



Intent	Bringing Learning to Life	
<p>School and British Values</p> <p>Passion for Learning ✓ Striving for Excellence Creativity ✓ Loving others as we love ourselves Right and Responsibilities Wholeness</p>	<p>British Values</p> <p>Democracy The rule of law Mutual respect ✓ Tolerance of those of different faiths and beliefs</p>	<p>Whole School Threads</p> <p>Gender Equality ✓ Environmental awareness ✓ Community</p>

Topic	Curriculum Content	Possible Teaching Activities	*Pupil offer
	<p>Children can:</p>	<p>Which will utilise science skills listed below</p>	
<p>Materials</p>	<p>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</p> <p>give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>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.</p> <p>know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p>	<p><i>TEXTS: Charlie and the Chocolate Factory Nimbefingers (Science Through Stories)</i></p> <p>Design and carry out tests to test the properties of materials.</p> <p>Explain why materials are used to make objects based on their properties.</p> <p>Design a test to find the best lolly for a hot day. Evaluate the effectiveness of the test.</p> <p>Design a wrapper to keep an ice cream cold.</p> <p>Identify irreversible changes - marshmallows melting vs burning, candlewax melting vs burning.</p> <p>explore mixtures which give off a gas - make sherbet and make a pop rocket fly as high as possible.</p> <p>Skittles and water - observe dissolving.</p> <p>Try mixing solids with water - identify those which dissolve.</p> <p>Investigate the factors which speed up dissolving to work out how to create an everlasting gobstopper.</p> <p>separate mixtures.</p> <p>design sieves to separate dry goods.</p> <p>Make a filter from materials to clean water like Nimbefingers.</p> <p>Evaporate water from saltwater to leave salt.</p>	<p>Virtual visit from material scientist and author of Nano.</p> <p>making recycled paper for Christmas craft</p>

<p>Forces</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, water resistance and 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><i>TEXTS: The Mammoth Book of Science</i></p> <p>Recap on forces by investigating spinners - develop the process from Y3 by using a test and a control.</p> <p>Design and test parachutes.</p> <p>Plot graph of time taken to reach the ground and use the data to predict intermediate values or extrapolate.</p> <p>Weigh 100g masses in air and in water using newton meters. Plot graphs and calculate the upthrust. Compare to salt water.</p> <p>Draw forces diagrams.</p> <p>Use spoons to make simple levers/catapults.</p> <p>Identify levers in everyday life.</p> <p>Investigate the forces required to lift a weight, with and without a pulley.</p>	
<p>Earth in Space</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><i>TEXTS:Planetarium</i></p> <p>Model orbits and rotations - repeat many times with physical actions.</p> <p>Model day and night and look at satellite photos.</p> <p>Explain how we get day and night.</p> <p>Measure changing shadows and link to the rotation of the Earth.</p> <p>Research the planets - make Top Trumps and Fact File poster.</p> <p>Record the phases of the moon in a flick book and demonstrate using the ping pong ball hoop.</p>	<p>Visit to Planetarium in Bristol - we the curious</p>
<p>Living things and their habitats</p>	<p>describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>describe the life process of reproduction in some plants and animals.</p>	<p>Compare lifecycle of bird and reptile.</p> <p>Compare complete vs incomplete metamorphosis in insects.</p> <p>Investigate the lifecycle of a flowering plant. <i>VIDEO: The Private Life of Plants</i> <i>SONG: The Photosynthesis Song</i></p>	<p>Visit the aquarium in Bristol</p>
<p>Animals including humans</p>	<p>describe the changes as humans develop to old age.</p>	<p>Investigate the effect of salt/sugar/sand/bicarb on the germination and growth of bean seeds.</p> <p>Observe chicks hatching in incubator and care for the chicks.</p>	<p>Visit to Living Rainforest</p> <p>Visit from George McGavin</p>

		Record weight gain and changes in the chicks. Discuss the changes undergone by humans from birth to old age.	Visit from Living Eggs
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Topic	Skills Children can:	Specific activities which focus on these skills
Plan Do Record Review	<ul style="list-style-type: none"> ● plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary ● take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when necessary. ● record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs ● use test results to make predictions to set up further comparative and fair tests ● report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations ● identify scientific evidence that has been used to support or refute ideas or arguments 	ice lolly investigation design a wrapper test materials forces experiments: pulleys, spinners, parachutes forces experiments chicks data bean plant data dissolving sugar investigations dissolving sugar design a wrapper ice lolly investigation scientist study tbc