

Year 5 Science National Curriculum Coverage

Autumn		Spring	Summer	
<p><u>Statutory requirements</u> Children should: compare and group together everyday materials on the basis of their properties</p> <p>materials response to magnets</p> <p>know that some materials will dissolve in liquid to form a solution</p> <p>describe how to recover a substance from a solution</p> <p>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials</p> <p>demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>explain that some changes result in the formation of new materials</p>	<p><u>Statutory requirements</u> Children should:</p> <p>describe the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p>describe the movement of the Moon relative to the Earth</p> <p>describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>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>Statutory requirements</u> Children should:</p> <p>explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>identify the effects of air resistance,</p> <p>identify the effects of water resistance</p> <p>identify the effects of friction that act between moving surfaces</p> <p>recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	<p><u>Statutory requirements</u> Children should:</p> <p>describe the differences in the life cycles of a mammal</p> <p>describe the differences in the life cycles of an amphibian,</p> <p>describe the differences in the life cycles of an insect</p> <p>describe the differences in the life cycles of a bird</p> <p>describe the life process of reproduction in some plants and animals.</p>	<p><u>Statutory requirements</u> Children should:</p> <p>describe the changes as humans develop to old age</p>
<p><u>Non-Statutory</u> They should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different</p>	<p><u>Non-Statutory</u> Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night.</p>	<p><u>Non-Statutory</u> Pupils should explore falling objects and raise questions about the effects of air resistance.</p> <p>They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall.</p>	<p><u>Non-Statutory</u> They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local</p>	<p><u>Non-Statutory</u> Should draw a timeline to indicate stages in the growth and development of humans.</p> <p>They should learn about the</p>

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<p>processes.</p> <p>Explore changes that are difficult to reverse, for example, burning, rusting and other reactions.</p> <p>Find out about how chemists create new materials, for example, Spencer Silver, who invented the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.</p>	<p>Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune (Pluto was reclassified as a 'dwarf planet' in 2006).</p> <p>They should understand that a moon is a celestial body that orbits a planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).</p> <p>Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.</p>	<p>They should experience forces that make things begin to move, get faster or slow down.</p> <p>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.</p> <p>Pupils should explore the effects of levers, pulleys and simple machines on movement.</p> <p>Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation</p>	<p>environment.</p> <p>They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.</p> <p>Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.</p>	<p>changes experienced in puberty.</p>
<p><u>Working Scientifically</u></p> <p>Children should: compare and group together everyday materials on the basis of their properties</p> <p>materials response to magnets</p> <p>know that some materials will dissolve in liquid to form a solution</p>	<p><u>Working Scientifically</u></p> <p>Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication.</p> <p>creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show</p>	<p><u>Working Scientifically</u></p> <p>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.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p><u>Working Scientifically</u></p> <p>Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities</p>	<p><u>Working Scientifically</u></p> <p>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.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels,</p>

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<p>describe how to recover a substance from a solution</p> <p>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials</p> <p>demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>explain that some changes result in the formation of new materials</p>	<p>midday and the start and end of the school day.</p> <p>Find out why some people think that structures such as Stonehenge might have been used as astronomical clocks.</p> <p>Identify scientific evidence that has been used to support or refute ideas or arguments.</p>		<p>and differences.</p> <p>Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</p>	<p>classification keys, tables, scatter graphs, bar and line graphs</p>
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