

Science Curriculum Overview 2017 - 2018



	Autumn Topics		Spring Topics		Summer Topics
Year 1	<p><u>Everyday materials</u> What are toys made of?</p> <p>Grouping different materials</p> <p>Describing the simple properties of materials</p>	<p><u>Seasonal Changes</u> Why is it cold in winter?</p> <p>Observing changes</p> <p>Observing & describing the weather</p> <p>Exploring how the length of the day varies</p>	<p><u>Animals including humans</u> How are animals different?</p> <p>Naming and identifying animals</p> <p>Exploring the difference between omnivores, carnivores and herbivores</p> <p>Naming and labelling basic body parts</p>	<p><u>Seasonal Changes</u> Signs of Spring</p> <p>Observing changes</p> <p>Observing & describing the weather</p> <p>Exploring how the length of the day varies</p> <p>Identifying seasonal plants</p>	<p><u>Plants</u> How does your garden grow?</p> <p>Identifying and naming plants and trees</p> <p>Identifying and labelling the parts of a plant</p> <p>Discovering how plants have changed over time</p>
Year 1 Learn at Home Ideas	<p align="center"><u>Recommended Reads</u> Everyday Materials 2016 (Fundamental Science Ks1) by Ruth Owen</p> <p align="center"><u>Recommended Websites</u> https://www.everyschool.co.uk/history-key-stage-1-toys.html</p>		<p align="center"><u>Recommended Reads</u> KS1 Discover & Learn: Science - Study & Activity Book, Year 1 CGP Books</p> <p align="center"><u>Recommended Websites</u> http://www.bbc.co.uk/education/topics/z6882h v</p>		<p align="center"><u>Recommended Reads</u> Fundamental Science Key Stage 1: Roots, Stems, Leaves and Flowers: All About Plant Parts 2016 by Ruth Owen</p> <p align="center"><u>Recommended Websites</u> http://www.bbc.co.uk/education/topics/z</p>

	<p><u>Recommended Trips</u> House on the Hill Toy Museum, Stansted Mountfitchet, Essex V&A Museum of Childhood</p>		<p><u>Recommended Trips</u> Visit the zoo or a farm and look at how animals are different and the same</p>		<p>pxnyrd <u>Recommended Trips</u> Walk in the local area and look at seasonal changes Visit your local garden centre and look at the different plants</p>	
Year 2	<p><u>Living things and their habitat</u></p> <p>Who lives where? Comparing a local and contrasting area (rainforest)</p> <p>Finding out how living things live in suitable habitats</p> <p>Exploring plants and animals in a micro-habitat</p> <p>Discovering how animals obtain food</p>	<p><u>Investigation Skills</u></p> <p>Investigating how plants grow in different conditions</p> <p>Sorting and classifying plants</p> <p>Making observations of plants</p> <p>Recording observations in written form</p>	<p><u>Healthy living within the animal kingdom</u></p> <p>How do animals survive?</p> <p>Comparing animals over time</p> <p>Exploring the importance of a balanced diet</p> <p>Exploring the importance of personal hygiene</p> <p>Linking weather to hibernation and seasonal change</p>	<p><u>Investigation Skills</u></p> <p>Investigating animals at the seaside</p> <p>Making observations and taking measurements</p> <p>Asking questions and finding answers</p>	<p><u>Uses of everyday materials</u></p> <p>What would be the best material to build a house?</p> <p>Identifying and comparing everyday materials (now and in the past)</p> <p>Choosing a suitable material for a purpose</p>	<p><u>Changing shape</u></p> <p>How can we change the shape of materials?</p> <p>Investigating the effect of hot and cold temperatures (The Great Fire of London)</p> <p>Investigating force and friction</p> <p>Building a heat resistant house (The Great Fire of London)</p> <p><u>Investigation Skills</u></p>

