Key Stage 3 'My World' Teaching and Learning Framework

The 'My World' curriculum aims to foster a love of learning and engage students from a young age. Our pupils will develop a sense of belonging and responsibility through having a better understanding of the world, and by applying learning to real-life problems and contexts. They will be able to access the world around them as independently and safely as possible due to having a better awareness of the risks and hazards within their world and an understanding of how their body works. Students will be able to understand environmental issues through the promotion of problem-solving skills and experiences from their own lives.

Integral to the delivery of the 'My World' curriculum is allowing students regular opportunities to ask questions, make predictions, plan investigations and evaluate their results. These skills will support students' understanding and promote independence.

Students will be able to make links between the theory of how and why the world works to how this happens in practice. They will develop problem-solving skills and will be able to apply their learning to real life contexts, providing opportunities to reinforce and build on prior learning. Pupils will also be given the opportunity to deepen their understanding through other curriculum areas and relating learning to their personal experiences.

'My World' is taught every week throughout the school year. Our curriculum follows a three year cycle, allowing opportunities for pupils to access a breadth of study. The curriculum is differentiated according to the different stages of development of our pupils. These are described by the terms 'Encountering', 'Developing' and 'Enhancing'. Pupils learning at the 'Enhancing' stage are likely to be based in our partnership classes and access mainstream lessons for this curriculum area.

Cycle One					
Autumn 1			**Autumn 2**		
Lab Safety Earth, rock cycle, Carbon cycle			**Chemistry- Climate Change Physics: Season and Space**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**
• Use your senses to explore two fossil fuels. • Use wind power in an activity • Use water power in an activity • Take part in filtering water to make it clean.	• To know and understand the rules for using scientific equipment. • To understand why carbon is important and where it can be found. • To learn and understand the carbon cycle using	• Explain how the carbon and rock cycles can impact our environment/ climate.	• To observe pictures of the sun, moon, the earth, planet and stars • To launch a model rocket • To know three things needed to survive on the moon.	• To know that gravity is different on other planets and stars than on Earth. • Pupils will know that our sun is a star. • To understand the impact of human activity on the planet, using their learning of the carbon cycle.	• To explain in detail the carbon and rock cycles and explain how human use of fossil fuels has damaged the environment.

	drawing and labels to demonstrate understanding. • To understand what fossil fuels are and how they are used by humans to release carbon into the atmosphere. • To use the key words such as respiration and combustion when describing		• To explore how craters on the moon are made.	• To be able describe the composition of the Earth's atmosphere. • To understand the gravitational force between the Earth and Moon and the Earth and the sun • To understand and explain why we have seasons and why the length of the hours of daylight is different throughout the year.	

	the carbon cycle. • To know the three main types of rocks and what causes them to change. • Be able to describe the rock cycle using the correct terminology. • Pupils will understand that the Earth is a source of limited resources and efficacy of recycling.				
Spring 1			**Spring 2**		

Pure and Impure substances; mixtures and separating techniques			Physical v Chemical change; chemical reactions and chemical equations		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**
• To observe how a solid can dissolve in a liquid • To observe how chromatography works. • Pupils will be able to separate items of different sizes sing a sieves and tweezers.	• To understand how evaporation can be used to separate a solid from a liquid. • To understand what distillation is and how it is used. • To understand what chromatography is and how it can be used • To understand the difference between a pure and impure substance. • Pupils will understand what	• To understand and use the term soluble and to understand what filtration is. • Pupils will learn about the uses of separation techniques in real life.	• Observe how substances can change due to physical changes eg an ice cube to water.	• To investigate physical changes in substances. Be able to explain why it is a physical change. • To investigate/ observe chemical changes in substances and explain why they are chemical changes. • To be able to describe the properties of common	• To be able to independently use the correct scientific terminology when describing the properties of different substances. • Pupils will understand that there is conservation of material and mass in physical changes. • Pupils will learn the difference between physical and chemical change. • Pupils will investigate combustion reaction and be able to use the

