



The Sultan's School
Primary Science Progression of Skills 2022-23

Thinking and Working Scientifically						
Strand	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6
Models and representations		<ul style="list-style-type: none"> 2TWSm.01 Know that a model represents an object or idea in a clear way. 2TWSm.02 Make and use a physical model of a familiar system or idea. 2TWSm.03 Describe the difference between a diagram and a picture. 	<ul style="list-style-type: none"> 3TWSm.01 Know that there are different types of models in science, including diagrams and physical models that we can touch. 3TWSm.02 Make and use physical models. 3TWSm.03 Draw a diagram to represent a real world situation and/or scientific idea. 	<ul style="list-style-type: none"> 4TWSm.01 Know that models are not fully representative of a real world situation and/or scientific idea. 4TWSm.02 Use models to show relationships, quantities or scale. 4TWSm.03 Draw a diagram to represent a real world situation and/or scientific idea. 	<ul style="list-style-type: none"> 5TWSm.01 Know that a model presents an object, process or idea in a way that shows some of the important features. 5TWSm.02 Use models, including diagrams, to represent and describe scientific phenomena and ideas. 	<ul style="list-style-type: none"> 6TWSm.01 Describe how a model can help us understand and describe scientific phenomena and ideas. 6TWSm.02 Use models, including diagrams, to represent and describe scientific phenomena and ideas.
Scientific enquiry: purpose and planning	<ul style="list-style-type: none"> 1TWSp.01 Ask questions about the world around us and talk about how to find answers. 1TWSp.02 Make predictions about what they think will happen. 	<ul style="list-style-type: none"> 2TWSp.01 Ask questions about the world around us and talk about how to find answers. 2TWSp.02 Make predictions about what they think will happen. 	<ul style="list-style-type: none"> 3TWSp.01 Ask scientific questions that can be investigated. 3TWSp.02 Know that there are five main types of scientific enquiry (research, fair testing, observing over time, identifying and classifying, and pattern seeking). 3TWSp.03 Make a prediction describing some possible 	<ul style="list-style-type: none"> 4TWSp.01 Ask scientific questions that can be investigated. 4TWSp.02 Know that there are five main types of scientific enquiry (research, fair testing, observing over time, identifying and classifying, and pattern seeking). 4TWSp.03 Make a prediction describing some possible 	<ul style="list-style-type: none"> 5TWSp.01 Ask scientific questions and select appropriate scientific enquiries to use. 5TWSp.02 Know the features of the five main types of scientific enquiry. 5TWSp.03 Make predictions, referring to relevant scientific knowledge and understanding within familiar and unfamiliar contexts. 	<ul style="list-style-type: none"> 6TWSp.01 Ask scientific questions and select appropriate scientific enquiries to use. 6TWSp.02 Know the features of the five main types of scientific enquiry. 6TWSp.03 Make predictions, referring to relevant scientific knowledge and understanding within familiar and unfamiliar contexts.



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Carrying out scientific enquiry	<ul style="list-style-type: none"> • 1TWSc.01 Sort and group objects, materials and living things based on observations of the similarities and differences between them. • 1TWSc.02 Use given equipment appropriately. • 1TWSc.03 Take measurements in non-standard units. • 1TWSc.04 Follow instructions safely when doing practical work. • 1TWSc.05 Collect and record observations 	<ul style="list-style-type: none"> • 2TWSc.01 Sort and group objects, materials and living things based on observations of the similarities and differences between them. • 2TWSc.02 Use given equipment appropriately. • 2TWSc.03 Take measurements in non-standard units. • 2TWSc.04 Follow instructions safely when doing practical work. • 2TWSc.05 Use a given secondary information source to find an answer to a question. 	<p>outcomes of an enquiry.</p> <ul style="list-style-type: none"> • 3TWSp.04 Identify risks and explain how to stay safe during practical work. 	<p>outcomes of an enquiry.</p> <ul style="list-style-type: none"> • 4TWSp.04 Identify variables that need to be taken into account when doing a fair test. • 4TWSp.05 Identify risks and explain how to stay safe during practical work. 	<ul style="list-style-type: none"> • 5TWSp.04 Plan fair test investigations, identifying the independent, dependent and control variables. • 5TWSp.05 Describe risks when planning practical work and consider how to minimise them. 	<ul style="list-style-type: none"> • 6TWSp.04 Plan fair test investigations, identifying the independent, dependent and control variables. • 6TWSp.05 Describe risks when planning practical work and consider how to minimise them.
