



Laurel Avenue Community Primary School: Science Curriculum Overview– Chris Quigley

As Scientists, we will demonstrate:

- *The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.*
- *Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.*
- *Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanations, solving challenging problems and reporting scientific findings.*
- *High levels of originality, imagination or innovation in the application of skills.*
- *The ability to undertake practical work in a variety of contexts, including fieldwork.*
- *A passion for science and its application in past, present and future technologies.*

	<i>Breadth of Study: KS1</i>		<i>Breadth of Study: KS2</i>
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<i>Working scientifically</i>	<i>Across all year groups scientific knowledge and skills should be learned by working scientifically. (This is documented in the Essentials for progress section.)</i>
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<i>Biology</i>	<p><i>Plants</i></p> <ul style="list-style-type: none"> • <i>Identify, classify and describe their basic structure.</i> • <i>Observe and describe growth and conditions for growth.</i> <p><i>Habitats</i></p> <ul style="list-style-type: none"> • <i>Look at the suitability of environments and at food chains.</i> <p><i>Animals and humans</i></p> <ul style="list-style-type: none"> • <i>Identify, classify and observe.</i> • <i>Look at growth, basic needs, exercise, food and hygiene.</i> <p><i>All living things*</i></p> <ul style="list-style-type: none"> • <i>Investigate differences.</i> 	<p><i>Plants</i></p> <ul style="list-style-type: none"> • <i>Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal.</i> <p><i>Evolution and inheritance</i></p> <ul style="list-style-type: none"> • <i>Look at resemblance in offspring.</i> • <i>Look at changes in animals over time.</i> • <i>Look at adaptation to environments.</i> • <i>Look at differences in offspring.</i> • <i>Look at adaptation and evolution.</i> • <i>Look at changes to the human skeleton over time.</i> <p><i>Animals and humans</i></p> <ul style="list-style-type: none"> • <i>Look at nutrition, transportation of water and nutrients in the body, and the muscle and skeleton system of humans and animals.</i> • <i>Look at the digestive system in humans.</i> • <i>Look at teeth.</i> • <i>Look at the human circulatory system.</i> <p><i>All living things</i></p> <ul style="list-style-type: none"> • <i>Identify and name plants and animals</i> • <i>Look at classification keys.</i> • <i>Look at the life cycle of animals and plants.</i> • <i>Look at classification of plants, animals and micro-organisms.</i>
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Chemistry	<p><i>Materials</i></p> <ul style="list-style-type: none"> • Identify, name, describe, classify, compare properties and changes. • Look at the practical uses of everyday materials. 	<p><i>Rocks and fossils</i></p> <ul style="list-style-type: none"> • Compare and group rocks and describe the formation of fossils. <p><i>States of matter</i></p> <ul style="list-style-type: none"> • Look at solids, liquids and gases, changes of state, evaporation, condensation and the water cycle. <p><i>Materials</i></p> <ul style="list-style-type: none"> • Examine the properties of materials using various tests. • Look at solubility and recovering dissolved substances. • Separate mixtures. • Examine changes to materials that create new materials that are usually not reversible.
Physics	<p><i>Light*</i></p> <ul style="list-style-type: none"> • Look at sources and reflections. <p><i>Sound*</i></p> <ul style="list-style-type: none"> • Look at sources. <p><i>Electricity*</i></p> <ul style="list-style-type: none"> • Look at appliances and circuits. <p><i>Forces</i></p> <ul style="list-style-type: none"> • Describe basic movements. <p><i>Earth and space</i></p> <ul style="list-style-type: none"> • Observe seasonal changes. 	<p><i>Light</i></p> <ul style="list-style-type: none"> • Look at sources, seeing, reflections and shadows. • Explain how light appears to travel in straight lines and how this affects seeing and shadows. <p><i>Sound</i></p> <ul style="list-style-type: none"> • Look at sources, vibration, volume and pitch. <p><i>Electricity</i></p> <ul style="list-style-type: none"> • Look at appliances, circuits, lamps, switches, insulators and conductors. • Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials. <p><i>Forces and magnets</i></p> <ul style="list-style-type: none"> • Look at contact and distant forces, attraction and repulsion, comparing and grouping materials. • Look at poles, attraction and repulsion. • Look at the effect of gravity and drag forces. • Look at transference of forces in gears, pulleys, levers and springs. <p><i>Earth and space</i></p> <ul style="list-style-type: none"> • Look at the movement of the Earth and the Moon <p><i>Explain day and night</i></p>
<i>Items marked * are not statutory.</i>		

Threshold Concepts:

<i>Working scientifically</i>	<i>Biology</i>	<i>Chemistry</i>	<i>Physics</i>
<p><i>Work scientifically</i> <i>This concept involves learning the methodologies of the discipline of science.</i></p>	<p><i>Understand plants</i> <i>This concept involves becoming familiar with different types of plants, their structure and reproduction.</i></p> <p><i>Understand animals and humans</i> <i>This concept involves becoming familiar with different types of animals, humans and the life processes they share.</i></p> <p><i>Investigate living things</i> <i>This concept involves becoming familiar with a wider range of living things, including insects and understanding life processes.</i></p> <p><i>Understand evolution and inheritance</i> <i>This concept involves understanding that organisms come into existence, adapt, change and evolve and become extinct.</i></p>	<p><i>Investigate materials</i> <i>This concept involves becoming familiar with a range of materials, their properties, uses and how they may be altered or changed.</i></p>	<p><i>Understand movement, forces and magnets</i> <i>This concept involves understanding what causes motion.</i></p> <p><i>Understand the Earth's movement in space</i> <i>This concept involves understanding what causes seasonal changes, day and night.</i></p> <p><i>Investigate light and seeing</i> <i>This concept involves understanding how light and reflection affect sight.</i></p> <p><i>Investigate sound and hearing</i> <i>This concept involves understanding how sound is produced, how it travels and how it is heard.</i></p> <p><i>Understand electrical circuits</i> <i>This concept involves understanding circuits and their role in electrical applications.</i></p>