

## Cumwhinton School Curriculum – Science Y5 SUM

Year 5	NC Content	<p><u>Living things and their habitats</u> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird describe the life process of reproduction in some plants and animals</p> <p><u>Animals, including humans</u> describe the changes as humans develop to old age</p> <p><u>Properties and changes of materials</u> 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 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><u>Earth and space</u> describe the movement of the Earth and other planets relative to the sun in the solar system describe the movement of the moon relative to the Earth describe the sun, Earth and moon as approximately spherical bodies use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p> <p><u>Forces</u> explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object identify the effects of air resistance, water resistance and friction, that act between moving surfaces recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p>
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### Science

Scientific Knowledge & Understanding

Science Enquiry & Working Scientifically

Uses & Implications of Science today and for the future

#### Mapping across the Year

	AUTUMN	SPRING	SUMMMER
Scientific Knowledge & Understanding	<p><u>Living Things &amp; Their Habitats</u> Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird Describe the life process of reproduction in some plants and animals</p> <p><u>Properties &amp; Changes of Materials</u> 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 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><u>Forces</u> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect</p> <p><u>Earth &amp; Space</u> Describe the movement of the Earth and other planets relative to the sun in the solar system Describe the movement of the moon relative to the Earth Describe the sun, Earth and moon as approximately spherical bodies Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky</p>	<p><u>Animals including Humans</u> Describe the changes as humans develop to old age</p>

<p>Science Enquiry &amp; Working Scientifically</p>	<p>Living Things &amp; Their Habitats Recording data and results of increasing complexity using scientific diagrams and labels. Identifying scientific evidence that has been used to support or refute ideas or arguments</p> <p>Properties &amp; Changes of Materials Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Using test results to make predictions to set up further comparative and fair tests Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p>	<p>Forces Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Using test results to make predictions to set up further comparative and fair tests Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations</p> <p>Earth &amp; Space Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>Animals including Humans Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs Identifying scientific evidence that has been used to support or refute ideas or arguments</p>
<p>Uses &amp; Implications of Science today and for the future</p>	<p>Living Things &amp; Their Habitats Explain how a range of plants reproduce asexually e.g. strawberries</p> <p>Compare the gestation times for mammals and look for patterns e.g. in relation to size of animal or length of dependency after birth.</p> <p>Properties &amp; Changes of Materials Investigate the properties of different materials in order to recommend materials for particular functions depending on these properties e.g. test waterproofness and thermal insulation to identify a suitable fabric for a coat. Explore a range of non-reversible changes e.g. rusting, adding fizzy tablets to water, burning. Carry out comparative and fair tests involving non-reversible changes. Research new materials produced by chemists e.g. Spencer Silver (glue of sticky notes) and Ruth Benerito (wrinkle free cotton).</p>	<p>Forces Research how the work of scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.</p> <p>Earth &amp; Space Make a sundial. Research time zones. Consider the views of scientists in the past and evidence used to deduce shapes and movements of the Earth, Moon and planets before space travel, including flat Earth theorists.</p>	<p>Animals including Humans Can present information about the changes occurring during puberty as an information leaflet for other Y5 children or answers to 'problem page questions'</p>

**CONCEPTUAL SCHOOL AMBITION DRIVERS**

	<p><b>EYFS &amp; KS1</b></p>	<p><b>LKS2</b></p>	<p><b>UKS2</b></p>
<p>AUT</p>	<p>Diversity</p>	<p>Fairness</p>	<p>Individuality</p>
<p>SPR</p>	<p>Truth</p>	<p>Change</p>	<p>Resilience</p>
<p>SUM</p>	<p>Responsibility</p>	<p>Equality</p>	<p>Sustainability</p>

**Science - SUMMER YEAR 5**  
**THE WORLD - Sustainability**

Scientific Knowledge & Understanding

Science Enquiry & Working Scientifically

Uses & Implications of Science today and for the future

**What does a human need to sustain life?**

	<b>NC</b>	<b>CUMWHINTON CURRICULUM</b>
<b>Finding out</b> (Facts & knowledge)	<p><u>Animals including Humans</u></p> <p>Describe the changes as humans develop to old age</p>	<p>Describe the changes as humans develop to old age by drawing a timeline to indicate stages in the growth and development of humans.</p> <p>Describe the changes as humans develop to old age in the context of the development of babies in their first year.</p> <p>Describe the changes as humans develop to old age by understanding the changes that take place in old age.</p>
<b>Using</b> (Applying & analysing)	<p><u>Animals including Humans</u></p> <p>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p> <p>Identifying scientific evidence that has been used to support or refute ideas or arguments</p>	<p>Record data and results of increasing complexity using bar and line graphs in the context of the growth of babies in height and/or weight during their first year after birth.</p> <p>Report findings from enquiries, including oral and written explanations of results in the context of the gestation period for animals.</p> <p>Record data and results of increasing complexity using bar and line graphs, and models in the context of comparing gestation periods and life expectancies of animals.</p> <p>Reporting and presenting findings from enquiries, including causal relationships by analysing data on gestation periods and life expectancies of animals.</p>
<b>Concluding</b> (Evaluating & summarising)	<p><u>Animals including Humans</u></p> <p>Can present information about the changes occurring during puberty as an information leaflet for other Y5 children or answers to 'problem page questions'</p>	<p>Describe the changes as humans develop to old age by comparing the changes that take place to boys and girls during puberty.</p>