	<ul style="list-style-type: none"> • 1TWSc.01 Sort and group objects, materials and living things based on observations of the similarities and differences between them. • 1TWSc.02 Use given equipment appropriately. • 1TWSc.03 Take measurements in non-standard units. • 1TWSc.04 Follow instructions safely when doing practical work. • 1TWSc.05 Collect and record observations 	<ul style="list-style-type: none"> • 2TWSc.01 Sort and group objects, materials and living things based on observations of the similarities and differences between them. • 2TWSc.02 Use given equipment appropriately. • 2TWSc.03 Take measurements in non-standard units. • 2TWSc.04 Follow instructions safely when doing practical work. • 2TWSc.05 Use a given secondary information source to find an answer to a question. 	<ul style="list-style-type: none"> • 3TWSc.01 Use observations and tests to sort, group and classify objects. • 3TWSc.02 Choose equipment from a provided selection and use it appropriately. • 3TWSc.03 Take measurements in standard units, describing the advantage of standard units over non-standard units. • 3TWSc.04 Carry out practical work safely. • 3TWSc.05 Use secondary information sources to research an answer to a question. 	<ul style="list-style-type: none"> • 4TWSc.01 Use observations and tests to sort, group and classify objects. • 4TWSc.02 Use keys to identify objects, materials and living things. • 4TWSc.03 Choose equipment from a provided selection and use it appropriately. • 4TWSc.04 Describe how repeated measurements and/or observations can give more reliable data. • 4TWSc.05 Take measurements in standard units, describing the advantage of 	<ul style="list-style-type: none"> • 5TWSc.01 Sort, group and classify objects, materials and living things through testing, observation and using secondary information. • 5TWSc.02 Complete a key based on easily observed differences. • 5TWSc.03 Choose equipment to carry out an investigation and use it appropriately. • 5TWSc.04 Decide when observations and measurements need to be repeated to give more reliable data. 	<ul style="list-style-type: none"> • 6TWSc.01 Sort, group and classify objects, materials and living things through testing, observation and using secondary information. • 6TWSc.02 Complete a key based on easily observed differences. • 6TWSc.03 Choose equipment to carry out an investigation and use it appropriately. • 6TWSc.04 Decide when observations and measurements need to be repeated to give more reliable data.



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	<p>and/or measurements by annotating images and completing simple tables.</p>	<ul style="list-style-type: none"> • 2TWSc.06 Collect and record observations and/or measurements by annotating images and completing simple tables. 	<ul style="list-style-type: none"> • 3TWSc.06 Collect and record observations and/or measurements in tables and diagrams. 	<p>standard units over non-standard units.</p> <ul style="list-style-type: none"> • 4TWSc.06 Carry out practical work safely. • 4TWSc.07 Use secondary information sources to research an answer to a question. • 4TWSc.08 Collect and record observations and/or measurements in tables and diagrams. 	<ul style="list-style-type: none"> • 5TWSc.05 Take appropriately accurate measurements. • 5TWSc.06 Carry out practical work safely. • 5TWSc.07 Use a range of secondary information sources to research and select relevant evidence to answer questions. • 5TWSc.08 Collect and record observations and/or measurements in tables and diagrams appropriate to the type of scientific enquiry. 	<ul style="list-style-type: none"> • 6TWSc.05 Take appropriately accurate measurements. • 6TWSc.06 Carry out practical work safely. • 6TWSc.07 Use a range of secondary information sources to research and select relevant evidence to answer questions. • 6TWSc.08 Collect and record observations and/or measurements in tables and diagrams appropriate to the type of scientific enquiry.
