

**King's Court First School – Science – KS2**

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KS 2 Science	Term 1- All About Us / Our Community		Term 2 – Culture		Term 3 – The Arts	
Milestone 2	To work scientifically		Across all year groups scientific knowledge and skills should be learned by working scientifically. <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul>			
	<b>Biology:</b> To understand plants To understand animals and humans To investigate living things To understand evolution and inheritance		<b>Plants</b> <ul style="list-style-type: none"> <li>• Look at the function of parts of flowering plants, requirements of growth, water transportation in plants, life cycles and seed dispersal.</li> </ul> <b>Evolution and inheritance</b> <ul style="list-style-type: none"> <li>• Look at resemblance in offspring.</li> <li>• Look at changes in animal over time.</li> <li>• Look at adaptation to environments.</li> <li>• Look at differences in offspring.</li> <li>• Look at adaptation and evolution.</li> <li>• Look at changes to the human skeleton over time.</li> </ul> <b>Animals and Human</b> <ul style="list-style-type: none"> <li>• Look at nutrition, transportation of water and nutrients in the body and the muscle and skeleton system of human and animals.</li> <li>• Look at the digestive system in humans.</li> <li>• Look at teeth.</li> <li>• Look at the human circulatory system.</li> </ul> <b>All Living Things</b> <ul style="list-style-type: none"> <li>• Identify and name plants and animals.</li> <li>• Look at classification keys.</li> <li>• Look at the life cycle of animals and plants.</li> <li>• Look at classification of plants, animals and micro-organisms.</li> <li>• Look at reproduction in plants and animals and human growth and changes.</li> <li>• Look at the effect of diet, exercise and drugs.</li> </ul>			
	<b>Chemistry:</b> To investigate materials		<b>Rocks and Fossils</b> <ul style="list-style-type: none"> <li>• Compare and group rocks and describe the formation of fossils.</li> </ul> <b>State of Matter</b> <ul style="list-style-type: none"> <li>• Look at solids, liquids and gases, change of state, evaporation, condensation and the water cycle.</li> </ul> <b>Materials</b> <ul style="list-style-type: none"> <li>• Examine the properties of materials using various tests.</li> <li>• Look at solubility and recovering dissolved substances.</li> <li>• Separate mixtures.</li> <li>• Examine changes to materials that create new materials that are usually not reversible.</li> </ul>			
	<b>Physics</b> To understand movement, forces and magnets To understand light and seeing To investigate sound and hearing To understand electrical circuits		<b>Light</b> <ul style="list-style-type: none"> <li>• Look at source, seeing, reflections and shadows.</li> <li>• Explain how light appears to travel in straight lines and how this affects seeing shadows.</li> </ul> <b>Sound</b> <ul style="list-style-type: none"> <li>• Look at sources, vibration, volume and pitch.</li> </ul> <b>Electricity</b> <ul style="list-style-type: none"> <li>• Look at application, circuits, lamps, switches. Insulators and conductors.</li> <li>• Look at circuits, the effect of the voltage in cells and the resistance and conductivity of materials.</li> </ul> <b>Forces and Magnets</b> <ul style="list-style-type: none"> <li>• Look at contact and distant forces, attraction and repulsion, comparing and grouping materials.</li> <li>• Look at poles, attraction and repulsion.</li> <li>• Look at effect of gravity and drag forces.</li> <li>• Look at transference of forces in gears, pulleys, levers and springs.</li> </ul>			
	<b>1A- Animals and humans</b>	<b>1B- Living things</b>	<b>2A - Plants</b>	<b>2B- Light</b>	<b>3A- Rocks</b>	<b>3B- Forces and Magnets</b>
Year 3	To work scientifically: <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> </ul> <b>Biology- To understand animals and humans yr3/4)</b> <ul style="list-style-type: none"> <li>• Identify that animal, including humans, need the right type and amount of nutrition, that they cannot make their own food and they get nutrition from what they eat.</li> <li>• Construct and interpret a variety of food chains identifying producers, predators and prey.</li> <li>• Identify that humans and some animals have skeletons and muscle for support, protection and movement.</li> <li>• Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>• Identify the different types of teeth in humans and their simple functions.</li> </ul>	<b>To work scientifically:</b> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> 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plants for life and growth 9air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant.</li> <li>• Investigate the way in which water is transported within plants.</li> <li>• Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</li> </ul>	To work scientifically: <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and 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(Milestone 1)</li> <li>• Recognise that they need light in order to see things and that dark is the absence of light,</li> <li>• Notice that light is reflected from surfaces.</li> <li>• Recognise that light from the sun can be dangerous and that there are ways to protect our eyes.</li> <li>• Recognise that shadows are formed when the light from a light source is blocked by a solid object.</li> <li>• Find patterns in the way that the size of shadows changes.</li> </ul>	To work scientifically: <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <b>Chemistry- To investigate materials (Rocks and Soils)</b> <ul style="list-style-type: none"> <li>• Compare and group together different types of rocks on the basis of their simple, physical properties.</li> <li>• Relate the simple physical properties of some rocks to their formation (igneous or sedimentary).</li> <li>• Recognise that soils are made from rocks and organic matter.</li> </ul>	To work scientifically: <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <b>Physics- To understand movement, forces and magnets</b> <ul style="list-style-type: none"> <li>• Compare how things move on different surfaces</li> <li>• Notice that some forces need contact between to objects, but magnetic forces can act as a distance.</li> <li>• Observe how magnets attract or repel each other and attract some materials and not others.</li> <li>• Compare and group together a variety of everyday material on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</li> <li>• Describe magnets as having two poles.</li> <li>• Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> </ul>
Continuous Provision	<b>Science:</b> <b>World Watch- <a href="http://www.worldwidelifie.org">www.worldwidelifie.org</a></b> student follow specific threats, wildlife or geographical zones or interest.		<b>Science:</b> <b>School Garden</b> – plant and row vegetables, flowers and herbs in the school garden. <b>Magnetic Ice-</b> experiment with freezing magnets in ice and then making a series of observations about magnetism and changes of state.		<b>Science:</b> <b>School Garden</b> – plant and row vegetables, flowers and herbs in the school garden. <b>Jurassic Park-</b> Children discover a range of fossils and explore their origins.	
Knowledge maps	Animals and humans Living things		Plants Light		Rocks Forces	
Breadth of Study	<b>To work scientifically:</b> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul>					

