Other Curricular goals

"Everything is possible if you believe"

Throughout all our curriculum we actively encourage each child to reach their full potential by living out the gospel virtues. We aim to deepen their understanding and appreciation of the virtues to enable them to flourish.

Virtues:

Year A
Respect/Courtesy
Hope
Faith
Charity
Resilience
Honesty

Year B

Thankfulness/Gratitude
Patience
Simplicity
Forgiveness
Kindness
Service

Curricular goal: The national curriculum for science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Component: Working Scientifically

		EYFS Expected	Year 1 Expected	Year 2 Expected	Year 3 Expected	Year 4 Expected	Year 5 Expected	Year 6 Expected
Questioning and predicting	Year A & B	Make comments about what they have heard and ask questions to clarify their understanding. Hold conversation when engaged in back-and-forth exchanges with their teacher and peers.	To ask simple questions and recognising that they can be answered in different ways.		To ask relevant questions and using different types of scientific enquiries to answer them.		To plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	
Planning and carrying out investigations	Year A & B		To perform simple tests.		To set up simple practical enquiries, comparative and fair tests.		To use test results to make predictions to set up further comparative and fair tests.	
Taking and recording observations, measurements and results	Year A & B	Comparing numbers.	To observe closely, using simple equipment.		To make systematic and careful observations and, where appropriate, taking accurate measurements		To take measurements, using a range of scientific equipment, with increasing accuracy	

			Comparing length, weight and capacity. Describe what they see, hear and feel whilst outside. Explore the natural world around them, making observations and drawing pictures of animals and plants.		using standard units, using a range of equipment, including thermometers and data loggers. To gather, record, classify and present data in a variety of ways to help in answering questions. To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. To use straightforward scientific evidence to answer questions or to support their findings. To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.	and precision, taking repeat readings when appropriate. To record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
	Explaining results and drawing conclusions	Year A & B	Use talk to help work out problems and organise thinking and activities and to explain how things work and why they might happen. Re-read what they have written to check that it makes sense. Participate in small group, class and one-	To identify and classify phenomena. To use their observations and ideas to suggest answers to questions To gather and record data to help in answering questions.	To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. To use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions. To identify differences, similarities or changes related to simple scientific ideas and processes. To use straightforward scientific evidence to answer	To report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations. To identify scientific evidence that has been used to support or refute ideas or arguments.

			to-one discussions, offering their own ideas, using recently introduced vocabulary. Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.		questions or to support their findings.			
	Component: Biology							
	Seasonal changes	Year B	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things	To observe changes across the four seasons. To observe and describe weather associated with the seasons and how day length varies.				

			occur and talk about changes. Explore the natural world around them. Describe what they see, hear and feel whilst outside. Understand the effect of changing seasons on the natural world around them.						
	Animals	Year A	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.	To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals To identify and name a variety of common animals that are carnivores, herbivores and omnivores. To describe and compare the structure of a variety of common	To understand that animals, including humans, have offspring which grow into adults. To find out about and describe the basic needs of animals, including humans, for survival (water, food and air).		To construct and interpret a variety of food chains, identifying producers, predators and prey.		

				animals (fish, amphibians, reptiles, birds and mammals, including pets)					
		Year B			To understand that animals, including humans, have offspring which grow into adults. To find out about and describe the basic needs of animals, including humans, for survival (water, food and air).	To identify 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.			
	Humans	Year A	Talk about members of their immediate family and community. Name and describe the people who are familiar to them.	To identify, name, draw and label the basic parts of the human body and say which part of the body is		To identify that humans and some other animals have skeletons and muscles for support, protection	To describe the simple functions of the basic parts of the digestive system in humans.	To describe the changes as humans develop to old age.	