	filtration is and how it is used.			substances and be able to use and understand the meaning of the word 'property'.	fire triangle for fire safety. • Pupils will be able to give real life examples of diffusion in liquids and gases.
• **Summer 1**			• **Summer 2**		
Acids and Alkalis			**Reproduction, photosynthesis and respiration**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**
• To explore common everyday acids and alkalis- be able to say whether they like or dislike them. • Pupils will be able to explore and observe the reaction between bicarbonate of	• Be able to label simple laboratory apparatus • Understand safety precautions when using acids or alkalis. • To be able to name common	• Interpret simple information about the use of indicators to classify solutions as acid, neutral or alkali. • • Know how to use the pH scale.	• Be able to name body parts including penis and vagina. • Pupils will be able to name and identify petals and leaves.	• To learn about the reproduction in humans • To be able to name and understand the function of the male and female	• To understand how maternal lifestyle can impact on the foetus through the placenta. • Pupils will understand the importance of photosynthesis for the dependance of almost all life on Earth. • Pupils will learn the difference between

soda and vinegar.	acids and alkalis and their uses • Be able to label simple laboratory apparatus used to obtain a dye from a plant • Know that the colour of some dyes can be changed by adding acids and alkalis. • Pupils will learn what acids and alkalis are and be able to make predictions about whether something is	• interpret simple information about the use of indicators to classify solutions as acid, neutral or alkali. • Know how to use the pH scale. • Know that neutralisation occurs when acids and alkalis are mixed and their importance in real life scenarios.	• Pupils will investigate flowers.	reproductive systems • To understand what the menstrual cycle is and how a baby is made. • Pupils will be able to use the scientific vocabulary for human and plant reproduction. • To understand how reproduction happens in plants • Be able to explain what photosynthesis is.	aerobic and anaerobic respiration in terms of reactants, products formed and the implications for the organism.

	an acid or alkaline.			• Be able to explain what respiration is.	

Cycle Two					
Autumn 1			**Autumn 2**		
Lab safety Nutrition and Digestion; Gas Exchange and Health			**Sound and Light**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**
• Explore different foods from a balanced diet. • Pupils will observe and explore a	• Pupils will recap what a balanced diet is and learn how	• Ask questions and make predictions around the amount of	• To be able to identify different sounds in the environment.	• To be able to identify natural and man-made light • To understand	• To independently ask questions and make predictions

model of food digestion. • Observe how we breathe using a balloon and plastic bottle.	the human digestive system works. • Pupils will understand the role of bacteria is digestion. • For pupils to ask questions and make predictions about the food groups and carry out an investigation to test their ideas. • Pupils will be able to state the consequences of imbalances in diet	energy in food. Plan an investigation to test their ideas and record data independently. Use this data to evaluate their investigation. • Pupils will be able to calculate energy requirements in their diet. • Pupils will be able to use scientific equipment to test lung volume and identify patterns. • Pupils will learn about the effect of	• To understand what sound is and compare the sounds made by different objects. • To explain how sound is produced by vibrations. • To observe sources of light and find them in their environment.	how light travels • To understand what light reflection and refraction is. • To be able to label parts of the eye. • To recap that sound is made through vibrations • To be able to label parts of the ear. • Pupils will understand that different animals have different auditory ranges. • To ask questions and make predictions around the	about how the pitch and volume of an object can be changed. Independently carry out their investigations to test their ideas, record data and evaluate their findings. • Pupils will be able to use a ray model to explain how light travels.

	including obesity, starvation and deficiency diseases. • Pupils will collect data and use this to inform their evaluations. • For pupils to understand the process of gas exchange. • Pupils will understand the impact of exercise, smoking and asthma on human gas exchange.	recreational drugs on behaviour, health and life processes.		best material for sound proofing and why this is important. `pupils will carry out an investigation to test their ideas and evaluate their results.	
Spring 1			**Spring 2**		
Electricity, Energy and Bills; Magnetism			**Reactivity Series and materials**		

Encountering	Developing	Enhancing	Encountering	Developing	Enhancing
• Investigate how magnets work and which materials are magnetic.	• To recap how magnets work and which materials are magnetic. • To understand what a magnetic force is. • Pupils will learn that magnets use non- contact forces. • Pupils will understand how we use the Earth's magnetism in navigation with	• Pupils will investigate where our energy comes from and the solutions for energy that are better for the environment. • Pupils will understand how we use magnetic currents in real life.	• To make observations about materials eg soft, hard, flexible. • To be able to identify the names of the materials. • Pupils will be able to sort different materials according to their properties. • The pupils will test different materials to find out which would make a good school building for girls in Pakistan to	• To begin to make predictions and test their ideas through carrying out tests and recording their observations. • To be able to use their results to communicate their learning. • They will test their ideas and record their observations. • Pupils will learn to communicate their learning using their results to support their answers.	• To learn which metals are reactive and which are not. • To understand how knowledge of the properties of metals are used are used to support us in everyday life • To be able to identify metals in the periodic table. • To understand how different metals are extracted.

