

Science Knowledge Cover Biology Focus	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animals including humans	<p>UTW- The World 30-50 mths Can talk about some of the things they have observed such as plants, animals, natural and found objects. Talks about why things happen and how things work. <i>Developing an understanding of growth, decay and changes over time.</i></p> <p>40-60 mths Looks closely at similarities, differences, pattern and change. Early Learning Goal Children know about similarities and differences in relation to living things. They make observations of animals and <i>explain why some things occur, and talk about changes.</i></p> <p>Exceeding Children know that the environment and living things are influenced by human activity.</p> <p>PD- Health and self-care Early Learning Goal <i>Children know the importance for good health of physical exercise and a healthy diet, and talk about ways to keep healthy and safe. They manage their own basic hygiene and personal needs successfully,</i></p> <p>Exceeding <i>Children know about and can make healthy choices in relation to healthy eating and exercise</i></p>	<ul style="list-style-type: none"> • identify and name a variety of common animals including fish, amphibians, reptiles, birds and 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 and 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. 	<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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 other animals have skeletons and muscles for support, protection and movement. 	<ul style="list-style-type: none"> • 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. • construct and interpret a variety of food chains, identifying producers, predators and prey 	<ul style="list-style-type: none"> • describe the changes as humans develop to old age 	<ul style="list-style-type: none"> • 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 • describe the ways in which nutrients and water are transported within animals, including humans
Living things and their habitats	<p>UTW- The World 30-50 mths <i>Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world. Shows care and concern for living things and the environment.</i> Talks about why things happen and how things work.</p> <p>40-60 mths</p>		<ul style="list-style-type: none"> • Explore and compare the differences between things that are living, dead, and things that have never been alive. • identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • identify and name a variety of plants and animals in their 		<ul style="list-style-type: none"> • recognise that living things can be grouped in a variety of ways explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • Recognise that environments can change and that this can sometimes pose dangers to living things. 	<ul style="list-style-type: none"> • 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 • know the parts of a plant involved in reproduction 	<ul style="list-style-type: none"> • 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

	<p>Looks closely at similarities, differences, pattern and change</p> <p>Early Learning Goal Children know about similarities and differences in relation to living things. • They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p> <p>Exceeding Children know that the environment and living things are influenced by human activity. They can describe some actions which people in their own community do that help to maintain the area they live in.</p>		<p>habitats, including micro-habitats</p> <ul style="list-style-type: none"> describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. 				
Plants	<p>UTW- The World 30-50 mths Can talk about some of the things they have observed such as plants, animals, natural and found objects. Developing an understanding of growth, decay and changes over time. Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change</p> <p>Early Learning Goal Children know about similarities and differences in relation to living things. They make observations of plants and explain why some things occur, and talk about changes.</p> <p>Exceeding Children know that the environment and living things are influenced by human activity. They can describe some actions which people in their own community do that help to maintain the area they live in.</p>	<ul style="list-style-type: none"> identify and name a variety of common wild and garden plants, including deciduous and evergreen trees identify and describe the basic structure of a variety of common flowering plants, including trees. 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how they vary from plant to plant investigate the way in which water is transported within plants. explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. 			
Evolution and inheritance	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p>						<ul style="list-style-type: none"> recognise that living things have changed over time and that fossils provide information about living things

