

Springfield Primary Academy

Inspiring Futures: Making Memories
 Learning Creatively with:
 High Expectations. Integrity. Respect. Resilience. Determination.



Year 5 Science Curriculum Map

Autumn 1	Spring	Summer
<p>L.O. to understand the Earth’s movement in space</p> <ul style="list-style-type: none"> 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>L.O. to work scientifically</p> <ul style="list-style-type: none"> Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models. 	<p>L.O. to investigate materials</p> <ul style="list-style-type: none"> Compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, conductivity (electrical and thermal), and response to magnets. Understand how 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 	<p>L.O. to investigate living things</p> <ul style="list-style-type: none"> 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. Clued up for growing up resource ‘Bits and Bobs and Sweat and Spots L2-3’ Describe how living things are classified into broad groups according to common observable characteristics Give reasons for classifying plants and animals based on specific characteristics. <p>L.O. to work scientifically</p> <ul style="list-style-type: none"> Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models.
Autumn 2		Summer 2

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<p>L.O. to understand movement, forces and magnets Magnets</p> <ul style="list-style-type: none"> Describe magnets as having two poles. Predict whether two magnets will attract or repel each other, depending on which poles are facing. <p>Forces</p> <ul style="list-style-type: none"> Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces. Describe, in terms of drag forces, why moving objects that are not driven tend to slow down. Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs. Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect. <p><i>explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down. Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing the effects of a brake on a bicycle wheel. Pupils should explore the effects of levers,</i></p>	<p>associated with burning, oxidation and the action of acid on bicarbonate of soda.</p> <p>L.O. to work scientifically</p> <ul style="list-style-type: none"> Take measurements, using a range of scientific equipment, with increasing accuracy and precision. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar and line graphs, and models. 	<p>L.O. to understand animals including humans.</p> <ul style="list-style-type: none"> describe the changes as humans develop to old age. <p><i>Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</i></p> <p>L.O. to work scientifically</p> <ul style="list-style-type: none"> Plan enquiries, including recognising and controlling variables where necessary. Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.
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*pulleys and simple machines on movement.
Pupils might find out how scientists, for example,
Galileo Galilei and Isaac Newton helped to
develop the theory of gravitation.*

L.O. to work scientifically

- Plan enquiries, including recognising and controlling variables where necessary.
- Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work.

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<p>Depth and Challenge Design an investigation into the effects of drag</p>	<p>Recommend different materials for different purposes based on evidence from their investigations. Invent a new product using a specific material</p>	<p>Classify a range of animals using different criteria</p>
<p>British Values and SMSC Sense of enjoyment and fascination in learning about themselves, others and the world around them</p>	<p>Opportunities for group activities that teach co-operation and initiative</p>	<p>Sense of enjoyment and fascination in learning about themselves, others and the world around them</p>