St Finbar's Catholic Primary School

Progression in skills in Science

2020 – 2021

Topic Covered	Progression of Knowledge from Y1 – Y6					
	Y1	Y2	Y3	Y4	Y5	Y6
Plants	Pupils should be taught to: -identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. -identify and describe the basic structure of a variety of common flowering plants, including trees.	Pupils should be taught to: -observe and describe how seeds and bulbs grow into mature plants. -Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	Pupils should be taught to: -identify and describe the functions of different parts of flowering plants: roots, stem/trunk, 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 part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.			
Forces and Magnets			Pupils should be taught to: -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. -describe magnets as having two poles. -predict whether two magnets will attract or repel each other, depending on which poles are facing. -compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet.		Pupils should be taught to: • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • identify the effects of air resistance, water resistance and friction that act between moving surfaces. • recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	

	Y1	Y2	Y3	Y4	Y5	Y6
Materials	Pupils should be taught to: -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. -describe the simple physical properties of a variety of everyday materials. -compare and group together a variety of everyday materials on the basis of their simple physical properties.	Pupils should be taught 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. -find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	Rocks and Soils Pupils should be taught to: -compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. -describe in simple terms how fossils are formed when things that have lived are trapped within rock. - recognise that soils are made from rocks and organic matter.	States of Matter Pupils should be taught to: -compare and group materials together, according to whether they are solids, liquids or gases. -observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C). -identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	Properties of Materials Pupils should be taught 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. -know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. -use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. -give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. -demonstrate that dissolving, mixing and changes of state are reversible. -explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible.	

	Y1	Y2	Y3	Y4	Y5	Y6
Earth and Space					**Pupils should be taught to:** **-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.**	
Seasonal Change	**Pupils should be taught to:** **-observe changes across the four seasons.** **-observe and describe weather associated with the seasons and how day length varies.** **-observe changes to the natural environment across the 4 seasons.** **-observe changes in the temperature across the 4 seasons.** **-observe changes in the rainfall across the 4 seasons.**					

	Y1	Y2	Y3	Y4	Y5	Y6
Evolution and Inheritance						**Pupils should be taught 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.** **-recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents.** **-identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.**
Sound				**Pupils should be taught to:** **-identify how sounds are made, associating some of them with something vibrating.** **-recognise that vibrations from sounds travel through a medium to the ear.** **-find patterns between the pitch of a sound and features of the object that produced it.** **-find patterns between the volume of a sound and the strength of the vibrations that produced it.** **-recognise that sounds get fainter as the distance from the sound source increases.**		

	Y1	Y2	Y3	Y4	Y5	Y6
				Pupils should be taught to:		Pupils should be taught to:
Electricity				- 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.		-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.
Light			Pupils should be taught to: -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.			Pupils should be taught 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. -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. -use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

| | Y1 | Y2 | Y3 | Y4 | Y5 | Y6 |

		Pupils should be taught to:		Pupils should be taught to:	Pupils should be taught to:	Pupils should be taught to:
Living Things and their Habitats		-explore and compare the differences between things that are living, dead, and things that have never been alive. -identify that most living things live in habitats to which they are suited. -describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other. -identify and name a variety of plants and animals in their habitats, including microhabitats. -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.		be grouped in a variety of ways. -explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. -recognise that environments can change and that this can sometimes pose dangers to living things.	the life cycles of a mammal, an amphibian, an insect and a bird. -describe the life process of reproduction in some plants and animals.	classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. -give reasons for classifying plants and animals based on specific characteristics.

Working Scientifically

Progression of Skills

CORE Progression of skills from Y1 – Y6

SKILLS	Y1	Y2	Y3	Y4	Y5	Y6
Asking questions (Q)	Ask simple questions and understand that they can be answered in different ways.	Ask simple questions and understand that they can be answered in different ways.	Ask relevant questions and using different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests.	Ask relevant questions and using different types of scientific enquiries to answer them. Set up simple practical enquiries, comparative and fair tests.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Measuring and Recording (MR)	Observe closely, using simple equipment (like magnifying glasses). Perform simple tests (to find things out). Gather and record data (information) to help in answering questions.	Observe closely, using simple equipment (like magnifying glasses). Perform simple tests (to find things out). Gather and record data (information) to help in answering questions.	Make systematic, organised and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Gather, record, classify and present data in a variety of ways to help in answering questions.	Make systematic, organised and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers. Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables. Gather, record, classify and present data in a variety of ways to help in answering questions.	Take measurements, using a range of scientific equipment, with increasing accuracy, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.	Take measurements, using a range of scientific equipment, with increasing accuracy, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.

	Y1	Y2	Y3	Y4	Y5	Y6
Concluding (C)	Identify and classify (sort) living and non-living things Use my observations and ideas to suggest answers to questions.	Identify and classify (sort) living and non-living things Use my observations and ideas to suggest answers to questions.	Identify differences, similarities or changes related to simple scientific ideas and processes. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use simple scientific evidence to answer questions or to support their findings.	Identify differences, similarities or changes related to simple scientific ideas and processes. Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions. Use simple scientific evidence to answer questions or to support their findings.	Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries in oral and written forms such as displays and other presentations. This includes drawing conclusions, and explaining how things happen and how far I trust the results found.	Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries in oral and written forms such as displays and other presentations. This includes drawing conclusions, and explaining how things happen and how far I trust the results found.
Evaluating (E)			Use results to draw simple conclusions, make predictions for new values, suggest improvements and ask further questions.	Use results to draw simple conclusions, make predictions for new values, suggest improvements and ask further questions.	Use test results to make predictions to set up further comparative and fair tests	Use test results to make predictions to set up further comparative and fair tests