			Compare and contrast characters from stories, including figures from the past.	associated with each sense.		and movement.	To identify the different types of teeth in humans and their simple functions.		
		Year B	To know and talk about the different factors that support their overall health and wellbeing: -regular physical activity -healthy eating -dental care - regulating screen time - sleep routines - road safety Manage own needs: -personal hygiene		To describe the importance for humans of exercise, eating the right amounts of different types of food, and Hygiene.	To identify that humans and some other animals have skeletons and muscles for support, protection and movement.			To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. To describe the ways in which nutrients and water are transported within animals, including humans.
	Plants	Year A	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about	To identify and name a variety of common plants, including garden plants, wild plants and	To find out and describe how plants need water, light and a suitable temperatur	To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves			

			the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes	trees, and those classified as deciduous and evergreen. To describe the basic structure of a variety of common plants including roots, stem, leaves and flowers.	e to grow and stay healthy.	and flowers. To explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. To investigate the way in which water is transported within plants. To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
		Year B			To observe and describe				

					how seeds and bulbs grow into mature plants.				
	Living things and their habitats **Evolution and inheritance (Year 6)**	Year A	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments		To explore and compare the differences between things that are living, dead, and things that have never been alive. To identify 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. To identify and name a variety of		To recognise that living things can be grouped in a variety of ways. To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. To recognise that environments can change and that this can sometimes pose dangers to living things.	To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. To describe the life process of reproduction in some plants and animals.	To describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. To give reasons for classifying plants and animals based on specific characteristics. To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. To recognise that living things produce offspring of

			might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes.		plants and animals in their habitats, including micro-habitats. To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.				the same kind, but normally offspring vary and are not identical to their parents. To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.
	Component: Chemistry								
	Materials Including everyday uses of materials, rocks, properties and changes, states of matter	Year A	Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another.	To distinguish between an object and the material from which it is made. To identify and name a variety of everyday materials, including wood, plastic, glass,	To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.		To compare and group materials together, according to whether they are solids, liquids or gases To observe that some materials change state when they are heated or cooled, and	To compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.	

			They make observations of animals and plants and explain why some things occur and talk about changes. Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.	metal, water, and rock. To describe the simple physical properties of a variety of everyday materials. To compare and group together a variety of everyday materials on the basis of their simple physical properties.			measure or research the temperature at which this happens in degrees Celsius (°C). To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. To demonstrate that	

								dissolving, mixing and changes of state are reversible changes. To explain 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.	
		Year B		To distinguish between an object and the material from which it is made. To describe the simple physical properties of a variety of	To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for	To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. To describe in simple terms how fossils are formed			

				everyday materials. To compare and group together a variety of everyday materials on the basis of their simple physical properties.	particular uses. To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	when things that have lived are trapped within rock. To recognise that soils are made from rocks and organic matter.			
	Component: Physics								
	Light	Year A				To recognise that they need light in order to see things and that dark is the absence of light.			To recognise that light appears to travel in straight lines. To 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. To explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes. To use the idea that light travels in straight lines

									to explain why shadows have the same shape as the objects that cast them.
		Year B				To recognise that they need light in order to see things and that dark is the absence of light. To understand that light is reflected from surfaces. To recognise that light from the sun can be dangerous and that there are ways to protect their eyes. To recognise that shadows are formed when the light from a light source is blocked by a solid object. To find patterns in			

						the way that the size of shadows change.			
	Forces and magnets	Year A				To compare how things move on different surfaces. To understand that some forces need contact between two objects, but magnetic forces can act at a distance. To observe how magnets attract or repel each other and attract some materials and not others. To compare and group together a variety of everyday materials on the basis of whether they are			

						attracted to a magnet, and identify some magnetic materials. To describe magnets as having two poles. To predict whether two magnets will attract or repel each other, depending on which poles are facing.			
		Year B						To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. To identify the effects of air resistance, water resistance and friction that act between moving surfaces.	

								To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	
	Sound	Year B	Understand how to listen carefully and why listening is important.				To identify how sounds are made, associating some of them with something vibrating. To recognise that vibrations from sounds travel through a medium to the ear. To find patterns between the pitch of a sound and features of the object that produced it. To find patterns between the volume of a sound and the strength of the		

							vibrations that produced it. To recognise that sounds get fainter as the distance from the sound source increases.		
	Electricity	Year A							
		Year B					To identify common appliances that run on electricity. To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. To identify 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.		To associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. To 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. To use recognised symbols when representing a simple circuit in a diagram.

							To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. To recognise some common conductors and insulators, and associate metals with being good conductors.		
	Earth and Space	Year B						To describe the movement of the Earth, and other planets, relative to the Sun in the solar System. To describe the movement of the Moon relative to the Earth. To describe the Sun, Earth and Moon as	

								approximately spherical bodies. To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	