as well as accurate.</i>	<i>Pupil can consider how by modifying instrument or technique, measurements can be improved, e.g. when recording route of light rays.</i>	<i>Pupil can evaluate different techniques, with reference to accuracy and precision.</i>
Recording Evidence	a) Pupils record work with diagrams and label them	Take repeat readings when appropriate.	<i>Pupil can know how to process repeat readings.</i>	<i>Pupil can identify situations in which taking repeat readings will improve the quality of evidence, e.g. investigating the behaviour of components in a circuit.</i>	<i>Pupil can explain why repeatedly taking repeat readings is of little value.</i>

	b) Pupils can display data using labelled diagrams, keys, tables and bar charts	Record data and results of increasing complexity using scientific diagrams and labels.	<i>Pupil can start to use labelled diagrams to show more complex outcomes.</i>	<i>Pupil can use labelled diagrams to show complex outcomes, e.g. relating specific adaptations of organisms to environmental factors.</i>	<i>Pupil can explain why a labelled diagram may be particularly effective.</i>
	c) Pupils can display data using line graphs	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar charts.	<i>Pupil can, with prompting, uses various ways to record complex evidence.</i>	<i>Pupil can use various ways, as appropriate, to record complex evidence, e.g. in the construction of a key to aid plant identification.</i>	<i>Pupil can evaluate various ways of recording complex data.</i>
Reporting Findings	a) Pupils process findings to develop conclusions and identify causal relationships	Record data and results of increasing complexity using line graphs.	<i>Pupil can use a line graph to record basic data.</i>	<i>Pupil can use line graphs to display complex data, e.g. size of object in relation to the size of the shadow it casts.</i>	<i>Pupil can explain the advantages of using line graphs.</i>
	b) Pupils use displays and presentations to report on findings	Report and present findings from enquiries, including conclusions and causal relationships.	<i>Pupil can, with prompting, write a conclusion using evidence and identifying causal links.</i>	<i>Pupil can write a conclusion using evidence and identifying causal links, e.g. in the design of a periscope.</i>	<i>Pupil can suggest possible limits to causal relationships.</i>
	c) Pupils explain confidence in findings	Report and presents findings from enquiries in oral and written forms such as displays and other presentation.	<i>Pupil can, with support, display and present key findings from enquiries orally and in writing.</i>	<i>Pupil can display and present key findings from enquiries orally and in writing, e.g. deciding how well classifications fit unfamiliar animals and plants.</i>	<i>Pupil can evaluate the best way of displaying and presenting key findings.</i>
Conclusions and Predictions	a) Pupils can analyse data	Report and present findings from enquiries, including explanations of, and degree of, trust in results.	<i>Pupil can, with support, indicate why some results may not be entirely trustworthy.</i>	<i>Pupil can, in conclusions, indicate how trustworthy they are, e.g. in relating brightness of bulb to voltage supplied.</i>	<i>Pupil can, in conclusions, indicate, if appropriate, why the results may not be entirely trustworthy.</i>
	b) Pupils can draw conclusions	Identify scientific evidence that has been used to support or refute ideas or arguments.	<i>Pupil can show how evidence supports a conclusion.</i>	<i>Pupil can identify how an idea is supported or refuted by evidence, e.g. selective breeding to produce animals or plants with desirable characteristics.</i>	<i>Pupil can suggest how factors other than evidence may support or oppose an idea.</i>

	c) Pupils can develop investigation further	Use test results to make predictions to set up further comparative and fair tests	<i>Pupil can suggest further relevant comparative or fair tests.</i>	<i>Pupil can use evidence to suggest further comparative or fair tests that would develop the investigation, e.g. in the design of rear view mirrors for cars.</i>	<i>Pupil can evaluate which further comparative or fair tests would be particularly useful.</i>
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Big Idea	Progression Statement	Working Towards Expectations	Meeting Expectations	Exceeding Expectations
Chemistry				
2) Materials have physical properties which can be investigated and compared	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	<i>Compare and group together everyday materials on the basis of their appearance and feel.</i>	<i>Test and sort a range of materials based on their physical properties.</i>	<i>Suggest why those properties might influence the selection of those materials for certain uses.</i>
	Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution	<i>Know that some materials will dissolve in liquid to form a solution.</i>	<i>Describe how some materials, e.g. sugar, will dissolve and can be retrieved.</i>	<i>Identify that some soluble materials are more soluble than others.</i>
	Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating	<i>Suggest how mixtures might be separated.</i>	<i>Justify separation techniques proposed, with reference to materials being separated.</i>	<i>Explain why a particular separation method might be more effective.</i>
	Demonstrate that dissolving, mixing and changes of state are reversible changes	<i>Understand that some processes are reversible.</i>	<i>Show how the original materials can be retrieved from each of these changes.</i>	<i>Classify various processes relating to materials as reversible or irreversible.</i>
	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	<i>Understand that burning is irreversible.</i>	<i>Identify reactants and products of chemical changes and recognise these as being irreversible.</i>	<i>Provide examples of when changes being irreversible are a good thing, e.g. making bricks, or not, e.g. non-biodegradable plastic bags.</i>

	the action of acid on bicarbonate of soda			
3) The physical properties of materials determine their uses.	Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	<i>Give reasons for the particular uses of everyday materials, including metals, wood and plastic.</i>	<i>Use evidence to justify the selection of a material for a purpose.</i>	<i>Suggest limitations of the uses of selected materials based on test results.</i>



