


Science Knowledge Progression – Biology, Chemistry and Physics

FS1		FS2		ELG	
<p>Communication and Language</p> <ul style="list-style-type: none"> Understand 'why' questions, like: "Why do you think the caterpillar got so fat?" <p>Understanding the World</p> <ul style="list-style-type: none"> Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary. Begin to make sense of their own life-story and family's history. Explore how things work. Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things. Explore and talk about different forces they can feel. Talk about the differences between materials and changes they notice. 		<p>Communication and Language</p> <ul style="list-style-type: none"> Learn new vocabulary. Ask questions to find out more and to check what has been said to them. Articulate their ideas and thoughts in well-formed sentences. Describe events in some detail. Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen. Use new vocabulary in different contexts. <p>Understanding the World</p> <ul style="list-style-type: none"> Explore the natural world around them. Describe what they see, hear and feel while they are outside. Recognise some environments that are different to the one in which they live. Understand the effect of changing seasons on the natural world around them. 		<p>Communication and Language- Listening, Attention and Understanding</p> <ul style="list-style-type: none"> Make comments about what they have heard and ask questions to clarify their understanding. <p>Understanding the World- The Natural World</p> <ul style="list-style-type: none"> 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 processes and changes in the natural world around them, including the seasons and changing states of matter. 	
Biology Content	Animals including humans	Plants	Living things and their habitats	Evolution	
<p>Year 1</p> 	<ul style="list-style-type: none"> I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. I can compare a variety of common animals including fish, amphibians, reptiles, birds and mammals. I can identify and name a variety of common animals that are 	<ul style="list-style-type: none"> I can identify different plants. I can identify and describe the basic structure of plants. I understand that plants can grow. I can name a variety of common wild plants. I can sort a variety of plants. 			

	<p>carnivores, omnivores and herbivores.</p> <ul style="list-style-type: none"> I can identify, name, draw and label the basic parts of the human body. I can identify which part of the body is associated with each sense. <p>I can compare humans.</p>	<ul style="list-style-type: none"> I can name a variety of common plants that we can eat. <p>I can identify, name and describe the basic structure of deciduous and evergreen trees.</p>		
Year 2	<ul style="list-style-type: none"> I can find out about and describe the basic needs of animals, including humans, for survival. I notice that animals, including humans have offspring which grow into adults. I can describe the importance for humans to exercise. I can describe the importance for humans to eat the right amounts of different types of food. I can describe the importance for humans to have good hygiene. I can describe the importance for humans to look after themselves. 	<ul style="list-style-type: none"> I can identify that fruit, vegetables and herbs are types of plant that we eat. I can observe and describe how seeds grow into mature plants. I know what plants need to grow and stay healthy. I can explain the life cycle of plants. 	<ul style="list-style-type: none"> I can explore and compare the differences between things that are living, dead, and things that have never been alive. I can identify and name a variety of plants and animals in their habitats, including microhabitats. I can identify and name a variety of plants and animals in their habitats. I can identify that most living things live in a habitat to which they are suited. <p>I can construct a simple food chain.</p>	
Year 3	<ul style="list-style-type: none"> I can identify that humans have bones for support, protection and movement. I can identify that some other animals have bones for support, protection and movement. 	<ul style="list-style-type: none"> I can explore the requirements of plants for life and growth. I can identify, locate and describe the function of different parts of flowering plants. 	<ul style="list-style-type: none"> 	

	<ul style="list-style-type: none"> I understand that animals, including humans, need the right type of nutrition. 	<ul style="list-style-type: none"> I can identify, locate and describe the function of the roots in plants. I can investigate the way in which water is transported within plants. I can explore the part that flowers play in the life cycle of flowering plants, including pollination. I can explore the part that flowers play in the life cycle of flowering plants, including seed formation and seed dispersal. 		
Year 4	<ul style="list-style-type: none"> I can name the basic parts of the digestive system and describe their functions. I can identify the different teeth and describe their functions. I can construct and interpret a variety of food chains. I understand what producers, predators and prey are. 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> I can recognise that living things can be grouped in a variety of ways. I can explore and use classification keys to help group, identify and name a variety of living things in my local environment. <p>I can recognise that environments can change and that this can sometimes pose dangers to living things.</p>	
Year 5	<ul style="list-style-type: none"> I can describe the human life cycle. I understand how a foetus develops in the womb. I can describe what happens when I am a teenager. I can describe what happens when I am a senior. 		<ul style="list-style-type: none"> I can discuss the seven life processes. I can explain how mammals I can explain how animals I understand reproduction in plants. I can describe the differences in the life cycles of mammals, 	