Year 4	1A- Animals and humans	1B – Habitats	2A- Sound	2B- States of Matter	3A- Fossils	3B- Electricity
	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <p><b>Biology-</b> To understand animals and humans</p> <ul style="list-style-type: none"> <li>• Identify that animal, including humans, need the right type and amount of nutrition, that they cannot make their own food and they get nutrition from what they eat.</li> <li>• Construct and interpret a variety of food chains identifying producers, predators and prey.</li> <li>• Identify that humans and some animals have skeletons and muscle for support, protection and movement.</li> <li>• Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>• Identify the different types of teeth in humans and their simple functions.</li> </ul>	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <p><b>Biology-</b> To understand living things</p> <ul style="list-style-type: none"> <li>• Identify how plants and animals, including humans resemble their parents in many features.</li> <li>• Recognise that living things have change over time and their fossils provide information about living things that inhabited the Earth millions of years ago. (fossils)</li> <li>• Identify how animal and plants are suited to and adapt to their environment in different ways. (habitats)</li> <li>• Recognise that living things can be grouped in a variety of ways.</li> <li>• Explore and use classification keys.</li> <li>• Recognise that environments can change and that this can sometimes pose dangers to specific habitats.</li> </ul>	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <p><b>Physics – To understand sound</b></p> <ul style="list-style-type: none"> <li>• Observe and name a variety of sources of sound, noticing that we hear with our ears</li> <li>• Identify how sounds are made, associating some of them with something vibrating. <ul style="list-style-type: none"> <li>• Recognise that vibrations from sounds travel through a medium to the ear.</li> </ul> </li> </ul>	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <p><b>Chemistry-</b> To investigate materials (State of matter)</p> <ul style="list-style-type: none"> <li>• Compare and group materials together, according to whether they are solid, liquids or gases.</li> <li>• Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius, building on their teaching in mathematics. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul>	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <p><b>Chemistry – To investigate fossils</b></p> <ul style="list-style-type: none"> <li>• Describe in simple terms how fossils are formed when things that have lived are trapped within sedimentary rock.</li> <li>• Recognise outcome</li> </ul>	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul> <p><b>Physics-</b> To understand electrical circuits</p> <ul style="list-style-type: none"> <li>• Identify common appliances that run on electricity.</li> <li>• Construct simple series electrical circuits, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</li> <li>• Identify whether or not a lamp will light in a simple series circuit, based on whether or not a lamp is part of a complete loop with a battery.</li> <li>• Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</li> <li>• Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul>
<b>Knowledge maps</b>	Animals and humans Habitats		Sound States of matter		Fossils Electricity	
<b>Breadth of study</b>	<p><b>To work scientifically:</b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions.</li> <li>• Set up simple, practical enquires and comparative and fair tests.</li> <li>• Make accurate measurements using standard units, using a range of equipment, e.g., thermometers and data loggers.</li> <li>• Gather, record, classify and present data in a variety of ways to help in answering questions.</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts and tables.</li> <li>• Report in findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests</li> <li>• Identify differences, similarities or changes related to simple, scientific ideas and processes</li> <li>• Use straightforward, scientific evidence to answer questions or to support their findings.</li> </ul>					
<b>Continuous Provision</b>	<p><b>Science:</b> <b>World Watch- <a href="http://www.worldwidelfie.org">www.worldwidelfie.org</a></b> student follow specific threats, wildlife or geographical zones or interest.</p>		<p><b>Science:</b> <b>School Garden –</b> plant and row vegetables, flowers and herbs in the school garden. <b>Magnetic Ice-</b> experiment with freezing magnets in ice and then making a series of observations about magnetism and changes of state.</p>		<p><b>Science:</b> <b>School Garden –</b> plant and row vegetables, flowers and herbs in the school garden. <b>Jurassic Park-</b> Children discover a range of fossils and explore their origins.</p>	
<b>Deliberate choices</b>	<p>Link with our environment to give practical lessons Focus on hands on learning All children studying animals and humans in Autumn 1 Key stages repeated to ensure coverage Working scientifically linked into topics</p>					