SCIENCE PROGRESSION FRAMEWORK – St. Mary's Catholic Primary School

Level Expected at the End of EYFS
• Explore the natural world around them, making observations and drawing pictures of animals and plants. • 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 process and changes in the natural world around them, including the seasons and changing states of matter.

Bold = where <u>Key Assessment Focus</u> takes place

BIOLOGY Plants		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
Life exists in a variety of forms and goes through cycles – Plants	**<u>End of Year 1 Expected</u>** Identify and name a variety of common wild & garden plants, including deciduous and evergreen trees. Identify and describe the basic structure of a variety of common flowering plants, including trees.	**<u>End of Year 2 Expected</u>** 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.
Life exists in a variety of forms and goes through cycles – Plants	**<u>End of Year 3 Expected</u>** Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. Explore the requirements of plants for life & growth (air, light, water, nutrients from soil, & room to grow) & 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 a flowering plant, including pollination, seed formation and seed dispersal.	**<u>End of Year 4 Expected</u>** NA
	<u>End of Year 5 Expected</u> NA	**<u>End of Year 6 Expected</u>** NA

BIOLOGY Animals including Humans		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
Life exists in a variety of forms and goes through cycles – Animals	**End of Year 1 Expected** Identify and name a variety of common animals including fish, amphibians, reptiles, birds & mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores. Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds & mammals, including pets). Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	**End of Year 2 Expected** Notice that animals, including humans, have offspring which grow into adults. Find out about and describe the basic needs of animals, including humans, for survival (water, food and air). Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.
Life exists in a variety of forms and goes through cycles – Animals	**End of Year 3 Expected** 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 Identify that humans and some animals have skeletons and muscles for support, protection and movement.	**End of Year 4 Expected** 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. Identify the different types of teeth in humans and their simple functions
Life exists in a variety of forms and goes through cycles – Animals	**End of Year 5 Expected** Describe the changes as humans develop from birth to old age.	**End of Year 6 Expected** Describe the ways in which nutrients and water are transported within animals, including humans. Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function

BIOLOGY Living things and habitats		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
Living things can be classified according to observable features	**End of Year 3 Expected** NA	**End of Year 4 Expected** Recognise that living things can be grouped in a variety of ways. Explore and use classification keys to help group, identify & name a variety of living things in their local & wider environment. Recognise that environments can change and that this can sometimes pose dangers to living things.
Living things can be classified according to observable features	**End of Year 5 Expected** 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.	**End of Year 6 Expected** Describe how living things are 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.

BIOLOGY Evolution and Heritance		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
	End of Year 3 Expected NA	**End of Year 4 Expected** NA
Living things exhibit variation and adaptation and these may lead to evolution.	**End of Year 5 Expected** NA	**End of Year 6 Expected** 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.

CHEMISTRY Rocks		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
Different rocks have different properties and the formation of soil & fossils can be explained.	**End of Year 3 Expected** 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.	**End of Year 4 Expected**
	End of Year 5 Expected NA	**End of Year 6 Expected** NA

CHEMISTRY Everyday materials		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
Materials have physical properties which can be investigated and compared **The physical properties of materials determine their uses.**	**End of Year 1 Expected** 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.	**End of Year 2 Expected** Find out how the shapes of solid objects made from some materials can be changes by squashing, bending, twisting & stretching. Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.
	End of Year 3 Expected NA	**End of Year 4 Expected** NA
	End of Year 5 Expected NA	**End of Year 6 Expected** NA

CHEMISTRY States of Matter		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
Materials can exist in different states and that these states can sometimes be changed	**End of Year 3 Expected** NA	**End of Year 4 Expected** 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.
	End of Year 5 Expected NA	**End of Year 6 Expected** NA

CHEMISTRY Properties and changes of materials		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
	End of Year 3 Expected NA	**End of Year 4 Expected** NA
Materials have physical properties which can be investigated and compared **The physical properties of materials determine their uses.**	**End of Year 5 Expected** 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.	**End of Year 6 Expected** NA

	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 changes. 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.	

PHYSICS Light		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
Light & sound can be reflected & absorbed and enable us to see & hear	**End of Year 3 Expected** 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.	**End of Year 4 Expected** NA
Light & sound can be reflected & absorbed and enable us to see & hear	**End of Year 5 Expected** NA	**End of Year 6 Expected** Recognise 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 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.

PHYSICS Sound		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
Light & sound can be reflected & absorbed and enable us to see & hear	**End of Year 3 Expected** NA	**End of Year 4 Expected** 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 increases.
	End of Year 5 Expected NA	**End of Year 6 Expected** NA

PHYSICS Forces and Magnets		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
There are contact and non-contact forces; these affect the motion of objects.	**End of Year 3 Expected** 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.	**End of Year 4 Expected** NA
There are contact and non-contact forces; these affect the motion of objects.	**End of Year 5 Expected** 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 greater effect.	**End of Year 6 Expected** NA

PHYSICS Seasonal Changes		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
Day, night, month, seasonal change & year are caused by the position and movement of the Earth	**End of Year 1 Expected** Observe changes across the four seasons. Observe and describe weather associated with the seasons and how day length varies.	**End of Year 2 Expected** NA
	End of Year 3 Expected NA	**End of Year 4 Expected** NA
	End of Year 5 Expected NA	**End of Year 6 Expected** NA

PHYSICS Earth and Space		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
	End of Year 3 Expected NA	**End of Year 4 Expected** NA
Day, night, month, seasonal change & year are caused by the position and movement of the Earth	**End of Year 5 Expected** 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.	**End of Year 6 Expected** NA

PHYSICS Electricity		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
	End of Year 1 Expected NA	**End of Year 2 Expected** NA
Electricity can make circuits work and can be controlled to perform useful functions	**End of Year 3 Expected** NA	**End of Year 4 Expected** 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.
Electricity can make circuits work and can be controlled to perform useful functions	**End of Year 5 Expected** NA	**End of Year 6 Expected** 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.

