

St Thomas More Catholic Primary School Curriculum

To provide opportunities that enable our children to have the skills, knowledge, understanding, confidence and desire to achieve the highest standards of which they are capable. Enabling them to play an active part as responsible and caring members of the school community and beyond.

Humanities				Arts & Culture			Sciences			
History	Geography	Languages	Art & Design	RE	PSHE	Music	Science	PE	Computing	DT

Science (Key Stage 2)

A St Thomas More Scientist will:

- Demonstrate investigative and questioning skills
- Have a deeper understanding of their world
- Use teamwork and co-operation skills
- Have a different way of thinking
- Enjoy learning in a practical way
- Have freedom to investigate their ideas
- Think independently and raise questions about working scientifically
- Develop confidence in practical skills, planning and carrying out scientific investigations
- Have a passion for science and its application in past, present and future technologies.

Supporting community priorities:

- Being language rich
- Cultural and creative experiences
- Enjoying the outdoors and appreciating the locality

Biology

Animals/Plants/Humans/All living things

	Year 3 pink	Year 4 yellow	Year 5 green	Year 6 orange
Knowledge	<ul style="list-style-type: none"> • Identify the different types of teeth in humans and their simple functions. • Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers. • 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. • Investigate the way in which water is transported within plants. • Explore the role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 	<ul style="list-style-type: none"> • Identify that animals including humans need the right types and amounts of nutrition, that they cannot make their own food and they get nutrition from what they eat. • Construct and interpret a variety of food chains identifying producers, predators and prey. • Identify that humans and some animals have skeletons and muscles for support, protection and movement. • Describe the simple functions of the basic parts of the digestive system in humans. 	<ul style="list-style-type: none"> • Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • Describe the life process of reproduction in some plants and animals. • Describe how living things are classified into broad groups according to common observable characteristics. • Give reasons for classifying plants and animals based on specific characteristics. 	<ul style="list-style-type: none"> • Describe the changes as humans develop to old age. • Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. • Describe the ways in which nutrients and water are transported within animals, including humans. • Identify how plants and animals including humans resemble their parents in many features.

	<ul style="list-style-type: none"> Recognise that living things can be grouped in a variety of ways. Explore and use classification keys. Recognise that environments can change and that this can sometimes pose dangers to specific habitats. <i>Identify how animals and plants are suited to and adapt to their environment in different ways.</i> 	<ul style="list-style-type: none"> Recognise the importance of diet, exercise, drugs and lifestyle on the way the human body functions. 		<ul style="list-style-type: none"> Recognise that living things have change over time and that fossils provide information about living things that inhabited the earth millions of years ago. Identify how animals and plants are suited to and adapt to their environment in different ways and that adaptation may lead to evolution. Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents.
Skills	<ul style="list-style-type: none"> Ask relevant questions. Set up practical, comparative and fair tests. Record findings using scientific language, drawings, labels, bar charts and tables. Use results to draw conclusions, and suggest improvements for further tests. Use straightforward scientific evidence to answer questions. 	<ul style="list-style-type: none"> Ask relevant questions. Gather, record, classify and present data in a variety of ways. Record findings using scientific language, drawings, labels, bar charts and tables. Report on findings from enquiries – oral, written, display or presentation. Use straightforward scientific evidence to answer questions. 	<ul style="list-style-type: none"> Record data using scientific diagrams, labels keys, tables, graphs and models. Report findings from enquiries, including causal relationships. Present findings in written form, displays and other presentations. 	<ul style="list-style-type: none"> Plan enquiries, including recognising and controlling variables. Use appropriate techniques, apparatus, and materials. Take measurements, using a range of scientific equipment. Record data using scientific diagrams, labels keys, tables, graphs and models. Present findings in written form, displays and other presentations. Use test results to make predictions to set up further comparative and fair tests.

Chemistry
Materials/Fossils and rocks

	Year 3 pink	Year 4 yellow	Year 5 green	Year 6 orange
Knowledge		<ul style="list-style-type: none"> Compare and group together different kinds of rocks on the basis of their physical properties. Relate the physical properties of some rocks to their formation (igneous or sedimentary). Recognise that soils are made from rocks and organic matter. Compare and group materials together according to whether they are solid, liquids or gases. 	<ul style="list-style-type: none"> Compare and group together everyday materials based on evidence from comparative and fair tests including their hardness, solubility, conductivity and response to magnets. Give reasons based on evidence from comparative and fair tests for the particular uses of everyday materials including metals, wood and plastic. Use knowledge of solids, liquids and gases to decide how mixtures may be 	

