

KEY STAGE 2

Knowledge, Skills and Understanding breakdown for Working Scientifically		
Year 5		
Planning	Obtaining and presenting evidence	Considering evidence and evaluating
<p>Can they plan and carry out an investigation by controlling variables fairly and accurately?</p> <p>Can they make a prediction with reasons?</p> <p>Can they use test results to make further predictions and set up further comparative tests?</p> <p>Can they present a report of their findings through writing, display and presentation?</p>	<p>Can they take measurements using a range of scientific equipment with increasing accuracy and precision?</p> <p>Can they record more complex data and results using scientific diagrams, classification keys, tables, bar charts, line graphs and models?</p>	<p>Can they report findings from investigations through written explanations and conclusions?</p> <p>Can they use a graph to answer scientific questions?</p>
Year 5 (Challenging)		
Planning	Obtaining and presenting evidence	Considering evidence and evaluating
<p>Can they explore different ways to test an idea and choose the best way, and give reasons?</p> <p>Can they vary one factor whilst keeping the others the same in an experiment?</p> <p>Can they use information to help make a</p>	<p>Can they decide which units of measurements they need to use?</p> <p>Can they explain why measurement needs to be repeated?</p>	<p>Can they find a pattern from their data and explain what it shows?</p> <p>Can they link what they have found out to other science?</p> <p>Can they suggest how to improve their</p>

<p>prediction? Can they explain (in simple terms) a scientific idea and what evidence supports it?</p>		<p>work and say why they think this?</p>
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Knowledge, Skills and Understanding breakdown for Life Processes and Living Things

Year 5

Animals (including humans)	All Living things
<p>Can they create a timeline to indicate stages of growth in humans? Can they explain what puberty is?</p>	<p>Can they describe and compare the life cycles of a range of animals, including humans, amphibians, insects and birds? Can they describe the life cycles of common plants? Can they describe and explain the process of respiration in humans and plants? Can they talk with knowledge about birth, reproduction and death of familiar animals or plants? Can they explore the work of well know naturalists (David Attenborough and Jane Goodall)</p>

Year 5 (Challenging)

Animals (including humans)	All living Things
<p>Can they create a timeline to indicate stages of growth in certain animals, such as frogs and butterflies?</p>	<p>Can they observe their local environment and draw conclusions about life-cycles? (for example, the vegetable garden or plants in a shrubbery) Can they compare the local environment with the life cycles of those around the world, e.g. rainforests?</p>

Knowledge, Skills and Understanding breakdown for Materials and their Properties

Year 5

Properties and changes to materials

Can they test and group materials based on scientific evidence? (hardness, solubility, transparency, conductivity, insulation, magnetism)

Can they explain the process of dissolving?

Can they recover a substance from a solution?

Can they decide how a mixture would best be separated? (filtering, sieving, evaporating)

Can they give reasons for the uses of everyday materials based on scientific evidence?

Can they show what they know about the properties of different materials?

Can they use their knowledge of materials to suggest ways to classify? (solids, liquids, gasses)

Can they describe changes using scientific words? (evaporation, condensation)

Can they use terms 'reversible' and 'irreversible'?

Year 5 (Challenging)

Properties and changes to materials

Can they describe methods for separation mixtures? (filtration, distillation)

Can they work out which materials are most effective for keeping us warm or for keeping something cold?

Knowledge, Skills and Understanding breakdown for Physical Processes

Year 5

Earth and Space	Magnetism	Forces
<p>Can they identify and explain the movement of the earth relative to the sun?</p> <p>Can they explain how seasons and the associated weather is created?</p> <p>Can they identify and explain the movement of the moon relative to the earth?</p> <p>Can they explain the size, shape and position of the earth, sun and moon?</p> <p>Can they explain how night and day are created and use diagrams to show this?</p> <p>Can they explain how planets are linked to stars?</p>	<p>Can they explain how the force of magnetism works?</p> <p>Can they describe how magnetism is used in everyday objects?</p> <p>Can they describe magnets as having two poles?</p> <p>Can they make predictions associated with whether two magnets will attract or repel depending on which poles are facing?</p>	<p>Can they explain what gravity is and its impact on our lives?</p> <p>Can they explain why a wheeled object that is initially pushed will slow down and stop?</p> <p>Can they explain the impact of friction on a moving object?</p> <p>Can they explain the effect of drag force on moving objects?</p> <p>Can they explain how force and motion can be transferred through gears, pulleys, levers and springs?</p>

Year 5 (Challenging)

Earth and Space	Magnetism	Forces
<p>Can they compare the time of day at different places on the earth?</p> <p>Can they create shadow clocks?</p> <p>Can they begin to understand how older civilizations used the sun to create astronomical clocks?</p> <p>Can they explore the work of some space pioneers? (Galileo, Copernicus, Neil Armstrong)</p>	<p>Can they work out how magnets are useful in an everyday content?</p> <p>Can they work out the link between magnets and the North and South poles?</p>	<p>Can they describe and explain how motion is affected by forces? (including gravitational attractions, magnetic attraction and friction)</p> <p>Can they design very effective parachutes?</p> <p>Can they work out how water can cause resistance to floating objects?</p>

