

**St Matthew's Catholic Primary School Science Milestones 2019-20**

<b><u>Year</u></b>	<b><u>Knowledge</u></b>	<b><u>Working Scientifically Plan</u></b>	<b><u>Working Scientifically Do</u></b>	<b><u>Working Scientifically Record</u></b>	<b><u>Working Scientifically Review</u></b>	
<b>1</b>	<p><b>-Identify, name, draw and label</b> the basic parts of the human body and say which part of the body is associated with each sense.</p> <p><b>-identify and name</b> a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p><b>-identify</b> common animals that are carnivores, herbivores and omnivores</p> <p><b>-describe and compare</b> the structure of a variety of common animals</p> <p><b>-distinguish</b> between an object and the material from which it is made</p> <p><b>-identify</b> and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock -</p> <p><b>describe</b> the simple physical properties of a variety of everyday materials</p> <p><b>-compare and group</b> together a variety of everyday materials on the basis of their simple physical properties.</p> <p><b>-observe</b> changes across the four seasons observe and describe weather associated with the seasons and how day length varies.</p>	<p><b>With help</b> begin to choose ways to:</p> <p><b>Try and answer</b> a question</p>	<p><b>Make</b> observations related to the task</p>	<p><b>Draw</b> pictures of results/ take photos</p>	<p><b>Describe</b> simple observations</p>	
			<p><b>Use</b> simple equipment provided</p>			
			<p><b>Recognise</b> when simple test's unfair</p>	<p><b>Begin to measure</b> using non- standard units (e.g. straws/string etc)</p>		<p><b>Say</b> whether what happened was what they expected</p>
			<p><b>Make</b> a simple prediction if appropriate (based on something they have observed before but without an explanation)</p>		<p><b>Complete</b> a simple chart</p>	
				<p><b>Compare</b> 3 or more things</p>	<p>Complete a simple two column table</p>	

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2	<p><b>-notice</b> that animals, including humans, have offspring which grow into adults</p> <p><b>-find out</b> about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p><b>-describe</b> the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</p> <p><b>-identify</b> that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</p> <p><b>-identify and name</b> a variety of plants and animals in their habitats, including microhabitats</p> <p><b>-describe</b> how animals obtain their food from plants and other animals, using the idea of a simple food chain,</p> <p><b>-identify and name</b> different sources of food.</p> <p><b>-identify and compare</b> the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <p><b>-Research</b> how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p> <p><b>-observe and describe</b> how seeds and bulbs grow into mature plants</p> <p><b>-Research and describe</b> how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p><b>With help</b> begin to choose ways to:</p> <p>Try and answer a question</p>	<p><b>Make</b> observations related to the task or test</p>	<p><b>Draw</b> pictures of results/ take photos</p>	<p><b>Describe</b> simple observations</p>
		<p><b>Recognise</b> when simple test' s unfair</p>	<p><b>Use</b> simple equipment provided</p>	<p><b>Complete a simple chart</b></p>	<p><b>Say</b> what they have found out</p>
			<p><b>Begin to measure</b> using uniform non-standard units (e.g. straws) or simple standard units</p>	<p><b>Complete a simple two column table</b></p>	
			<p><b>Compare</b> 3 or more things</p>		

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3	SK	<p><b>-identify</b> that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat</p> <p><b>-Identify</b> that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p><b>-compare and group</b> together different kinds of rocks on the basis of their appearance and simple physical properties</p> <p><b>-describe</b> in simple terms how fossils are formed when things that have lived are trapped within rock recognise that soils are made from rocks and organic matter</p> <p><b>-compare</b> how things move on different surfaces notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p><b>-observe</b> how magnets attract or repel each other and attract some materials and not others</p> <p><b>-compare and group</b> together a variety of everyday materials on the basis of whether they are attracted to a magnet</p> <p><b>-identify</b> some magnetic materials describe magnets as having two poles</p> <p><b>-predict</b> whether two magnets will attract or repel each other, depending on which poles are facing. identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p><b>--explore</b> the requirements of plants for life</p>	<p><b>Begin</b> to choose ways to try and answer a question</p>	<p><b>Carry out</b> a fair test or pattern seeking enquiry (with help)</p>	<p><b>Construct</b> a simple 2 column table</p>	<p><b>Say</b> what they have found out</p>
			<p><b>Suggest</b> ways of making the test fair</p> <p><b>make</b> simple predictions based on everyday experience and knowledge</p>	<p><b>Compare</b> 3 or more things</p> <p><b>Use</b> simple standard measures</p> <p><b>Begin</b> to read scales to the nearest division.</p>	<p><b>Draw</b> simple bar charts</p>	<p><b>Give</b> an explanation for observations and simple patterns based on everyday experience</p>