					Observing how different materials behave
Year 2 Learn at Home Ideas	<p><u>Recommended Reads</u> Who Eats What? Patricia Lauber</p> <p><u>Recommended Websites</u> BBC science clips – food chains http://www.bbc.co.uk/programmes/p0177whs</p> <p><u>Recommended Trips</u> Vist a zoo or a farm to look at the habitats of different animals</p>	<p><u>Recommended Reads</u> Why Do Bears Hibernate? Darice Bailer Sleep Big Bear, Sleep! Maureen Wright and Will Hillenbrand</p> <p><u>Recommended Websites</u> http://www.bbc.co.uk/nature/adaptations/Hibernation</p> <p><u>Recommended Trips</u> Visit the seaside to look in rock pools or visit a sea life centre</p>	<p><u>Recommended Reads</u> Everyday Materials Fundamental Science 2016 Ruth Owen</p> <p><u>Recommended Websites</u> http://www.bbc.co.uk/schools/scienceclips/ages/6_7/grouping_materials.shtml</p> <p><u>Recommended Trips</u> Explore the Science Museum in London.</p>		
Year 3	<p><u>Rocks</u></p> <p>Why did the wise man build his house upon the rocks?</p> <p>Comparing different rocks</p> <p>Discovering how rocks are formed and what they're made from</p> <p>Exploring the use of rocks and materials</p>	<p><u>Light</u></p> <p>Is dark the absence of light?</p> <p>Recognising that light is needed in order to see things</p> <p>Exploring how light is reflected</p> <p>Recognising the dangers of sunlight and the way shadows are formed</p> <p>Finding patterns in the size of shadows</p>	<p><u>Animals including humans</u></p> <p>Why are our bodies special?</p> <p>Classifying food into groups</p> <p>Exploring nutrition</p> <p>Exploring the function of the skeleton in animals (including humans)</p>	<p><u>Plants</u></p> <p>How does your garden grow?</p> <p>Exploring what a flowering plant needs to survive and thrive</p> <p>Investigating how water travels to plants</p>	<p><u>Forces</u></p> <p>Do all forces involve contact?</p> <p>Exploring and recording how different things move on a range of surfaces</p> <p>Investigating the use and function of magnets</p> <p>Discovering and investigating non-contact forces (space and the solar system)</p>

Year 3 Learn at Home Ideas	<p style="text-align: center;"><u>Recommended Reads</u> Everything Rocks and Minerals: Dazzling gems of photos and info that will rock your world by Steve Tomecek</p> <p style="text-align: center;"><u>Recommended Websites</u> http://www.bbc.co.uk/bitesize/ks2/science/materials/rocks_soils/read/1/</p> <p style="text-align: center;"><u>Recommended Trips</u> Explore the Science Museum in London (Mineralogy Collection)</p>		<p style="text-align: center;"><u>Recommended Reads</u> Human and Animal Bodies Angela Royston</p> <p style="text-align: center;"><u>Recommended Websites</u> https://www.dkfindout.com/uk/human-body/skeleton-and-bones/</p> <p style="text-align: center;"><u>Recommended Trips</u> Visit the garden centre and explore the types and variety of plants on sale Look at the nutritional labels in the supermarket during a weekly shop</p>		<p style="text-align: center;"><u>Recommended Reads</u> Botany: Plants, Cells and Photosynthesis April Terrazas</p> <p style="text-align: center;"><u>Recommended Websites</u> http://interactivesites.weebly.com/plants.html</p> <p style="text-align: center;"><u>Recommended Trips</u> Look at the solar system exhibition in the Royal Museum in Greenwich</p>	
Year 4	<p style="text-align: center;"><u>States of matter</u></p> <p>How can we tell the difference between living things?</p> <p>Sorting animals into different habitats</p> <p>Creating food chains</p>	<p style="text-align: center;"><u>Investigation skills</u></p> <p>Why do materials change state?</p> <p>Identifying the three states of matter</p> <p>Knowing that some things can change state</p> <p>Creating the water cycle in a bag</p> <p>Investigating how fast the water on towels evaporates</p>	<p style="text-align: center;"><u>Humans and other animals</u></p> <p>Do we just need our teeth to eat?</p> <p>Naming the parts of the digestive system.</p> <p>Describing what happens at various points in the digestive system</p>	<p style="text-align: center;"><u>Investigation skills</u></p> <p>What do we need to create power?</p> <p>Investigating how to make a working circuit</p> <p>Investigating and naming insulators and conductors</p>	<p style="text-align: center;"><u>Sound</u></p> <p>Why do objects make different sounds?</p> <p>Exploring how sound is created</p> <p>Investigating how the volume of water affects its pitch</p>	<p style="text-align: center;"><u>Investigation skills</u></p> <p>Do longer elastic bands make the same sound as shorter elastic bands?</p>
Year 4 Learn	<p style="text-align: center;"><u>Recommended Reads</u> States of matter- CGP</p>		<p style="text-align: center;"><u>Recommended Reads</u> Electricity-CGP</p>		<p style="text-align: center;"><u>Recommended Reads</u> Sound-CGP</p>	