Working Scientifically Planning investigations		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
a) Pupils can ask questions b) Pupils can plan an enquiry c) Pupils can identify and manage variables	**End of Year 1 Expected** a) Ask simple questions when prompted b) Suggest ways of answering a question	**End of Year 2 Expected** a) Ask simple questions b) Recognise that questions can be answered in different ways
	End of Year 3 Expected a) Ask relevant questions when prompted b) Set up simple and practical enquiries, comparative and fair tests c) Set up comparative tests	**End of Year 4 Expected** a) Ask relevant questions b) Plan different types of scientific enquiries to answer questions c) Set up simple and practical enquiries, comparative and fair tests
	End of Year 5 Expected b) With prompting, plan different types of scientific enquiries to answer questions c) With prompting, recognise and control variables where necessary	**End of Year 6 Expected** b) Plan different types of scientific enquiries to answer questions c)Recognise and control variables where necessary

Working Scientifically Conducting experiments		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
a) Pupils can use equipment to take measurements b) Pupils explore how to improve the quality of data c) Pupils understand the role of repeat readings	**End of Year 1 Expected** a) Make relevant observations Conduct simple tests, with support	**End of Year 2 Expected** a) Observe closely, using simple equipment Perform simple tests
	End of Year 3 Expected a) Make systematic observations, using simple equipment b) Use standard units when taking measurements	**End of Year 4 Expected** a) Make systematic and careful observations using a range of equipment, including thermometers and data loggers b) Take accurate measurements using standard units, where appropriate
	End of Year 5 Expected a) Select, with prompting, and use appropriate equipment to take readings b) Take precise measurements using standard units c) Take and process repeat readings	**End of Year 6 Expected** a) Take measurements using a range of scientific equipment b) Take measurements with increasing accuracy and precision c) Take repeat readings when appropriate

Working Scientifically Recording Evidence		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
a) Pupils record work with diagrams and label them b) Pupils can display data using labelled diagrams, keys, tables and bar charts c) Pupils can display data using line graphs	**End of Year 1 Expected** a) With prompting, suggest how findings could be recorded	**End of Year 2 Expected** b) Record and communicate their findings in a range of ways and begin to use simple scientific language
	End of Year 3 Expected a) Record findings in various ways b) With prompting, suggest how findings may be tabulated c) With prompting, use various ways of recording, grouping and displaying evidence	**End of Year 4 Expected** a) Record findings using simple scientific language, drawings and labelled diagrams b) Record findings using keys, bar charts, and tables c) Gather, record, classify and present data in a variety of ways to help to answer questions
	End of Year 5 Expected a) Record data and results b) Record data using labelled diagrams, keys, tables and charts c) Use line graphs to record data	**End of Year 6 Expected** a) Record data and results of increasing complexity using scientific diagrams and labels b) Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar charts c) Record data and results of increasing complexity using line graphs

Working Scientifically Reporting Findings		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
a) Pupils process findings to develop conclusions and identify causal relationships b) Pupils use displays and presentations to report on findings c) Pupils explain confidence in findings	**End of Year 1 Expected** a) Recognise Findings	**End of Year 2 Expected** a) Identify and classify
	End of Year 3 Expected a) With prompting, suggest conclusions from enquiries b) Suggest how findings could be reported	**End of Year 4 Expected** a) Report on findings from enquiries, including oral and written explanations, of results and conclusions b) Report on findings from enquiries using displays or presentations
	End of Year 5 Expected a) Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships	**End of Year 6 Expected** a) Report and present findings from enquiries, including conclusions and causal relationships

	b) With support, present findings from enquiries orally and in writing c) With prompting, identify that not all results may be trustworthy	b) Report and presents findings from enquiries in oral and written forms such as displays and other presentation c) Report and present findings from enquiries, including explanations of, and degree of, trust in results

Working Scientifically Conclusions and Predictions		
NC Programme of Study Statement	**Rising Stars Progression Statement**	
a) Pupils can analyse data b) Pupils can draw conclusions c) Pupils can develop investigations further	**End of Year 1 Expected** a) Gather and record data b) Use observations to suggest answers to questions	**End of Year 2 Expected** a) Gather and record data to help answer questions b) Use their observations and ideas to suggest answers to questions
	End of Year 3 Expected a) Gather and record data about similarities, differences and changes b) With prompting, suggest conclusions that can be drawn from data c) Suggest possible improvements or further questions to investigate	**End of Year 4 Expected** a) Identify differences, similarities or changes related to simple scientific ideas and processes b) Use straightforward scientific evidence to answer questions or to support their findings c) Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
	End of Year 5 Expected b) Suggest how evidence can support conclusions c) Suggest further comparative or fair tests	**End of Year 6 Expected** b) Identify scientific evidence that has been used to support or refute ideas or arguments c) Use test results to make predictions to set up further comparative and fair tests