	compasses. • To recap what we use electricity for and how to make an electrical circuit. • Pupils will learn how to draw a diagram of an electrical circuit. • Pupils will understand why we have to pay for electricity and how the cost is calculated.		attend school. • To make predictions about which would be the best materials to make slime. • For pupils to test their predictions and communicate their findings using simple words or signs.		
Summer 1			**Summer 2**		
Forces			**Cells and Organisation/ Genetics and Evolution**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**

• Pupils will observe and explore different forces through sensory activities. • To begin to use the words push and pull. • To carry out a simple investigations and be able to explain simply their findings.	• To recap what a force is and be able to give examples of forces. • To be able to explain what gravity is. • To find out about Sir Isaac Newton and his influence on science and our understanding of the world. • For pupils to be able to sort different forces into groups of contact and non- contact forces.	• For pupils to be able to apply their knowledge of forces to real life examples.	• Pupils will be able to identify their own characteristics using mirrors eg eye colour, hair colour etc • Pupils will identify different animals and recognise that there are different types of the same animal eg dog or horse.	• Pupils will know that living things are made of cells. • Pupils will be able to state where DNA is located in cells. • Pupils will be able to observe and record cell structure using a microscope. • To understand the concept of DNA and its role in inheritance. • To identify the structure and function of genes. • To recognise inherited traits in humans and	• To identify the basic components of a cell. • To compare and contrast plant and animal cells. • Pupils will independently use scientific equipment to carry out investigations. • Pupils will independently ask questions and develop investigations to test their ideas. They will independently record their results and communicate their evaluations clearly using

	• For pupils to understand what a balanced and unbalanced force is and the effects of an unbalanced force. • For pupils to begin to be able to apply this knowledge to real life examples.			other organisms. • To understand the difference between inherited and acquired traits. • To understand that there is variation within a species. • To understand the role of adaptations in survival. • To understand the concept of fossils and their role in understanding evolution. • To develop a basic understanding of evolution.	scientific terminology. • Pupils will understand the importance of maintaining biodiversity and use of gene banks to preserve hereditary materials. • Pupils will be able to discuss and evaluate the potential risks of advancing science and technology eg Dolly the sheep, cloning dogs, making fake meat

				• To understand the concept of natural selection. • To recognise how adaptations can lead to the survival of certain species. • For pupils to ask questions and carry out their own research to test their ideas. • For pupils to collect data and record this appropriately. • For pupils to evaluate their results and communicate their ideas.	

Cycle Three					
Autumn 1			**Autumn 2**		
The Human Body			**Forces, Gravity and Motion**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**
• Pupils will observe what happens to their body when they move. • They will recognise their breathing and when their breathing quickens. • Pupils will observe and explore a human skeleton and identify some bones in their own bodies. • Pupils will begin to notice the differences in their	• Pupils will learn all the features of living organisms (MRS GREN) • Pupils will recap what living and non- living means. • Pupils will recap the organs of the body and understand	• Pupils will have an enhanced understanding of the structure of the human body and learn the functions of the skeleton. • Pupils will learn the measurement of force exerted by different muscles.	• Pupils will observe the speed of different modes of transport and use the terms fast, slow, fastest, slowest. • Pupils will explore push, pull and twist forces on everyday objects.	• Pupils will understand the concepts of speed, distance and time and begin to learn the quantitative relationship between the average speed, distance and time (speed= distance/ time).	• Pupis will be able to represent a journey on a speed- time graph. • Pupils will learn Hooke's Law. • Pupils will learn the effect of elastic deformation and understand the limit of proportionality.