	Strand	Progression Statement	Working Towards Expectations	Meeting Expectations	Exceeding Expectations
Understanding	Physical themes	Describe and understand key aspects of physical geography, including: climate zones, biomes and vegetation belts.	<p>The child can understand that climate and vegetation are connected in an example of a biome, e.g. the tropical rainforest.</p> <p>The child can understand that animals and plants are adapted to the climate.</p> <p>The child can understand our food is grown in many different countries because of their climate.</p> <p>(E.g. Create a fruit map poster based around a world map using several fruits and labelling their countries of origin.)</p>	<p>The child can understand how climate and vegetation are connected in biomes, e.g. the tropical rainforest and the desert.</p> <p>The child can describe what the climate of a region is like and how plants and animals are adapted to it.</p> <p>The child can understand how food production is influenced by climate.</p> <p>(E.g. Produce a world fruit map showing where the fruit we eat is grown and the key aspects of the climate in these locations.)</p>	<p>The child can understand how climate and vegetation are connected in a range of biomes, e.g. the tropical rainforest, a hot desert, the Arctic.)</p> <p>The child can explain climate patterns of a region, describe the characteristics of a biome, what its climate is like and how plants and animals are adapted to it.</p> <p>The child can relate climate to food production.</p> <p>(E.g. Produce a world fruit map based around a world map using several fruits and identifying the climate zones where they grow.)</p>
		Describe and understand key aspects of physical geography, including: rivers, mountains, volcanoes and earthquakes, and the water cycle.	<p>The child can describe some key physical processes and the resulting landscape features, e.g. understand the characteristics of a mountain region and how it was formed.</p> <p>(E.g. Make a playdough model to show the formation of fold mountains of the Alps in Europe and talk about what it shows.)</p>	<p>The child can describe and understand a range of key physical processes and the resulting landscape features.</p> <p>The child can understand how a mountain region was formed.</p> <p>(E.g. Make a playdough model to show the formation of fold mountains of the Alps in Europe and annotate it with simple explanations of what it shows.)</p>	<p>The child can describe and understand some key physical processes and the resulting landscape features.</p> <p>The child can understand how fold mountain regions are formed.</p> <p>(E.g. Make playdough models at stages in the formation of fold mountains of the Alps in Europe and write a commentary to show</p>

					how the mountains are formed.)
	Human themes	Describe and understand key aspects of human geography including: economic activity including trade links, and the distribution of natural resources including energy, food, minerals and waste	<p>The child can know and understand what life is like in cities and in villages.</p> <p>The child can know the journey of how one product gets into their home in detail.</p> <p>The child can describe some renewable and non-renewable energy sources.</p> <p>The child can describe different types of industry currently in the local area.</p> <p>The child can know where some of our main natural resources come from.</p> <p>(E.g. Take part in a decision-making exercise selecting an energy source to generate power for nearby houses.)</p>	<p>The child can know and understand what life is like in cities and in villages and in a range of settlement sizes.</p> <p>The child can understand that products we use are imported as well as locally produced.</p> <p>The child can explain how the types of industry in the area have changed over time.</p> <p>The child can understand where our energy and natural resources come from.</p> <p>(E.g. Prepare a presentation for a decision-making exercise selecting an energy source to generate power for nearby houses.)</p>	<p>The child can know and understand what life is like in cities and in villages and in a range of settlement sizes in different parts of the world.</p> <p>The child can understand that our shopping choices have an effect on the lives of others.</p> <p>The child can explain how, and offer reasons why, the types of industry in the area have changed over time.</p> <p>The child can understand where our energy and natural resources come from, and the impacts of their use.</p> <p>(E.g. Take a lead in a presentation in a decision-making exercise selecting an energy source to generate power for nearby houses.)</p>