<p>at Home Ideas</p>	<p>What Is a Gas? by Jennifer Boothroyd Solids, Liquids, And Gases by Ginger Garrett Joe-Joe the Wizard Brews Up Solids, Liquids, and Gases by Eric Braun Solids, Liquids and Gases by the Ontario Science Centre</p> <p><i>Recommended Websites</i> https://www.theschoolrun.com/what-are-states-of-matter http://www.bbc.co.uk/bitesize/ks2/science/materials/solids_liquids_gases/read/1/ http://www.primaryresources.co.uk/science/science3a.htm https://www.everyschool.co.uk/science-key-stage-2-habitats.html</p> <p><i>Recommended Trips</i> Visit a zoo and explore and classify different animal habitats</p>		<p>Electricity (Science ... in a Flash) Georgia Amson-Bradshaw Electricity (Straight Forward with Science) Peter Riley Your Digestive System Works! (Your Body Systems) Flora Brett</p> <p><i>Recommended Websites</i> http://www.bbc.co.uk/education/topics/z27kng8 http://www.ducksters.com/science/digestive_system.php https://www.topmarks.co.uk/Interactive.aspx?cat=72 http://www.educationquizzes.com/ks2/science/electrical-circuits/</p>		<p>Making with Sound Anna Claybourne</p> <p><i>Recommended Websites</i> http://www.bbc.co.uk/education/topics/zgffr82 http://www.educationquizzes.com/ks2/science/sound/</p>	
<p>Year 5</p>	<p><u>Forces</u></p> <p>How could forces keep us safe? Exploring the effect of gravity Investigating air resistance and the effect of water on gravity</p> <p><u>Animals including humans</u></p> <p>How different will you be when you are as old as the Queen? Exploring growth and change over time</p>	<p><u>Investigation skills</u></p> <p>Do objects of different weights and size fall to the ground at different speeds?</p> <p>Exploring a Sycamore</p>	<p><u>Properties and changes of materials & matter</u></p> <p>What would you need to be a CSI investigator?</p> <p>Comparing and grouping every day materials</p> <p>Investigating</p>	<p><u>Investigation skills</u></p> <p>Finger printing, foot prints and forensics</p> <p>Creating an alien soup</p> <p>Exploring cookery to understand changes in state</p>	<p><u>Earth and Space</u></p> <p>Would you ever want to live in space?</p> <p>Investigating the planets in the solar system and the movement of the moon</p> <p>Investigating day and night - what</p>	<p><u>Investigation skills</u></p> <p>Investigating the distance between the planets</p> <p>Using physical resources to model the process of day and night</p>