<p>Scientific enquiry: analysis, evaluation and conclusions</p>	<ul style="list-style-type: none"> • 1TWSa.01 Describe what happened during an enquiry and if it matched predictions. 	<ul style="list-style-type: none"> • 2TWSa.01 Describe what happened during an enquiry and if it matched their predictions. • 2TWSa.02 Identify simple patterns in results, e.g. increasing and decreasing patterns. • 2TWSa.03 Present and interpret results using tables and block graphs. 	<ul style="list-style-type: none"> • 3TWSa.01 Identify whether results support, or do not support, a prediction. • 3TWSa.02 Describe simple patterns in results. • 3TWSa.03 Make a conclusion from results and relate it to the scientific question being investigated. 	<ul style="list-style-type: none"> • 4TWSa.01 Identify whether results support, or do not support, a prediction. • 4TWSa.02 Describe simple patterns in results. • 4TWSa.03 Make a conclusion from results and relate it to the scientific question being investigated. 	<ul style="list-style-type: none"> • 5TWSa.01 Describe the accuracy of predictions, based on results. • 5TWSa.02 Describe patterns in results, including identifying any anomalous results. • 5TWSa.03 Make a conclusion from results informed by scientific understanding. 	<ul style="list-style-type: none"> • 6TWSa.01 Describe the accuracy of predictions, based on results. • 6TWSa.02 Describe patterns in results, including identifying any anomalous results. • 6TWSa.03 Make a conclusion from results informed by scientific understanding.



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			<ul style="list-style-type: none"> • 3TWSa.04 Present and interpret results using tables and bar charts. 	<ul style="list-style-type: none"> • 4TWSa.04 Present and interpret results using tables, bar charts and dot plots. 	<ul style="list-style-type: none"> • TWSa.04 Suggest how an investigation could be improved and explain any proposed changes. • TWSa.05 Present and interpret results using tables, bar charts, dot plots and line graphs. 	<ul style="list-style-type: none"> • 6TWSa.04 Suggest how an investigation could be improved and explain any proposed changes. • 6TWSa.05 Present and interpret results using tables, bar charts, dot plots, line graphs and scatter graphs.
Biology						
Strand	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6
Structure and function	<ul style="list-style-type: none"> • 1Bs.01 Recognise and name the major parts of familiar flowering plants (limited to roots, leaves, stems and flowers). • 1Bs.02 Identify the senses (limited to sight, hearing, taste, smell and touch) and what they detect, linking each to the correct body part. • 1Bs.03 Recognise and name the major external 	<ul style="list-style-type: none"> • 2Bs.01 Compare how animals, including humans, are similar and different in their external body parts and skin covering. • 2Bs.02 Identify the different types of human teeth, explain how they are suited to their functions and describe how to care for teeth. 	<ul style="list-style-type: none"> • 3Bs.01 Describe the function of the major parts of flowering plants (limited to roots, leaves, stems and flowers). • 3Bs.02 Identify the distinguishing features of different groups of animals, including fish, reptiles, mammals, birds, amphibians and insects. • 3Bs.03 Identify some of the important organs in humans (limited to brain, heart, stomach, intestine and lungs) and describe their functions. 	<ul style="list-style-type: none"> • 4Bs.01 Identify some of the important bones in the human body (limited to skull, jaw, rib cage, hip, spine, leg bones and arm bones). • 4Bs.02 Know that bones move because pairs of muscles that are attached to them contract and relax. • 4Bs.03 Describe some of the important functions of skeletons (limited to protecting and supporting organs, enabling movement and giving shape to the body). 	<ul style="list-style-type: none"> • 5Bs.01 Know that not all plants produce flowers. • 5Bs.02 Identify the parts of a flower (limited to petals, sepals, anthers, filaments, stamens, stigma, style, carpel, and ovary). • 5Bs.03 Describe the functions of the parts of a flower (limited to petals, anthers, stigma and ovary). • 5Bs.04 Describe the human digestive system, including the functions of the organs involved (limited to mouth, 	<ul style="list-style-type: none"> • 6Bs.01 Describe the human circulatory system in terms of the heart pumping blood through arteries, capillaries and veins, describe its function (limited to transporting oxygen, nutrients and waste) and know that many vertebrates have a similar circulatory system. • 6Bs.02 Describe the human respiratory system in terms of oxygen from the air moving into the blood in the lungs and know that many