		<ul style="list-style-type: none"> Observe that some materials change state when they are heated or cool and measure the temperature at which this happens in degrees Celsius. 	<p>separated including through filtering, sieving and evaporating</p> <ul style="list-style-type: none"> Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature. 	
		<ul style="list-style-type: none"> Ask relevant questions. Make accurate measurements using standard units. Gather, record, classify and present data in a variety of ways. Record findings using scientific language, drawings, labels, bar charts and tables. Use results to draw conclusions, and suggest improvements for further tests. Identify differences, similarities or changes related to simple scientific ideas and processes. Use straightforward scientific evidence to answer questions. 	<ul style="list-style-type: none"> Plan enquiries, including recognising and controlling variables. Use appropriate techniques, apparatus, and materials. Record data using scientific diagrams, labels keys, tables, graphs and models. Report findings from enquiries, including causal relationships. Present findings in written form, displays and other presentations. 	

<p>Physics Movement, forces and magnets/Light/Sound/Electricity</p>				
Year 3 pink	Year 4 yellow	Year 5 green	Year 6 orange	

<p>Knowledge</p>	<ul style="list-style-type: none"> • Compare how things move on different surfaces. • Notice that some forces need contact between two objects, but magnetic forces can act at a distance. • Observe how magnets attract or repel each other and attract some materials and not others. • 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. • Describe magnets as having two poles. • Predict whether two magnets will attract or repel each other, depending on which poles are facing. • Recognise that they need light in order to see things and that dark is the absence of light. • Notice that light is reflected from surfaces. • Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. • Recognise that shadows are formed when the light from a light source is blocked by a solid object. • Find patterns in the way that the size of shadows change. 	<ul style="list-style-type: none"> • Identify common appliances that run on electricity. • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers. • 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. • Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit. • Recognise some common conductors and insulators, and associate metals with being good conductors. • Identify how sounds are made, associating some of them with something vibrating. • Recognise that vibrations from sounds travel through a medium to the ear. 	<ul style="list-style-type: none"> • Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • Identify the effect of drag forces, such as air resistance, water resistance and friction that act between moving surfaces • <i>Describe, in terms of drag forces, why moving objects that are not driven tend to slow down.</i> • <i>Understand that force and motion can be transferred through mechanical devices such as gears, pulleys, levers and springs.</i> • Understand that some mechanisms including levers, pulleys and gears, allow a smaller force to have a greater effect. • Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. • Describe the movement of the Moon relative to the Earth. • Describe the Sun, Earth and Moon as approximately spherical bodies. • Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. 	<ul style="list-style-type: none"> • Understand 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 eyes. • Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them, and to predict the size of shadows when the position of the light source changes. • 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. • 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. • Use recognised symbols when representing a simple circuit in a diagram.
	<ul style="list-style-type: none"> • Ask relevant questions. • Set up practical, comparative and fair tests. • Make accurate measurements using standard units. • Gather, record, classify and present data in a variety of ways. • Record findings using scientific language, drawings, labels, bar charts and tables. • Report on findings from enquiries – oral, written, display or presentation. • Use results to draw conclusions, and suggest improvements for further tests. 	<ul style="list-style-type: none"> • Ask relevant questions. • Set up practical, comparative and fair tests. • Gather, record, classify and present data in a variety of ways. • Record findings using scientific language, drawings, labels, bar charts and tables. • Report on findings from enquiries – oral, written, display or presentation. • Use results to draw conclusions, and suggest improvements for further tests. • Identify differences, similarities or changes related to simple scientific ideas and processes. 	<ul style="list-style-type: none"> • Plan enquiries, including recognising and controlling variables. • Use appropriate techniques, apparatus, and materials. • Take measurements, using a range of scientific equipment. • Record data using scientific diagrams, labels keys, tables, graphs and models. • Report findings from enquiries, including causal relationships. • Present findings in written form, displays and other presentations. • Use test results to make predictions to set up further comparative and fair tests. 	<ul style="list-style-type: none"> • Plan enquiries, including recognising and controlling variables. • Use appropriate techniques, apparatus, and materials. • Take measurements, using a range of scientific equipment. • Record data using scientific diagrams, labels keys, tables, graphs and models. • Report findings from enquiries, including causal relationships. • Present findings in written form, displays and other presentations. • Use test results to make predictions to set up further comparative and fair tests.

<ul style="list-style-type: none">• Identify differences, similarities or changes related to simple scientific ideas and processes.• Identify differences, similarities or changes related to simple scientific ideas and processes.• Use straightforward scientific evidence to answer questions.	<ul style="list-style-type: none">• Use straightforward scientific evidence to answer questions.	<ul style="list-style-type: none">• Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas.	<ul style="list-style-type: none">• Use simple models to describe scientific ideas, identifying scientific evidence that has been used to support or refute ideas.
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