

Long-Term Plan: Science

Year: 5	Subject: Science					
	Autumn Term (13 weeks 2 days)		Spring Term (9 weeks 4 days)		Summer Term (9 weeks 4 days)	
	Autumn 1 (7 weeks 4 days)	Autumn 2 (5 weeks 3 days)	Spring 1 (4 weeks 4 days)	Spring 2 (5 weeks)	Summer 1 (4 weeks 2 days)	Summer 2 (5 weeks 2 days)
National Curriculum Subject Content:	Earth and Space	Forces	Living Things and Their Habitats	Animals Including Humans	Properties of Materials	Changes of Materials
Learning Outcomes Students will be taught to:	(i).Describe the movement of the Earth and other planets relative to the sun in the solar system. (ii)Describe the movement of the moon relative to the Earth. (iii)Describe the sun, Earth and moon as approximately spherical bodies. (iv)Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	(i) Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object (ii)Identify the effects of air resistance, water resistance and friction, that act between moving surfaces. (iii) Recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect.	(i) 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.	(i) Describe the changes as humans develop to old age.	(i) 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. (ii) Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. (iii) Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. (iv) Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday	(i) 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. (ii) Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. (iii) Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. (iv) Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday

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Working Scientifically Skills:					materials, including metals, wood and plastic. (v) Demonstrate that dissolving, mixing and changes of state are reversible changes. (vi) 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.	materials, including metals, wood and plastic. (v) Demonstrate that dissolving, mixing and changes of state are reversible changes. (vi) 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.
	<ul style="list-style-type: none"> ● 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 ● identifying scientific evidence that has been used to support or refute ideas or arguments 					
Scientific Topic Area	<i>'Space Presenters'</i>	<i>'May the Forces be with you'</i>	<i>'The Art of Living'</i>	<i>'Life Explorers'</i>	<i>'Music Festival Materials'</i>	<i>'Changing Materials'</i>
Literature Links	<u>Core Text:</u> NA <u>Guided Reading Text:</u> NA <u>Complementary Texts:</u> 1. Katherine Johnson: A life Story <i>Leila Rasheed</i> 2. Dr Maggie's Grand Tour of the Solar System <i>Dr Maggie Aderin-Pocock</i>	<u>Core Text:</u> NA <u>Guided Reading Text:</u> NA <u>Complementary Texts:</u> 1. Fantastic forces and incredible machines <i>Nick Arnold</i> 2. Forces in Action <i>Rob Colson</i>	<u>Core Text:</u> NA <u>Guided Reading Text:</u> NA <u>Complementary Texts:</u> 1. Bones - the animal kingdom <i>Jules Howard</i> 2. Out and about minibeast explorer	<u>Core Text:</u> NA <u>Guided Reading Text:</u> NA <u>Complementary Texts:</u> 1. Life Cycles - everything from start to finish <i>DK</i> 2. Illumanatomy <i>Kate Davies</i>	<u>Core Text:</u> NA <u>Guided Reading Text:</u> NA <u>Complementary Texts:</u> 1. Dissolving <i>Sheila Rivera</i> 2. Matter: physical science for kids <i>Andi Diehn</i>	<u>Core Text:</u> NA <u>Guided Reading Text:</u> NA <u>Complimentary Texts:</u> 1. Everyday Science <i>Peter Riley</i> 2. Properties and changes of materials <i>Nichola Tyrrell</i>

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<p>3.The Skies Above My Eyes <i>Charlotte Guillain & Yuval Zommer</i></p> <p>4.George's Secret Key to the Universe <i>Lucy Hawking & Stephen Hawking</i></p> <p>5.Curiosity: The Story of a Mars Rover <i>Markus Motum</i></p> <p>6.A Galaxy of Her Own: Amazing Stories of Women in Space <i>Libby Jackson</i></p> <p>7.The International Space Station <i>Clive Gifford and Dan Schlitzkus</i></p> <p>8.Man on the Moon <i>Simon Bartram</i></p> <p>9.Hidden Figures: The True Story of Four Black Women and the Space Race <i>Simon Bartram</i></p> <p>10.A Maths Journey Through Space <i>Anne Rooney</i></p> <p>11.Look Inside: Space <i>Rob Lloyd Jones and Benedetta Giaufret</i></p> <p>12.Why does the Earth need the moon? DK</p>	<p>3.How to be an Engineer <i>Carol Vorderman</i></p> <p>4.Gut wrenching gravity <i>Anna Claybourne</i></p> <p>5.Forces - Boom Science <i>Georgia Amson-Bradshaw</i></p> <p>6.Power Forces <i>Jon Richards</i></p>	<p><i>Robyn Swift and Hannah Alice</i></p> <p>3.Growth and Life Cycles <i>Baby Professor</i></p> <p>4.Life Cycles: Everything from start to finish <i>DK</i></p> <p>5.Where do forests come from? <i>DK</i></p> <p>6.Animal and plant life cycles <i>Kimberly Perigard</i></p>	<p>3.Body - The ultimate guide <i>Dr.Kristina Routh</i></p> <p>4. Anatomicum <i>Jennifer Z.Paxton</i></p> <p>5.My amazing body machine <i>Robert Winston</i></p>	<p>3.Change It! <i>Andrienne Mason</i></p> <p>4.Many kinds of matter <i>Jennifer Boothrody</i></p> <p>5.What's the matter in Mr.Whisker's room <i>Andy Diehn</i></p> <p>6.All about matter <i>Mari Schuh</i></p>	<p>3.Chemical Chaos <i>Nick Arnold</i></p>
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Assessment	Rising Stars End of Topic Assessment					
Enrichment	The Nice Observatory	TBD	TBD	TBD	TBD	TBD