

CURRICULUM MAP (Long term plan)

SUBJECT : Science

YEAR GROUP: 6

	Cycle 1 Autumn	Cycle 2 Spring	Cycle 3 Summer
Substantive knowledge – Essential knowledge & conceptual understanding of the National Curriculum	Light Evolution	Animals including humans - the heart and circulatory system Electricity	Living things and their habitats- Classification KS3 Transition Unit
Disciplinary knowledge - what skills are practiced?	<ul style="list-style-type: none"> ● Recognises scientific questions that do not yet have definitive answers. Recognises scientific questions that do not yet have definitive answers. ● Communicates findings in written form, across a range of genre, and uses multi-media and other forms of presentation ● Uses scientific evidence to answer questions or support findings. ● Identifies scientific evidence that has been used to support or refute ideas or argument ● Repeats sets of observations or measurements, where appropriate, selecting suitable ranges and intervals, to give sufficient depth of evidence ● Decides on the most appropriate formats to 	<ul style="list-style-type: none"> ● Selects methods to use to solve problems or answer questions, including a full range of enquiry methods, which are planned in detail. ● Explains why particular pieces of equipment or information sources will provide better quality evidence ● Draws valid conclusions that utilise more than one piece of supporting evidence ● Provides explanations for differences repeated observations or measurements, identifying reasons for any anomalies noticed. ● Creates questions for scientific enquiry. ● Can plan familiar enquiry types in detail ● Selects the most appropriate equipment to use in a range of contexts and enquiries. ● Records data and results of increasing complexity using 	<ul style="list-style-type: none"> ● Decides on the most appropriate formats to present sets of scientific data, such as using line graphs for continuous variables. ● Evaluates the effectiveness of their working methods, making practical suggestions for improving them. ● Draws valid conclusions that utilise more than one piece of supporting evidence ● Creates questions for scientific enquiry. ● Can plan familiar enquiry types in detail ● Selects the most appropriate equipment to use in a range of contexts and enquiries. ● Records data and results of increasing complexity using scientific diagrams, classification keys, tables, bar and line graphs and models. ● Communicates findings in written form, displays and uses other forms of presentation.

	<p>present sets of scientific data, such as using line graphs for continuous variables.</p>	<p>scientific diagrams, classification keys, tables, bar and line graphs and models.</p> <ul style="list-style-type: none"> Communicates findings in written form, displays and uses other forms of presentation. 	<ul style="list-style-type: none"> Uses scientific language to communicate increasingly detailed analysis with some support Can compare relationships being investigated. Uses simple models to help describe scientific ideas Makes generalisations about what that evidence seems to indicate. Uses test results to set up further comparative tests. Suggests how an enquiry might be improved. Identifies scientific evidence that has been used to support or refute ideas or argument
<p>Key questions (What is the learning about?)</p>	<p>Light How can we reduce damage caused by UV light? What is a light source? Can you explain how light travels? Can I investigate how light travels? Can I demonstrate reflection using a periscope? Can I demonstrate how light changes direction? Can you use a prism to show the light spectrum? Can I investigate how shadows change? Evolution Can I discuss inherited and acquired characteristics? Can I understand the concept of inheritance?</p>	<p>Animals including humans - the heart and circulatory system Am I able to identify and name the main parts of the human circulatory system? Can I describe the functions of the heart? Can I explain the function of blood? Can I identify the components of blood with the use of a model? Can I plan an investigation as to how heart rates change with exercise? Can I explain how water is transported and controlled within the body? Can I describe how diet and exercise can impact human bodies? Can I understand the impact of smoking and drugs?</p>	<p>Living things and their habitats- Classification Can I explain what classification is? Can I design a classification key? Can I classify living organisms using a classification key? Can I explore Carl Linnaeus' classification system? Can I classify plants according to their characteristics? Can I research and classify plants? Can I identify microorganisms? Can I plan and carry out an investigation into mould?</p>

	<p>Can I explain how plants and animals have adapted to their environment?</p> <p>Can I recognise that living things have changed over time?</p> <p>Can I use Darwin's findings to show how adaptation led to evolution?</p> <p>What is the importance of fossils?</p>	<p>Electricity</p> <p>Can I create a circuit using symbols?</p> <p>Can I design and build a working circuit?</p> <p>Can I explore voltages?</p> <p>Can I plan and conduct an investigation about electricity with one variable?</p> <p>Can I research renewable energy and its benefits?</p>	
Assessment	<p>Y6 LIGHT-ANSWERS.pdf</p> <p>Y6 EVOLUTION-AND-INHERITANCE-COLOUR.pdf</p>	<p>Y6 ELECTRICITY-COLOUR.pdf</p> <p>Y6 ANIMALS-INCLUDING-HUMANS-COLOUR.pdf</p>	<p>Y6 LIVING-THINGS-AND-THEIR-HABITATS-COLOUR.pdf</p>
Literacy (L), Numeracy (N), Oracy (O) opportunities	<p>Literacy Using the book Moth, the children will explore the evolution of the peppered moth. They will then recreate a story board- pulling out the key scientific events that happened. They will then create a poem using literary techniques and scientific facts that they have learned.</p> <p>Maths skills use symbols for units, presenting data graphically</p>	<p>Literacy</p> <p>The children will read the book, "Blackout" and discuss how life would be without electricity. Allowing them to discuss emotive language and literacy skills. They will then write a diary using the given scenario and literacy techniques. link.</p> <p>The children will complete an explanation test- How does the Heart work? as a Best Write.</p> <p>Maths Skills data analysis, use symbols for units, presenting data graphically</p> <p>Maths unit of Statistics will be covered in the Spring term</p>	<p>Literacy</p> <p>Research Carl Linnaeus and discuss his findings</p> <p>Reading of Monkey Puzzle- finding links between creatures and their characteristics in a fun, creative way.</p> <p>Stressing a love of books and that picture books can use science.</p> <p>Maths Skills</p> <p>Data presentation and analysis, presenting data graphically</p>
Cross Curricular Opportunities	<p>DT -periscope design</p> <p>Art - recreation of March of Progress</p>	<p>Citizenship, PE</p> <p>Geography- renewable and non-renewable energy sources</p>	<p>Geography- habitats</p>

	History - The Industrial revolution		
SMSC / Character/Careers/Cultural Capital (personal development)	SMSC -pair & group working, working safely in a science laboratory.	SMSC -pair & group working, working safely in a science laboratory. Healthy living, lifestyle choices	SMSC -pair & group working, working safely in a science laboratory.
Equality and Diversity	Slides represent children, adults of different ethnic and religious groups and some with disabilities.	American based picture book, mixed ethnicity characters on slides, able bodied and those with disabilities used.	Slides represent children, adults of different ethnic and religious groups and some with disabilities.
Super Curriculum (personal development)	Geobus workshop - fossils	Heart dissection - ability to see the object they have been discussing.	Outdoor classification