			<p>amphibians, reptiles, insects and birds.</p> <ul style="list-style-type: none"> I can explain the life cycle of plants. 	
Year 6	<ul style="list-style-type: none"> I can identify and name the main parts of the human circulatory system. I can identify and name the main parts of the heart. I can describe how water and nutrients are transported in humans. I can identify how humans can live a healthy lifestyle. 		<ul style="list-style-type: none"> I can describe how living things can be classified into broad groups. I understand how I can use classification keys to help group, identify and name a variety of living things. I can describe how living things can be classified into broad groups. I understand that microorganisms are also living things. I can describe how living things can be classified into broad groups. I know that scientists have developed different ways to classify living things. 	<ul style="list-style-type: none"> I can identify how plants are adapted to their environment. I can identify how animals are adapted to their environment. I can explain natural selection and how it may lead to evolution. I can explain how adaptations may lead to evolution. I can recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents. <p>I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</p>
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Chemistry Content	Materials	Rocks	States of Matter
Year 1	<ul style="list-style-type: none"> I can identify a variety of everyday materials. 		

	<ul style="list-style-type: none"> I can describe the physical properties of a variety of everyday materials. I can distinguish between an object and the material from which it is made. I can compare and group together a variety of everyday materials on the basis of their simple physical properties. 		
Year 2	<ul style="list-style-type: none"> I can identify a variety of everyday materials. I can distinguish between an object and the material it is made from. I can investigate the properties of different materials. 		
Year 3		<ul style="list-style-type: none"> I can identify a variety of everyday materials. I can distinguish between an object and the material it is made from. I can investigate the properties of different materials. 	
Year 4			<ul style="list-style-type: none"> I can identify solids, liquids and gases. I can take accurate measurements using thermometers. I can observe that some materials change state when they are heated or cooled. I can identify the part played by evaporation and condensation in the water

			<p>cycle.</p> <ul style="list-style-type: none"> I can associate the rate of evaporation with temperature.
Year 5	<ul style="list-style-type: none"> I can compare and group materials according to whether they are solids, liquids or gases and name their properties. I can describe the properties of materials using scientific vocabulary. I can investigate the thermal insulation of different materials. I can compare and group materials based on their response to magnets. I know that some materials dissolve in a liquid to make a solution. I can predict how I could separate mixtures. I can explain why some changes are irreversible. 		
Year 6			

Physics Content	Forces and magnets	Seasonal change	Earth and space	Electricity	Sound	Light
Year 1		<ul style="list-style-type: none"> I can observe and describe changes across the four 				

		<p>seasons.</p> <ul style="list-style-type: none"> • I can observe how day length varies. • I can describe weather associated with the seasons. 				
Year 2						
Year 3	<ul style="list-style-type: none"> • I can compare how different things move. • I can compare how objects move on different surfaces • I can explore how magnetic forces act at a distance. • I can compare and group various everyday materials based on whether they are attracted to a magnet. • I can predict whether two magnets will attract or repel each other, depending on which poles are facing. • I can record my findings using simple scientific vocabulary. 				<ul style="list-style-type: none"> • I can recognise that there needs to be light in order to see things and that darkness is the absence of light • I can notice that light is reflected from surfaces. • I can recognise that light from the Sun can be dangerous and that there are ways to protect your eyes and skin from the Sun. • I can recognise that shadows are formed when light from a light source is blocked by an opaque object. • I know that shadows take on the shape of the opaque object. 	

						<ul style="list-style-type: none"> I can predict where a shadow will form in relation to an opaque object and a light source. I can find patterns in the way that the length of shadows change.
Year 4				<ul style="list-style-type: none"> I can identify common appliances that use electricity. I can construct a simple circuit and name the parts of the circuit. I can identify if a bulb will light up in a circuit. I can recognise common conductors and insulators. I can investigate switches. 		
Year 5	<ul style="list-style-type: none"> I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and falling objects. I can identify the effect of friction between moving surfaces. I can identify the effect of air resistance. I can identify the 		<ul style="list-style-type: none"> I can describe the planets in the solar system. I can describe the Sun, Earth and Moon as approximately spherical bodies. I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system. I can describe the 	<ul style="list-style-type: none"> 		

	<p>effect of water resistance.</p> <ul style="list-style-type: none"> I can recognise that some mechanisms including levers, pulleys and gears allow a smaller force to have a greater effect. 		<p>movement of the Moon relative to the Earth.</p> <ul style="list-style-type: none"> I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. I can describe the movement of the Moon relative to the Earth. 			
<p>Year 6</p> 				<ul style="list-style-type: none"> I can use symbols when drawing a simple circuit diagram. I can associate the brightness of a lamp with the number and voltage of cells used in the circuit. I can investigate variations in how components function. I can name renewable and non-renewable sources of energy. 		<ul style="list-style-type: none"> I can recognise that light appears to travel in straight lines. I can 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. I can explain how the eye works. I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. I can explain how shadows change during the day.