	<p>Identifying human life stages</p> <p>Predicting how humans will continue to change over time</p>	<p>spinner (air resistance)</p> <p>Investigating plasticine shapes dropped in water (water resistance)</p> <p>Dragging objects across different surfaces with weights (measuring force)</p>	<p>dissolving and changing state (volcanoes and seismic changes)</p> <p>Identifying reversible and irreversible changes</p>	<p>Investigating erupting volcanos</p>	<p>we used to believe (Ancient Greeks)</p> <p><u>Life Cycles –plants and animals</u></p> <p>Do all species start as an egg?</p> <p>Identifying the stages in a human life cycle</p> <p>Exploring the process of animal & plant reproduction</p>	<p>Observing changes - frog spawn and caterpillars</p> <p>Exploring asexual reproduction (a Spider plant)</p>
<p>Year 5 Learn at Home Ideas</p>	<p><u>Recommended Read</u></p> <p>Science Experiments by Robert Winston Usborne book of life, growing up (adolescence, body changes and sexual reproduction)</p> <p><u>Recommended Websites</u></p> <p>http://www.bbc.co.uk/education/topics/znmmn39 http://www.bbc.co.uk/education/clips/zpmqxn</p> <p><u>Recommended Trips</u></p> <p>Science Museum South Kensington (Launch Pad)</p>	<p><u>Recommended Read</u></p> <p>CPG – Materials and their Properties (Amazon)</p> <p><u>Recommended Websites</u></p> <p>https://www.topmarks.co.uk/Interactive.aspx?cat=70</p> <p><u>Recommended Trips</u></p> <p>Kirkaldy Testing Museum – Southwark Street, London</p>	<p><u>Recommended Read</u></p> <p>George’s Secret Key to the Universe by Lucy and Stephen Hawking Plant Growth and Lifecycles by Laurence Andrew Page</p> <p><u>Recommended Websites</u></p> <p>https://www.esa.int/esaKIDSen/ https://www.stem.org.uk/resources/elibrary/resource/36134/life-cycles</p> <p><u>Recommended Trips</u></p>			

				National Space Centre – Leicester	
Year 6	<p><u>Animals including humans (organs)</u></p> <p>Which parts of my body could I live without?</p> <p>Investigating different tastes</p> <p>Revisiting the digestive system</p> <p>Understanding the functions of human organs</p> <p>Identifying the main features of the circulatory system</p> <p>Identifying the main features of the respiratory system and the function of the blood</p>	<p><u>Animals including humans (adaptation)</u></p> <p>How do we know a camel is a mammal?</p> <p>Investigating the influence of the environment</p> <p>Comparing and contrasting species</p> <p>Tracking the features of adaptation over time</p>	<p><u>Evolution and inheritance</u></p> <p>Why aren't there any dinosaurs in St Albans?</p> <p>Exploring the importance of genetic factors</p> <p>Scientist Study: Charles Darwin and Gregor Mendal</p>	<p><u>Light</u></p> <p>Why can't I see round corners?</p> <p>Demonstrating how light travels</p> <p>Investigating shadows</p> <p>Exploring the parts of the eye</p> <p>Investigating reflection, refraction and colour</p>	<p><u>Electricity</u></p> <p>How many circuits does it take to light a bulb?</p> <p>Exploring how to achieve a range of effects with an electrical circuit</p> <p>Creating scientific drawings</p> <p>Creating an electrical invention</p>
Year 6 Learn at Home Ideas	<p><u>Recommended Reads</u></p> <p>Look inside: Your body by Louie Stowell and Kate Leake</p> <p>Knowledge Encyclopaedia Human Body by DK Publishing</p> <p><u>Recommended Websites</u></p> <p>http://www.bbc.co.uk/education/topics/zcyycdm</p> <p><u>Recommended Trips</u></p> <p>The Science Museum, London – Your Body</p>	<p><u>Recommended Reads</u></p> <p>Classification and Evolution by Peter Riley</p> <p><u>Recommended Websites</u></p> <p>http://www.bbc.co.uk/education/topics/zvhhvc</p> <p><u>Recommended Trips</u></p> <p>The Natural History Museum in London or Tring</p> <p>The Zoo (ZSL or Whipsnade)</p>	<p><u>Recommended Reads</u></p> <p>The 'What on Earth?' wall timeline</p> <p>By Christopher Lloyd</p> <p>What is evolution?</p> <p>By Louise Spilsbury</p>	<p><u>Recommended Reads</u></p> <p>Key Stage Two Science: The Study Book [Book] by CPG</p> <p>KS2 Science revision guide by Schofield and Sims</p>	

			<u>Recommended Websites</u> http://www.bbc.co.uk/guides/z9qs4qt	<u>Recommended Websites</u> http://www.bbc.co.uk/education/topics/zbssgk7
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