

## St Mary's Science Curriculum Overview

Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<b>Animals, Including Humans, and Health</b>						
<p>Understand human body parts and their functions.</p> <p>Use books, pictures or real-life observation to distinguish between different animals based on characteristics and habitats.</p> <p>Understand the importance of personal hygiene and healthy habits.</p>	<p>Identify and name common animals including fish, amphibians, reptiles, birds, and mammals, carnivores, omnivores and herbivores.</p> <p>Compare common structures. Identify, name, draw, and label the human body parts and senses.</p>	<p>Understand life cycles and differences in offspring and adults.</p> <p>Understand basic needs of animals and humans for survival.</p> <p>Importance of a healthy lifestyle.</p>	<p>Understand nutrition, transportation of water and nutrients in the body, and the skeletal and muscular system in humans and other animals.</p>	<p>Digestive system, teeth, and food chains.</p>	<p>Changes in humans from birth to old age.</p>	<p>Circulatory system, impact of diet, exercise and lifestyle on health.</p>
<b>Living Things and Their Habitats</b>						
<p>Understand how different habitats meet the needs of the animals or plants living there.</p> <p>Identify changes in habitats across seasons.</p>	n/a	<p>Distinguish between living, dead, and non-living things.</p> <p>Understand how habitats and microhabitats meet the needs of organisms.</p> <p>Understand simple food chains.</p>	n/a	<p>Classification of living things in local and wider environment.</p> <p>Describe how environmental change can sometimes pose dangers to living things.</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>Classify living things including microorganisms.</p> <p>Understand reasons for classification.</p> <p>Understand fossils and evolution.</p> <p>Know offspring variation and environmental adaptation.</p>
<b>Plants</b>						
<p>Identify the key features of the life cycle of plants and the need for water, light, and nutrients in plant growth.</p>	<p>Identify and name a variety of common plants, including garden plants, wild plants and trees, and those classified as deciduous and evergreen.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Find out and describe how plants need water, light and a suitable</p>	<p>Understand the part that flowers play in the life cycle of flowering plants, including pollination, seed formation, and seed dispersal.</p>	n/a	n/a	n/a

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	Identify the basic structure of plants.	temperature to grow and stay healthy.				
<b>Materials and Their Properties</b>						
Understand and describe the properties of different materials. Recognise changes in materials under different conditions. Select materials based on their properties. Observe simple changes of state e.g., ice melting.	Distinguish between an object and the material from which it is made.  Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.  Compare and group materials based on physical properties.	Understand the suitability of a material for a particular job.  Understand how shapes can be changed by squashing, bending, twisting, and stretching.	n/a	Compare and group materials based on states, evaporation, condensation, freezing and melting (changes of state).	Testing material properties, solubility, reversible and irreversible changes.  Rationale for uses of materials.	n/a
<b>Forces</b>						
Explore the impact of different forces on objects.  Floating and sinking.  Introduction to magnetism through play.	n/a	n/a	Explore and compare how forces, including magnetism, affect the movement of objects across different surfaces.  Understand that magnets have two poles, can act at a distance, and attract certain materials, and predict the interactions between magnets.	n/a	Understand the effects of gravity, air resistance, water resistance and friction.  Understand that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	n/a
<b>Electricity</b>						
Understand the safety aspects of using electricity.  Know that batteries or electricity can make some toys and appliances work.	n/a	n/a	n/a	Learn about simple electrical circuits and conductors and insulators.	n/a	Understand how number and voltage of cells affects components.  Use symbols to represent circuit diagrams.

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<b>Light</b>						
Understand how light interacts with different surfaces and explore the concept of shadows.	n/a	n/a	Understand that we see things because light reflects off surfaces.  Understand the danger of sunlight and how to protect eyes.	n/a	n/a	Understand that light travels in straight lines, allowing us to see objects either because they emit or reflect light into our eyes.  Explain that this principle causes shadows to take the shape of the objects casting them.
<b>Sound</b>						
Understand how sounds can be changed and match sounds to their sources.	n/a	n/a	n/a	Understand how sounds are made, associate sounds with vibrations.  How sound travels and is detected.  Understanding pitch and volume.	n/a	n/a
<b>Space and seasons</b>						
Stars, planets, and the moon.  Observe and discuss changes in the moon's appearance.  Identify the cycle of seasons and how it affects the world around them.  Describe different types of weather and how it changes.	Observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies.  Use the local environment throughout the year to explore and answer questions about plants and animals in their habitat.	Pupils should use the local environment throughout the year to observe how plants grow.	n/a	Pupils should use the local environment throughout the year to raise and answer questions that help them to identify and study plants and animals in their habitat. They should identify how the habitat changes throughout the year.	Describe the movement of the Earth and other planets in the solar system.  Describe the movement of the Moon. Understand the spherical shape of celestial bodies.	Pupils should study and raise questions about their local environment throughout the year.

Working scientifically skill/ Stage	Reception	Key Stage 1	Year 3 - 4	Year 5 - 6
Exploring their environment	Y	Y	Y	Y
Asking simple questions	Y	Y	Y	Y
Making basic observations	Y	Y	Y	Y
Using simple tools to explore	Y	Y	Y	Y
Identifying and classifying (basic)	Y	Y	Y	Y
Performing simple/practical tests		Y	Y	Y
Using observations and ideas to suggest answers to questions		Y	Y	Y
Gathering and recording data		Y	Y	Y
Using a range of equipment		Y	Y	Y
Making predictions			Y	Y
Drawing conclusions			Y	Y
Reporting findings in various forms			Y	Y
Planning scientific enquiries				Y
Recognising and controlling variables				Y
Increasing accuracy and precision in measurements				Y
Recording complex data using diagrams, keys, and graphs				Y
Using test results to set up further tests				Y
Presenting findings, including conclusions, causal relationships, and degree of trust in results				Y
Identifying scientific evidence that supports or refutes ideas				Y

**Note:** The 'Y' represents when these skills are explicitly mentioned in the curriculum for each stage. As the complexity and depth of skills increase through the stages, it's expected that skills introduced in earlier stages are still applicable and being developed throughout the later stages. This table is a simplification.