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Life processes	<ul style="list-style-type: none"> • 1Bp.01 Identify living things and things that have never been alive. • 1Bp.02 Know that animals, including humans, need air, water and suitable food to survive. • 1Bp.03 Know that plants need light and water to survive. • 1Bp.04 Describe how humans are similar to and different from each other. 	<ul style="list-style-type: none"> • 2Bp.01 Know that humans need to manage diet, maintain hygiene and move regularly to be healthy. • 2Bp.02 Describe what illness is and describe the common signs of illness in humans. • 2Bp.03 Describe how the offspring of animals, including humans, change as they become older. • 2Bp.04 Know that animals, including humans, produce offspring that have a combination of features from their parents. 	<ul style="list-style-type: none"> • 3Bp.01 Describe differences between things that are living, that were once alive and that have never lived. • 3Bp.02 Know that life processes common to plants and animals include nutrition, growth, movement and reproduction. • 3Bp.03 Know that plants need appropriate conditions, including temperature, light and water, to be healthy. • 3Bp.04 Describe and compare how the offspring of different animals grow into adults, including 	<ul style="list-style-type: none"> • 4Bs.04 Know that some animals have an exoskeleton. • 4Bs.05 Identify vertebrates as animals with a backbone and invertebrates as animals without a backbone. 	<ul style="list-style-type: none"> • 4Bp.01 Know that medicines can be used to treat some illnesses, and describe how to use them safely. • 4Bp.02 Know that plants and animals can have infectious diseases, and vaccinations can prevent some infectious diseases of animals. • 4Bp.03 Know that plants and animals need energy to grow, live and be healthy, and plants get their energy from light while animals get their energy from eating plants or other animals. 	<ul style="list-style-type: none"> • 5Bp.01 Know that animals, including humans, need an adequate, balanced diet in order to be healthy. • 5Bp.02 Know the stages in the life cycle of a flowering plant. • 5Bp.03 Describe how flowering plants reproduce by pollination, fruit and seed production, and seed dispersal. • 5Bp.04 Describe seed germination and know that seeds, in general, require water and an appropriate temperature to germinate. 	<ul style="list-style-type: none"> • 6Bs.03 Name the parts of the human reproductive system.
	parts of the human body.			<ul style="list-style-type: none"> • 4Bs.04 Know that some animals have an exoskeleton. • 4Bs.05 Identify vertebrates as animals with a backbone and invertebrates as animals without a backbone. 	oesophagus, stomach, small intestine, large intestine and anus), and know that many vertebrates have a similar digestive system.	<ul style="list-style-type: none"> • 6Bs.03 Name the parts of the human reproductive system. 	



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			humans, birds, frogs and butterflies.	<ul style="list-style-type: none"> • 4Bp.04 Describe the importance of movement in maintaining human health. 		against infectious diseases, including skin, stomach acid and mucus.
Ecosystems		<ul style="list-style-type: none"> • 2Be.01 Know that an environment in which a plant or animal naturally lives is its habitat. • 2Be.02 Know that different habitats contain different plants and animals. • 2Be.03 Identify similarities and differences between local environments in terms of hot, cold, dry, wet, many plants, few plants, many animals and few animals. 	<ul style="list-style-type: none"> • 3Be.01 Identify and describe simple food chains, where plants are producers and animals are consumers of plants and/or other animals. 	<ul style="list-style-type: none"> • 4Be.01 Know that different animals are found in, and suited to, different habitats. • 4Be.02 Know plants and animals can survive in environments other than their habitats. • 4Be.03 Describe food chains as being made of producers and consumers, and classify consumers as herbivores, omnivores, carnivores, predators and/or prey. 	<ul style="list-style-type: none"> • 5Be.01 Describe how plants and animals are adapted to environments that are hot, cold, wet and/or dry. • 5Be.02 Describe how flowering plants are adapted to attract pollinators and promote seed dispersal. • 5Be.03 Describe the common adaptations of predator and prey animals. 	<ul style="list-style-type: none"> • 6Be.01 Interpret food webs and identify food chains within them. • 6Be.02 Know that some substances can be toxic and damage living things, and that these substances can move through a food chain/web. • 6Be.03 Identify the energy source of a food chain/web and describe how energy is transferred through a food chain/web.
