Holy Family Catholic Primary School – Science Topic Overviews

EYFS – Nursery and Reception					
Seasons - Autumn	**Seasons - Changes in weather & environments**	**Investigating Ice**	**Seasons – Spring Animals and their babies**	**Observing mini-beasts and other animals and species**	**Summer**
Nursery					
Explore Autumn season using all their senses Notice some simple signs of autumn	Recognise and talk about the changes in seasons between Autumn and Winter. Explore different types of weathers	Participate in simple experiments to investigate what happens when ice melts. Talk about the changes that happen when something melts or freezes Find out about, and name, some of the animals that live in the Arctic	Recognise and talk about the changes in seasons between winter and spring. Recognise how spring is called new life and how baby animals are born. Match animals to their babies	Understand the differences between large animals & min-beasts Know about the lifecycle of a butterfly Care for simple mini-beasts in our Bug Hotel Know the name of some of the parts of a butterfly Compare the difference between spring and summer.	Begin to show an interest in exploring why things happen, e.g floating and sinking, using sand and water from the beach

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Reception					
Explore Autumn season using all their senses Talk about signs of autumn Explore natural Autumn materials with different properties (hard/soft)	Talk about and explore the changes between seasons, using key vocabulary. Investigate how the different types of weathers can be linked to the different seasons and environments	Participate in simple experiments to investigate what happens when ice melts - talk about and record why something melts or freezes and the change that happen Make observations of the animals that live in the Arctic & talk about what makes them special	Talk about and explore the changes between seasons, using key vocabulary. Recognise how spring is called new life and how baby animals are born. Match animals to their babies, identifying key features and similarities. Identify animas from different parts of the world. Examine simple life cycles	Can talk about the life cycle of a frog using appropriate vocabulary Talk about how we can care for animals and mini-beasts where we live Know the names of parts of a frog Talk about the seasons change and how this impacts on when things grow Compare the difference between autumn, winter, spring and summer Explore the natural world around them, making observations and drawing pictures of animals and Minibeasts Care for simple mini-beasts in our Bug Hotel	Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter

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Cycle A - Key Stage 1 - Years 1 and 2				
Keeping Fit and Healthy	**Electricity**	**Uses of Materials**	**Mini Beasts**	**Super Science**
To explore differences between things that are living, dead and have never been alive To use MRS.GREN to determine if something is living To identify the basic needs of animals and humans. To understand the importance of exercise for a healthy life To be able to identify healthy foods. To understand the importance of hygiene for humans.	To identify common appliances that run on electricity To compare objects that run on electricity and those that require batteries To carry out a simple static electricity investigation. To construct a simple circuit, to name and label basic parts of the circuit	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, metal, water and rock To compare the uses of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses Describe the simple physical properties of a variety of everyday materials Compare and group together a variety of materials on the basis of their simple physical properties To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting & stretching	To observe minibeasts closely, using simple equipment To identify and classify a range of minibeasts To look at how plants/animals are suited to their environment To identify the different parts of a minibeasts body To share what I know about different minibeasts and their habitats	Following child led enquiries including to: To ask simple questions and recognise that they can be answered in different ways To observe closely, using simple equipment To perform simple tests To identify and classify To use their observations & ideas to suggest answers to questions To gather and record data to help in answering questions

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Cycle A – Lower Key Stage 2 – Years 3 and 4					
Keeping Fit and Healthy	**Rocks & Fossils**	**Forces and Magnets**	**Electricity**	**Plants**	**Super Science**
To identify that humans get the nutrition they need from what they eat To describe the simple functions of the digestive system in humans To identify the different types of teeth in humans & their simple functions To investigate which foods different animals eat To construct food chains showing producers, predators and prey	To be able to identify naturally occurring rocks and explore their uses To be able to group rocks according to their characteristics To be able to plan, carry out and evaluate experiments to compare rocks To explore soil and how it is formed To describe in simple terms how fossils are formed when things that have lived are trapped within rock	To compare how things move on different surfaces To explore what forces are and notice 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, & 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	To identify common appliances that run on electricity To construct a simple series electrical circuit identifying & naming the basic parts of a simple electrical circuit, 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 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	To identify and describe the functions of the roots of flowering plants To investigate the way in which water is transported within plants To identify and describe the functions of leaves in flowering plants To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal To explore some of the ways in which flowering plants disperse their seeds To understand the structure of seeds and their importance as a food source	Following child led enquiries including: To ask relevant questions and use different types of scientific enquiry to answer them To set up simple practical enquiries To record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts and labels To report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions To use straightforward scientific evidence to answer questions or to support their findings

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Cycle A – Upper Key Stage 2 - Years 5 and 6					
Animals including Humans	**Electricity**	**Properties of Materials**	**Forces of Movement**	**Earth and Space**	**Super Science**
To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood To learn how nutrients and water are transported within animals, including humans To recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function To describe the changes as humans develop to old age	To use recognised symbols when representing a simple circuit in a diagram 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 learn how to plan fair tests in order to investigate different component functions	To understand the difference between natural and synthetic materials To compare and group together everyday materials on the basis of their properties To test materials for magnetism, hardness transparency, flexibility and permeability To sort and classify materials according to their properties To learn about thermal conductors and thermal insulators To investigate which materials would be best suited for a lunch box by testing thermal insulating materials	To understand the term gravity and how it acts upon objects To test a range of materials to identify which materials create the most friction To explore the effects of air resistance by investigating the best parachute to slow a person down To investigate the effects of water resistance by creating and racing streamlined boats To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	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 To describe the changes as humans develop to old age	Following child led enquiries including: Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate Recording data and results of increasing complexity using scientific diagrams and label, classification keys, tables, scatter graphs, bar and line graphs Using test results to make predictions to set up further comparative and fair tests Reporting or presenting findings from enquiries inc conclusions, casual relationships & explanations of degree of trust in results, in oral and written forms such as display and presentations Identifying scientific evidence that has been used to support or refute ideas or arguments