Understanding places and connections	Understand geographical similarities and differences and change through the study of human and physical geography of the United Kingdom.	The child can understand how a region has changed. (E.g. Produce a presentation showing how the site of the 2012 London Olympic and Paralympic Games has changed.)	The child can understand how a region has changed and how it is different from another region of the UK. (E.g. Produce a presentation showing how the site of the 2012 London Olympic and Paralympic Games has changed, including the views of local people.)	The child can understand how and why their region and other regions have changed, and how the regions of the UK are distinctive. (E.g. Produce a presentation showing how the site of the 2012 London Olympic and Paralympic Games has changed, including the views of local people and the future impact of the development of the Queen Elizabeth Park.)
	Understand geographical similarities and differences through the study of human and physical geography of the United Kingdom, a region in a European country and a region within North or South America.	The child can know and share information about a European region and a region in North or South America, and understand that a region such as the Alps is unique. (E.g. Design an app/webpage/leaflet for tourists to the Alps selecting some information.)	The child can know information about a region of Europe and North or South America, its physical environment and climate, and economic activity. (E.g. Design an app/webpage/leaflet for tourists to the Alps, selecting a range of information about the physical and human environment.)	The child can understand the importance of a region in Europe and in North or South America, its human and physical environment, and how they are connected. (E.g. Design an app/webpage/leaflet for tourists to the Alps, selecting a range of information about the physical and human environment. Refine the item based on feedback.)

		<p>Deepen an understanding of the interaction between physical and human processes.</p>	<p>The child can explain some ways a biome (including the oceans) is valuable and under threat from human activity.</p> <p>The child can understand how human activity is influenced by climate and weather.</p> <p>The child can understand hazards from physical environments such as avalanches in mountain regions.</p> <p>The child can identify an important environmental issue.</p> <p>(E.g. Make an animation to show why the Amazon rainforest is valuable and why it should be protected.)</p>	<p>The child can explain some ways biomes (including the oceans) are valuable, why they are under threat and how they can be protected.</p> <p>The child can understand how human activity is influenced by climate and weather.</p> <p>The child can understand hazards from physical environments and their management, such as avalanches in mountain regions.</p> <p>The child can explain several threats to wildlife/habitats.</p> <p>(E.g. Make an animation to show why the Amazon rainforest is valuable and under threat, and why it should be protected.)</p>	<p>The child can explain some ways biomes (including the oceans) are valuable, why they are under threat and a range of ways they could be protected for the future.</p> <p>The child can understand how human activity is influenced by climate and weather.</p> <p>The child can understand the causes of hazards from physical environments and their management, such as avalanches in mountain regions.</p> <p>The child can understand that no one type of energy production will provide all our energy needs.</p> <p>(E.g. Make an animation to show why the Amazon rainforest is valuable and how it should be protected.)</p>
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National Curriculum Objective		Upper Key Stage 2
Working artistically	Creatively explore and develop ideas	<p>Engage in open ended research and exploration in the process of initiating and developing their own personal ideas</p> <p>Confidently use sketchbooks for a variety of purposes including: recording observations; developing ideas; testing materials; planning and recording information.</p> <p>Confidently investigate and exploit the potential of new and unfamiliar materials</p> <p>Use their acquired technical expertise to make work which effectively reflects their ideas and intentions.</p> <p>Independently develop a range of ideas which show curiosity, imagination and originality</p> <p>Systematically investigate, research and test ideas and plans using sketchbooks and other appropriate approaches.</p>
	Evaluate and analyse creative works.	<p>Regularly reflect upon their own work, and use comparisons with the work of others (pupils and artists) to identify how to improve.</p> <p>Regularly analyse and reflect on their progress taking account of what they hoped to achieve.</p> <p>Provide a reasoned evaluation of both their own and professionals' work which takes account of the starting points, intentions and context behind the work</p>
	Learn about great artists, architects and designers in history.	<p>Describe the artwork of artists</p> <p>Explore the roles and purposes of artists, craftspeople and designers working in different times and cultures.</p> <p>Use work of artists to create own pieces</p> <p>Analyse the different elements of an artist's work and how</p> <p>Compare their own art work against the artist's own.</p> <p>Evaluate the successfulness of their work in comparison to the artist's intention</p> <p><u>Artist ideas:</u></p> <p>Picasso, Duchamp (movement/ layering)</p> <p>Georgia O Keiffe, William Morris (natural sources)</p>

<p><i>Developing Skills & Techniques</i></p>	<p>Create sketch books to record their observations and use them to review and revisit ideas</p> <p>To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]</p>	<p>Textiles</p> <p>Use fabrics to create 3D structures</p> <p>Use different grades of threads and needles</p> <p>Experiment with batik techniques</p> <p>Experiment with a range of media to overlap and layer creating interesting colours and textures and effects</p> <p>Introduce fabric block printing</p> <p>Create tie dye pieces combining two colours</p> <p>Investigate ways of changing fabrics - sewing, ironing, cutting, tearing, creasing, knotting etc.</p> <p>Weave using paintings as a stimulus / the natural world</p> <p>Experiment with circular embroidery frames</p> <p>Create detailed designs which can be developed into batik pieces</p>
		<p>Collage</p> <p>Add collage to a painted, printed or drawn background</p> <p>Use a range of media to create collages</p> <p>Use different techniques, colours and textures etc. when designing and making pieces of work</p> <p>Use collage as a means of extending work from initial ideas</p>