Chemistry						
Strand	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6
Materials and their structure	<ul style="list-style-type: none"> • 1Cm.01 Identify, name, describe, sort and group common materials, including wood, plastic, metal, glass, rock, paper and fabric. 	<ul style="list-style-type: none"> • 2Cm.01 Understand that some materials occur naturally and others are manufactured. 	<ul style="list-style-type: none"> • 3Cm.01 Know that materials can be solids, liquids or gases. • 3Cm.02 Understand that a mixture contains two or more materials, where the materials 	<ul style="list-style-type: none"> • 4Cm.01 Describe the particle model for solids and liquids. • 4Cm.02 Understand the difference between materials, substances and particles. 	<ul style="list-style-type: none"> • 5Cm.01 Use the particle model to describe solid, liquids (including solutions) and gases. • 5Cm.02 Understand that substances can be gaseous and know the common 	



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	<ul style="list-style-type: none"> 1Cm.02 Understand the difference between an object and a material. 		<p>can be physically separated.</p>	<ul style="list-style-type: none"> 4Cm.03 Know that particles are in constant motion, even when in a solid. 	<p>gases at room temperature (limited to oxygen, carbon dioxide, water vapour, nitrogen and hydrogen).</p>	
Properties of materials	<ul style="list-style-type: none"> 1Cp.01 Understand that all materials have a variety of properties. 1Cp.02 Describe common materials in terms of their properties. 	<ul style="list-style-type: none"> 2Cp.01 Describe a property as a characteristic of a material and understand that materials can have more than one property. 2Cp.02 Explain why materials are chosen for specific purposes on the basis of their properties. 2Cp.03 Know that materials can be tested to determine their properties. 	<ul style="list-style-type: none"> 3Cp.01 Describe differences in the properties of solids and liquids. 3Cp.02 Understand that materials, generally, retain their properties within a mixture. 3Cp.03 Describe how to separate solid/solid mixtures based on the physical properties of the solids (processes involving dissolving are not required). 3Cp.04 Describe how to separate a mixture of an insoluble solid and a liquid. 	<ul style="list-style-type: none"> 4Cp.01 Use the particle model to explain the properties of solids and liquids. 4Cp.02 Describe and explain how some solids can behave like liquids (e.g. powders), referring to the particle model. 	<ul style="list-style-type: none"> 5Cp.01 Know that the ability of a solid to dissolve and the ability of a liquid to act as a solvent are properties of the solid and liquid. 5Cp.02 Know the main properties of water (limited to boiling point, melting point, expands when it solidifies, and its ability to dissolve a range of substances) and know that water acts differently from many other substances. 	<ul style="list-style-type: none"> 6Cp.01 Know that the temperature at which a substance changes state is a property of the substance. 6Cp.02 Know that gases have properties, including mass. 6Cp.03 Understand that electrical conductivity and thermal conductivity are properties of a substance.
Changes to materials	<ul style="list-style-type: none"> 1Cc.01 Describe how materials can be changed by physical action, e.g. stretching, 	<ul style="list-style-type: none"> 2Cc.01 Know that some changes can turn a material into a different material. 	<ul style="list-style-type: none"> 3Cc.01 Know that when a solid dissolves in a liquid the solid is still present, and this is 	<ul style="list-style-type: none"> 4Cc.01 Describe solidification/freezing and melting, using the particle model to describe the change of state. 	<ul style="list-style-type: none"> 5Cc.01 Describe the processes of evaporation and condensation, using the particle model and relating the 	<ul style="list-style-type: none"> 6Cc.01 Identify and describe physical changes that are reversible. 6Cc.02 Describe how temperature affects



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	compressing, bending and twisting.		an example of mixing.	<ul style="list-style-type: none"> • 4Cc.02 Understand that the change of state of a substance is a physical process. • 4Cc.03 Know that some substances will react with another substance to produce one or more new substances and this is called a chemical reaction. 	processes to changes in temperature. <ul style="list-style-type: none"> • 5Cc.02 Understand that dissolving is a reversible process and investigate how to separate the solvent and solute after a solution is formed. • 5Cc.03 Investigate and describe the process of dissolving, and relate it to mixing. 	solids dissolving in liquids and relate it to the particle model. <ul style="list-style-type: none"> • 6Cc.03 Describe the difference between boiling and evaporation. • 6Cc.04 Understand that chemical reactions involve substances, called reactants, interacting to form new substances, called products. • 6Cc.05 Observe and describe the evidence that a chemical reaction has taken place (limited to a gas being produced, colour change and change in temperature).