	<p>and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants</p> <p><b>-explore</b> the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p>				
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<u>Year</u>	<u>Knowledge</u>	<u>Working Scientificall</u> <u>y</u> <u>Plan</u>	<u>Working Scientificall</u> <u>Do</u>	<u>Working Scientificall</u> <u>Record</u>	<u>Working Scientificall</u> <u>ly</u> <u>Review</u>
<b>4</b>	<p><b>-describe</b> the simple functions of the basic parts of the digestive system in humans</p> <p><b>-identify</b> the different types of teeth in humans and their simple functions construct and interpret a variety of food chains,</p> <p><b>-identify</b> producers, predators and prey.</p> <p><b>-recognise</b> that living things can be grouped in a variety of ways explore and use classification keys to help group identify and name a variety of living things in their local and wider environment</p> <p><b>-recognise</b> that environments can change and that this can sometimes pose dangers to living things.</p> <p><b>-compare</b> and group materials together, according to whether they are solids, liquids or gases</p>	<p><b>Begin</b> to choose ways to try and answer a question</p>	<p><b>Carry</b> out a fair test or pattern seeking enquiry (with help)</p>	<p>Construct a simple 2 column table</p>	<p><b>Say</b> what they have found out</p>
			<p><b>Compare</b> 3 or more things</p>		
		<p><b>Suggest</b> ways of</p>	<p><b>Use</b> simple standard measures</p>	<p><b>Give an explanation</b> for observations and simple</p>	

	<p><b>-observe</b> that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C)</p> <p><b>-identify</b> the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p>identify how sounds are made, associating some of them with something vibrating</p> <p>recognise that vibrations from sounds travel through a medium to the ear</p> <p><b>-find patterns</b> between the pitch of a sound and features of the object that produced it find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p><b>-recognise</b> that sounds get fainter as the distance from the sound source increases.</p> <p><b>-identify</b> common appliances that run on electricity</p> <p><b>-construct</b> a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p><b>-identify</b> whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery</p> <p><b>-Recognise</b> that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit</p> <p><b>-recognise</b> some common conductors and insulators, and associate metals with being good conductors.</p>	making the test fair	<b>Begin to read</b> scales to the nearest division		patterns based on everyday experience
		<b>make</b> simple predictions based on everyday experience and knowledge			

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<u>5</u>	<b>-Describe</b> the changes as humans develop to old age.	<b>Ask</b> a variety of types of scientific questions	<b>Read scales</b> with increased accuracy	<b>Present</b> information clearly in tables	<b>Use</b> graphs to spot and interpret

<p>describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p><b>-describe</b> the life process of reproduction in some plants and animals.</p> <p><b>-compare and group together</b> everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <p><b>-know</b> that some materials will dissolve in liquid to form a solution,</p> <p><b>-describe</b> how to recover a substance from a solution use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p><b>-give reasons</b>, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p><b>-demonstrate</b> that dissolving, mixing and changes of state are reversible changes</p> <p><b>-Explain</b> 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><b>-Describe</b> the movement of the Earth, and other planets, relative to the Sun in the solar system</p> <p><b>-Describe</b> the movement of the Moon relative to the Earth 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><b>-explain</b> that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p>	<p><b>Choose</b> the most appropriate scientific enquiry method to answer a question</p>		<p>including for repeat readings</p>	<p>patterns/trends in results/anomalous</p>
	<p><b>Suggest</b> what data to collect</p>	<p><b>Compare</b> 3 or more things</p>	<p><b>Draw</b> bar graphs with increased independence</p>	<p>Draw conclusions using data to support</p> <p>Offer simple explanations for (Anomalous results)</p>
	<p><b>Make</b> predictions based on scientific knowledge</p>	<p><b>Repeat</b> readings &amp; find averages</p>		

<p><b>-identify</b> the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p><b>-recognise</b> that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>				
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6	<p><b>-identify and name</b> the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood</p> <p><b>-recognise</b> the impact of diet, exercise, drugs and lifestyle on the way their bodies function</p> <p><b>-Describe</b> the ways in which nutrients and water are transported within animals, including humans.</p> <p><b>-describe</b> how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals give reasons for classifying plants and animals based on specific characteristics.</p> <p><b>-recognise</b> that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p><b>-recognise</b> that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</p> <p><b>-identify</b> how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p> <p><b>-recognise</b> that light appears to travel in straight lines use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye</p>	<p><b>Ask</b> a variety of types of scientific questions</p> <p><b>Choose</b> the most appropriate scientific enquiry method to answer a question</p> <p><b>Suggest</b> what data to collect</p> <p><b>Make</b> predictions based on scientific knowledge</p>	<p><b>Read</b> scales with increased accuracy</p> <p><b>Compare</b> 3 or more things</p> <p><b>Use</b> apparatus with care</p>	<p><b>Present</b> information clearly in tables including for repeat readings</p> <p><b>Draw</b> bar graphs with increased independence</p>	<p><b>Use</b> graphs to spot and interpret patterns/trends in results/anomalous</p> <p><b>Draw</b> conclusions using data to support</p> <p><b>Offer</b> simple explanations for <b>Anomalous results)</b></p>

<p><b>explain</b> that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes</p> <p>use the idea that light travels in straight lines to ---<b>explain</b> why shadows have the same shape as the objects that cast them.</p> <p>associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches</p> <p><b>-use</b> recognised symbols when representing a simple circuit in a diagram.</p>		<b>Repeat</b> readings & find averages	Draw line graphs with increased independence	
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