	<p>40-60 mths Looks closely at similarities, differences, pattern and change</p> <p>Early Learning Goal Children know about similarities and differences in relation to living things. They explain why some things occur, and talk about changes.</p> <p>Exceeding Children know that the environment and living things are influenced by human activity.</p>						<p>that inhabited the Earth millions of years ago (Link to Rocks, within chemistry focus)</p> <ul style="list-style-type: none"> 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
Science Knowledge Cover Chemistry Focus	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Everyday Materials/ changes in materials/ states of matter	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to objects and materials</p> <p>Exceeding They know the properties of some materials and can suggest some of the purposes they are used for.</p>	<ul style="list-style-type: none"> Distinguish between an object and the materials 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 variety of everyday materials on the basis of their simple physical properties. 	<ul style="list-style-type: none"> Identify and compare suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. Find out how the shapes of solid objects are made from some materials can be changed by squashing, bending, twisting and stretching. 	<p>ROCKS:</p> <ul style="list-style-type: none"> Compare and group together different kinds on the basis of their appearance and simple physical properties. Describe in simple terms how fossils are formed when things have lived are trapped within a rock. (link to evolution, Y6) Recognise that soils are made from rocks and organic matter. 	<ul style="list-style-type: none"> Compare and group materials together, according to whether they are solids, liquids of gases. Observe that some materials change state when they are heated or cooled and measure of research the temperature at which this happens in degrees Celsius. Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with the temperature. 	<ul style="list-style-type: none"> Compare and group together everyday materials on the basis of their properties, including hardness, solubility, transparency, conductivity and response to magnets. Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. Give reasons, based on evidence from comparative and fair tests, for uses of materials including metals, wood and plastic. Demonstrate that dissolving, mixing and changes of state are reversible changes. Explain that some changes results in new materials and that this kind of change is not usually reversible. 	
Science Knowledge Cover Physics Focus Light	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to objects</p>			<ul style="list-style-type: none"> 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 			<ul style="list-style-type: none"> 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

				<ul style="list-style-type: none"> find patterns in the way that the size of shadows change. 			shadows have the same shape as the objects that cast them.
Sound	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to objects</p>				<ul style="list-style-type: none"> identify how sounds are made, associating some of them with something vibrating recognise that vibrations from sounds travel through a medium to the ear find patterns between the pitch of a sound and features of the object that produced it find patterns between the volume of a sound and the strength of the vibrations that produced it recognise that sounds get fainter as the distance from the sound source increases. 		
Forces and Magnets	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to objects</p> <p>Exceeding They are familiar with basic scientific concepts such as floating, sinking, experimentation.</p>			<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. identify the effects of air resistance, water resistance and friction, that act between moving surfaces recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect. 		
Electricity	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to objects</p>				<ul style="list-style-type: none"> 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 		<ul style="list-style-type: none"> 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.

					associate metals with being good conductors		
Seasonal changes / Earth and Space	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p> <p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to places/objects</p>	<ul style="list-style-type: none"> • observe changes across the four seasons • observe and describe weather associated with the seasons and how day length varies 				<ul style="list-style-type: none"> • 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. 	
Science Knowledge Cover Physics Focus		<ul style="list-style-type: none"> • Distinguish between an object and the materials from which it is made. • Identity 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 variety of everyday materials on the basis of their simple physical properties 	<ul style="list-style-type: none"> • Identify and compare suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. • Find out how the shapes of solid objects are made from some materials can be changed by squashing, bending, twisting and stretching. 	<p>ROCKS:</p> <ul style="list-style-type: none"> • Compare and group together different kinds on the basis of their appearance and simple physical properties. • Describe in simple terms how fossils are formed when things have lived are trapped within a rock. • Recognise that soils are made from rocks and organic matter. 	<ul style="list-style-type: none"> • 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 of research the temperature at which this happens in degrees Celsius. • Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with the temperature. 	<ul style="list-style-type: none"> • Compare and group together everyday materials on the basis of their properties, including hardness, solubility, transparency, conductivity and response to magnets. • Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution. • Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • Give reasons, based on evidence from comparative and fair tests, for uses of materials including metals, wood and plastic. • Demonstrate that dissolving, mixing and changes of state are reversible changes. • Explain that some changes results in new materials and that this kind of change is not usually reversible. 	
Earth and space	<p>UTW- The World 30-50 mths Talks about why things happen and how things work.</p>					<ul style="list-style-type: none"> • Describe the movement of the Earth and other planets relative to the 	

	<p>40-60 mths Looks closely at similarities, differences, pattern and change.</p> <p>Early Learning Goal know about similarities and differences in relation to places/objects</p>					<p>sun in the solar system.</p> <ul style="list-style-type: none">• Describe the movement of the moon relate 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.	
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