Physics						
Strand	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6
Forces and energy	<ul style="list-style-type: none"> • 1Pf.01 Explore, talk about and describe the movement of familiar objects. 	<ul style="list-style-type: none"> • 2Pf.01 Know that forces can change the movement of an object. • 2Pf.02 Know that forces can change 	<ul style="list-style-type: none"> • 3Pf.01 Know that forces can be measured with a forcemeter. • 3Pf.02 Know that gravity on Earth is a force that pulls 	<ul style="list-style-type: none"> • 4Pf.01 Know that energy is present in all matter and in sound, light and heat. • 4Pf.02 Know that energy cannot be 	<ul style="list-style-type: none"> • 5Pf.01 Identify a range of forces (limited to gravity, applied forces, normal forces, upthrust, friction, air 	<ul style="list-style-type: none"> • 6Pf.01 Describe the difference between mass, measured in kilograms (kg), and weight, measured in newtons (N)



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	<ul style="list-style-type: none"> • 1Pf.02 Describe pushes and pulls as forces. • 1Pf.03 Explore that some objects float and some sink. 	<p>the shape of an object.</p> <ul style="list-style-type: none"> • 2Pf.03 Recognise that things will only speed up, slow down or change direction when something else causes them to do so. 	<p>towards the centre of the Earth.</p> <ul style="list-style-type: none"> • 3Pf.03 Know that friction is a force created between surfaces when they move against each other and it makes this movement harder. • 3Pf.04 Describe how smooth and rough surfaces can generate different amounts of friction. 	<p>made, lost, used up or destroyed but it can be transferred.</p> <ul style="list-style-type: none"> • 4Pf.03 Know that energy is required for any movement or action to happen. • 4Pf.04 Know that not all energy is transferred from one object to another, but often some energy during a process can be transferred to the surrounding environment and this can be detected as sound, light or temperature increase. 	<p>resistance and water resistance).</p> <ul style="list-style-type: none"> • 5Pf.02 Know that an object may have multiple forces acting upon it, even when at rest. • 5Pf.03 Use force diagrams to show the name and direction of forces acting on an object. 	<ul style="list-style-type: none"> • 6Pf.02 Describe the effect of gravity and know that when gravity changes, the weight of an object changes but the mass does not. • 6Pf.03 Use force diagrams to show the name, size and direction of forces acting on an object. • 6Pf.04 Describe the effect of different forces on an object at rest and in motion. • 6Pf.05 Recognise that the mass and shape of an object can affect if it floats or sinks.
<p style="text-align: center;">Light and sound</p>	<ul style="list-style-type: none"> • 1Ps.01 Identify different sources of sound. • 1Ps.02 Explore that as sound travels from a source it becomes quieter. 	<ul style="list-style-type: none"> • 2Ps.01 Know that there are many light sources, including the Sun. • 2Ps.02 Know that darkness is the absence of light. 	<ul style="list-style-type: none"> • 3Ps.01 Investigate how light can pass through some materials and is blocked by others, and use the terms transparent, translucent and opaque. • 3Ps.02 Know that shadows are formed when light from a 	<ul style="list-style-type: none"> • 4Ps.01 Know that light travels in straight lines and this can be represented with ray diagrams. • 4Ps.02 Know that light can reflect off surfaces. • 4Ps.03 Describe how objects which are not light sources are seen. 	<ul style="list-style-type: none"> • 5Ps.01 Investigate how sounds are made by vibrating sources. • 5Ps.02 Describe sounds in terms of high or low pitch and loud or quiet volume. • 5Ps.03 Investigate how to change the volume and pitch of sounds. 	<ul style="list-style-type: none"> • 6Ps.01 Describe how a ray of light changes direction when it is reflected from a plane mirror. • 6Ps.02 Describe how a ray of light changes direction when it travels through different mediums and know that this is called refraction.



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			<p>source is blocked by an object.</p> <ul style="list-style-type: none"> • 3Ps.03 Investigate how the size of a shadow is affected by the position of the object and the position of the light source. 			
