St Michael's CE Aided School
Science Curriculum Map
Progression of Knowledge and Skills

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Communication and Language Learn new vocabulary. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Make comments about what they have heard and ask questions to clarify their understanding **Personal, Social and Emotional Development** Know and talk about the different factors that support their overall health and wellbeing: -regular physical activity -healthy eating -tooth brushing -sensible amounts of 'screen time' -having a good sleep routine **Understanding the World** Explore the natural world around them, making observations and drawing pictures. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	**Working Scientifically** Ask simple questions and recognise that they can be answered in different ways. Observe closely using simple equipment. Perform simple tests. Identify and classify. Gather and record data to help answer questions. Use their observations and ideas to suggest answers to questions. **Biology** Identify, name and group a variety of common animals including by diet or features. Identify and label parts of the human body. Know that animals have senses for survival. Name common trees and flowering plants and identify basic structure. Observe how plants need light and water to grow and survive. **Chemistry** Compare, group and describe various materials based on their properties. **Physics** Begin to understand why we have seasons and observe seasonal changes including day length changes.	**Working Scientifically** Ask simple questions and recognise that they can be answered in different ways. Observe closely using simple equipment. Perform simple tests. Identify and classify. Gather and record data to help answer questions. Use their observations and ideas to suggest answers to questions. **Biology** Understand that animals have offspring that grow into adults. Know the basic stages of a lifecycle. Describe what a habitat is, observing habitats within the local area. Identify ways in which living things are adapted to their habitats and obtain food via a simple food chain. Observe how plants need light, water and warmth to grow, survive and reproduce. Identify how animals need plants in order to survive. **Chemistry** Investigate how materials can be changed by physical force. Know the suitability of materials for their purpose. **Physics** Observe and test the effect of a push and a pull. Collect weather data associated with the seasons.	**Working Scientifically** Ask relevant questions, plan and use scientific enquiries, including fair tests to answer them. Make systematic and careful observations, taking accurate measurements. Gather, record and classify data in a variety of ways to answer questions. Record findings using scientific language, drawings, labelled diagrams, tables and charts. Report on findings from enquiries. Use results to draw simple conclusions, make predictions, suggest improvements or raise further questions. Use evidence to answer questions or support their findings. **Biology** Understand that animals require nutrition and that this, along with water and oxygen is transported around the body. Identify that humans and some other animals have skeletons and muscles. Identify and describe the functions of different parts of a plant. Explore the requirements of plants for life and growth. Investigate how water is transported in plants. Explore the life cycle of flowering plants. **Chemistry** Compare and groups rocks and soils based on their properties. Know how fossils were formed. **Physics** Understand that light comes from a source, we need light in order to see and that light can be reflected from surfaces. Know that when a light source is blocked by an opaque object, a shadow is formed. Observe and compare how things move on different surfaces and the effect of a force on an object. Know the features of a magnet, including poles and repulsion, and compare and group everyday objects on the basis of whether they are attracted to magnets.	**Working Scientifically** Ask relevant questions, plan and use scientific enquiries, including fair tests to answer them. Make systematic and careful observations, taking accurate measurements. Gather, record and classify data in a variety of ways to answer questions. Record findings using scientific language, drawings, labelled diagrams, tables and charts. Report on findings from enquiries. Use results to draw simple conclusions, make predictions, suggest improvements or raise further questions. Use evidence to answer questions or support their findings. **Biology** Explore and use classification keys to group and identify a variety of living things. Recognise the risks of changing environments to animals. Construct and interpret a variety of food chains, identifying producers, predators and prey. Describe the simple functions of the basic parts of the digestive system in humans including the role of teeth. **Chemistry** Compare and group materials as solids, liquids and gases. Know how water can change state via evaporation and condensation. **Physics** Construct and test simple circuits with basic parts (including a switch) and recognise conductors and insulators. Understand that sounds travels to our ear from a source as a vibration of energy. Investigate variations to pitch, volume and the distance a sound travels.	**Working Scientifically** Plan different types of scientific enquiries to answer questions, including recognising and controlling variables. Take measurements using a range of scientific equipment. Record data and results of increasing complexity. Use test results to set up predictions and further comparative fair tests. Report and present findings including conclusions, casual relations and explanations of trust in results. Identify where scientific evidence has been used to support or refute ideas. **Biology** Describe changes as humans develop from birth to old age (including puberty). Describe the differences in the life cycles of different types of animal, including the life process of reproduction in some plants and animals. **Chemistry** Compare and group together everyday materials based on their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal) and response to magnets. Use knowledge of changing states to determine how mixtures may be separated. Know how some changes of state are reversible or not. **Physics** Understand the force of gravity, friction, air resistance and water resistance. Recognise how some mechanisms (levers, pulleys and gears) can act on a force to a greater effect. Describe the movement of bodies in our solar system relative to the sun, including Earth's rotation to explain day and night.	**Working Scientifically** Plan different types of scientific enquiries to answer questions, including recognising and controlling variables. Take measurements using a range of scientific equipment. Record data and results of increasing complexity. Use test results to set up predictions and further comparative fair tests. Report and present findings including conclusions, casual relations and explanations of trust in results. Identify where scientific evidence has been used to support or refute ideas. **Biology** Classify (with reasons) living things into broad groups, including microorganisms, plants and animals. Identify and name the main parts of the human circulatory system and describe how nutrients and water are transported. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. Recognise that living things have changed over time and that evidence can be found in fossils. Explain what evolution is and recognise how animals and plants adapt to suit their environment. Understand how variation in a population and natural selection enables species to survive change. **Physics** Know the properties of light and explain how we see objects. Explain why shadows have the same shape as the objects that cast them. Use circuit symbols and understand variation in how components function (such as the brightness of a bulb) compared to the number and voltage of cells used.