bodies between bones and muscle.	their functions. • Pupils will recap the basic needs of the human body, linking with the functions of organs. • Pupils will explore the human skeleton and understand its purpose. • To identify vertebrates and invertebrates • Pupils will understand that teeth are bones	• Pupils will learn the function of muscles and examples of antagonistic muscles. • Pupils will understand that muscles expand and contract and work in pairs. • Pupils will learn how muscles make bones move and joints bend.		• Pupils will begin to use a distance-time graph. • Pupils will be able to understand how the speed of a vehicle affects the overall journey time. • Pupils will recap the different forces and how we describe forces. They will recap balanced and	

	and recap the functions of different teeth. • •			unbalanced forces. • Pupils will begin to use diagrams to demonstrate the direction of a force. • Pupils will begin to measure forces in newtons • Pupils will identify the forces in springs and water and air resistance. • Pupils will learn that gravity is a non- contact force	

				between two objects.	
Spring 1			**Spring 2**		
Solids, Liquids and Gases; Particle Model			**The Periodic Table; Atoms, Elements and Compounds**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**
• Pupils will observe and identify through sensory exploration, the changes of state of everyday substances.	• Pupils will be able to identify the different states of matter (solids, liquids and gases) in terms of the arrangement, movement and spacing of particles. • Pupils will be able to ask questions, make predictions and test their ideas regarding the changes of state	• Pupils will understand that energy is required for a substance to change state. • Pupils will be able to read and follow a graph displaying heating and cooling curves. • Pupils will be able to calculate the density of an object.	• Pupils will observe and explore through sensory activities, different solids, liquids and gases. • Pupils will explore different metals with different properties eg copper, aluminium.	• Pupils will be familiar with the periodic table- what it is and how the elements are arranged. • Pupils will be able to understand and begin to use the terms periods and groups when using the periodic table.	• Pupils will know what Dalton's model is and be able to explain it using the correct terminology. • Pupils will know the difference between an atom, element and compound and be able to explain this difference using diagrams. • Pupils will begin to use chemical symbols and formulae for

	of different substances. • Pupils will investigate their ideas, record results and evaluate their findings. • Pupils will know, use and understand the terms evaporation, condensation, melting and freezing. • Pupils will be able to apply their knowledge of changes of state to their lifeskills eg cooking, going outdoors and gardening. • Pupils will be able to sort substances and			• Pupils will begin to recognise the elements that are solids, liquids or gases and become familiar with some names of elements and their properties. • Pupils will learn what an atom is. • Pupils will learn what a compound is • To be able to identify an element, compound and mixture and begin to explain the difference	elements and compounds. • Pupils will understand the Law of Conservation of Mass

	everyday materials into solids, liquids and gases.			between these.	
Summer 1			**Summer 2**		
Energy Changes, Fuels and Pressure			**Ecosystems: food chains and webs; plant reproduction, habitat and the environment**		
Encountering	**Developing**	**Enhancing**	**Encountering**	**Developing**	**Enhancing**

• Pupils will observe and explore wind, water and solar energy through sensory play- using water to move something along or using wind to move an object. • Pupils will understand the different forces used by pushing a heavy ball compared to a balloon.	• Pupils will understand how energy can be transferred from one object to another. • Pupils will understand the difference between renewable energy resources and non-renewable energy resources. • Pupils will be able to name some renewable and non-renewable	• Pupils will know the different energy stores • Pupils will know all the energy resources and the advantages and disadvantages of them.	• Pupils will observe and explore where seeds are in plants. • Pupils will experiment with using wind to blow seeds • Pupils will look for insects in their local environment and observe what they do. • Pupils will be able to identify insects from pictures.	• Pupils will understand the meaning of an ecosystem. • Pupils will be able to explain a food chain and create their own food chains. • Pupils will begin to understand a food web. • Pupils will understand the impact of toxic materials in a food chain. • Pupils will learn how	• Pupils will understand the importance of photosynthesis in providing energy for most life on Earth.

	energy resources and their advantages and disadvantages. • Pupils will understand what pressure is. • Pupils will learn that the amount of pressure exerted on an object depends on the force applied and the surface area it is spread over. • Pupils will ask questions,			plants reproduce. • Pupils will be able to use and understand the term 'pollination'/ • Pupils will understand the importance of insects in pollination and the impact on the environment if insects decrease.	

	make predictions and carry out investigations to test their ideas around the easiest way to pop a balloon.Pupils will record their results and use them to evaluate their findings.Pupils will begin to explain simply why a certain object would require less pressure than another. Pupils will begin to relate their				

	learning about pressure to everyday objects such as knives in cooking.				