Electricity and magnetism	<ul style="list-style-type: none"> • 1Pe.01 Identify things that require electricity to work. • 1Pe.02 Explore, talk about and describe what happens when magnets approach and touch different materials. 	<ul style="list-style-type: none"> • 2Pe.01 Identify how we use electricity and describe how to be safe with it. • 2Pe.02 Recognise the components of simple circuits (limited to cells, wires and lamps). • 2Pe.03 Explore the construction of simple series circuits (limited to cells, wires and lamps). 	<ul style="list-style-type: none"> • 3Pe.01 Describe magnets as having a north pole and a south pole. • 3Pe.02 Describe how magnets interact when near each other, using the terms repel and attract. • 3Pe.03 Investigate how some materials are magnetic but many are not. 	<ul style="list-style-type: none"> • 4Pe.01 Know that an electrical device will not work if there is a break in the circuit. • 4Pe.02 Describe how a simple switch is used to open and close a circuit. • 4Pe.03 Describe how changing the number or type of components in a series circuit can make a lamp brighter or dimmer. • 4Pe.04 Know some materials are good electrical conductors, especially metals, and some are good electrical insulators. 	<ul style="list-style-type: none"> • 5Pe.01 Know the difference between a magnet and a magnetic material. • 5Pe.02 Know that forces act over a distance between magnets, and between a magnet and a magnetic material. • 5Pe.03 Know that magnets can have different magnetic strengths. 	<ul style="list-style-type: none"> • 6Pe.01 Use diagrams and conventional symbols to represent, make and compare circuits that include cells, switches, lamps and buzzers. • 6Pe.02 Make simple circuits and compare the brightness of lamps in series and parallel circuits.
Earth and Space						
Strand	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6
Planet Earth	<ul style="list-style-type: none"> • 1ESp.01 Know that Earth is 	<ul style="list-style-type: none"> • 2ESp.01 Describe and compare 	<ul style="list-style-type: none"> • 3ESp.01 Know that planet Earth is the source of all the 	<ul style="list-style-type: none"> • 4ESp.01 Describe the model of the structure of the 	<ul style="list-style-type: none"> • 5ESp.01 Know that the Earth is surrounded by a 	<ul style="list-style-type: none"> • 6ESp.01 Know that rocks can be classified as



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	<p>mostly covered in water.</p> <ul style="list-style-type: none"> • 1ESp.02 Describe land as being made of rock and soil. 	<p>different types of rock.</p> <ul style="list-style-type: none"> • 2ESp.02 Know rocks are extracted from the Earth in different ways, including from quarries, mines and riverbeds. • 2ESp.03 Know that human activity can affect the environment. 	<p>materials we use and that many useful materials, including oil, natural gas and metals, come from or are found in rocks.</p> <ul style="list-style-type: none"> • 3ESp.02 Know that fossils are impressions, or remains, of things that were once alive. 	<p>Earth which includes a core, a mantle and a crust.</p> <ul style="list-style-type: none"> • 4ESp.02 Describe common features of volcanoes and know they are found at breaks in the Earth's crust. • 4ESp.03 Know that the Earth's crust moves and when parts move suddenly this is called an earthquake. 	<p>layer of air called the atmosphere, which is a mixture of different gases (including nitrogen, carbon dioxide and oxygen).</p> <ul style="list-style-type: none"> • 5ESp.02 Understand that most water on Earth is not pure and has dissolved substances in it. • 5ESp.03 Understand that pollution is the introduction of substances by humans that harm the environment and identify examples of pollution. 	<p>metamorphic, igneous and sedimentary, and describe the identifying features of each type of rock.</p> <ul style="list-style-type: none"> • 6ESp.02 Describe the way fossils can form in sedimentary rocks. • 6ESp.03 Know that there are different types of soils and they can be classified based on their clay, sand and organic content. • 6ESp.04 Know that soil composition can change, which can support, or hinder, plant growth.
<p style="text-align: center;">Cycles on Earth</p>					<ul style="list-style-type: none"> • 5ESc.01 Describe the water cycle (limited to evaporation, condensation and precipitation). 	<ul style="list-style-type: none"> • 6ESc.01 Describe the rock cycle and the formation of metamorphic, igneous and sedimentary rocks in terms of solidification, erosion, sedimentation, burial, metamorphism and melting.



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Earth in space	<ul style="list-style-type: none"> • 1ESs.01 Know that Earth is the planet on which we live. • 1ESs.02 Describe the Sun as a source of heat and light, and as one of many stars. 	<ul style="list-style-type: none"> • 2ESs.01 Describe the apparent movement of the Sun during the day. 	<ul style="list-style-type: none"> • 3ESs.01 Describe the regular change in the position and appearance of the Moon. • 3ESs.02 Describe the relative movement of the Earth and Moon. • 3ESs.03 Describe the Earth, Sun and Moon as approximately spherical. 	<ul style="list-style-type: none"> • 4ESs.01 Explain why the spinning of the Earth on its axis leads to the apparent movement of the Sun, night and day, and changes in shadows. • 4ESs.02 Name the planets in the Solar System. • 4ESs.03 Know that the Sun is at the centre of the Solar System. • 4ESs.04 Know that planetary systems can contain stars, planets, asteroids and comets. 	<ul style="list-style-type: none"> • 5ESs.01 Describe the orbit of the Earth around the Sun (limited to slight ellipse, anticlockwise direction and the duration). • 5ESs.02 Describe how the tilt of the Earth can create different seasons in different places. • 5ESs.03 Know that a satellite is an object in space that orbits a larger object and a moon is a natural satellite that orbits a planet. 	<ul style="list-style-type: none"> • 6ESs.01 Describe the relative position and movement of the planets, the Moon and the Sun in the Solar System. • 6ESs.02 Observe and describe the changes in the appearance of the Moon over its monthly cycle.
Science in Context	<ul style="list-style-type: none"> • 1SIC.01 Talk about how some of the scientific knowledge and thinking now was different in the past. • 1SIC.02 Talk about how science explains how objects they use, or know about, work. • 1SIC.03 Know that everyone 	<ul style="list-style-type: none"> • 2SIC.01 Talk about how some of the scientific knowledge and thinking now was different in the past. • 2SIC.02 Talk about how science explains how objects they use, or know about, work. • 2SIC.03 Know that everyone uses science and identify people who use 	<ul style="list-style-type: none"> • 3SIC.01 Talk about how some of the scientific knowledge and thinking now was different in the past. • 3SIC.02 Talk about how science explains how objects they use, or know about, work. • 3SIC.03 Know that everyone uses science and identify people who use 	<ul style="list-style-type: none"> • 4SIC.01 Describe how scientific knowledge and understanding changes over time through the use of evidence gained by enquiry. • 4SIC.02 Describe how science is used in their local area. • 4SIC.03 Use science to support points when discussing 	<ul style="list-style-type: none"> • 5SIC.01 Describe how scientific knowledge and understanding changes over time through the use of evidence gained by enquiry. • 5SIC.02 Describe how science is used in their local area. • 5SIC.03 Use science to support points when discussing 	<ul style="list-style-type: none"> • 6SIC.01 Describe how scientific knowledge and understanding changes over time through the use of evidence gained by enquiry. • 6SIC.02 Describe how science is used in their local area. • 6SIC.03 Use science to support points when discussing



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	<p>uses science and identify people who use science professionally.</p> <ul style="list-style-type: none">• 1SIC.04 Talk about how science helps us understand our effect on the world around us.• End of worksheet	<p>science professionally.</p> <ul style="list-style-type: none">• 2SIC.04 Talk about how science helps us understand our effect on the world around us.	<p>science professionally.</p> <ul style="list-style-type: none">• 3SIC.04 Talk about how science helps us understand our effect on the world around us.	<p>issues, situations or actions.</p> <ul style="list-style-type: none">• 4SIC.04 Identify people who use science, including professionally, in their area and describe how they use science.• 4SIC.05 Discuss how the use of science and technology can have positive and negative environmental effects on their local area.	<p>issues, situations or actions.</p> <ul style="list-style-type: none">• 5SIC.04 Identify people who use science, including professionally, in their area and describe how they use science.• 5SIC.05 Discuss how the use of science and technology can have positive and negative environmental effects on their local area.	<p>issues, situations or actions.</p> <ul style="list-style-type: none">• 6SIC.04 Identify people who use science, including professionally, in their area and describe how they use science.• 6SIC.05 Discuss how the use of science and technology can have positive and negative environmental effects on their local area.
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