



## Science Progression in Knowledge

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EYFS	KS1		LKS2		UKS2	
			ORANGE = Year 3 objectives		ORANGE = Year 5 objectives	
			GREEN= Year 4 objectives		GREEN= Year 6 objectives	
	Year 1 Expected	Year 2 Expected	Year A	Year B	Year A	Year B
Animals including humans						
To comment and asks questions about aspects of their familiar world such as the place where they live or the natural world.	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.	Notice that animals, including humans, have offspring which grow into adults.	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.		Describe the changes as humans develop to old age.	
			Describe the simple functions of basic parts of the digestive system in humans.		Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood	
			Identify the different types of teeth in humans and their simple functions.			
To shows care and concern for living things and the environment.	Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	Find out about and describe the basic needs of animals, including humans, for survival	Identify that humans and some other animals have skeletons and muscles for support, protection and movement		Recognise the impact of diet, exercise, drugs and lifestyle and the way their bodies function	

			Construct and interpret a variety of food chains, identifying producers, predators and prey.			
To make observations of animals and plants and explain why some things occur, and talk about changes.	Describe and compare the structure of a variety of common animals	Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.			Describe the ways in which nutrients and water are transported within animals including humans	
<p><b>Curricular Aims:</b></p> <p><b>Nursery:</b> Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.</p> <p><b>Reception:</b> Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.</p>	Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.					
<b>Living things and their habitats</b>						
<p><b>Curricular Aims:</b></p> <p><b>Nursery:</b> Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions,</p>		Explore and compare the differences between things that are living, dead, and things that have never been alive.	Recognise that living things can be grouped in a variety of ways.			Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.

<p>showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.</p> <p><b>Reception:</b>          Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.</p>						<p>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</p>
		<p>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.</p>	<p>Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p>			<p>Describe the life process of reproduction in some plants and animals.</p> <p>Give reasons for classifying plants and animals based on specific characteristics</p>
		<p>Identify and name a variety of plants and animals in their habitats, including micro-habitats.</p>	<p>Recognise that environments can change and that this can sometimes pose dangers to living things.</p>			
		<p>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.</p>				

**Curricular Aims:**

**Nursery:**

Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.

**Reception:**

Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more. Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.

Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.

Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents.

Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.

<p>To talk about some of the things they have observed such as plants, animals, natural and found objects.</p>	<p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants.</p>		<p>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p>		
<p>To develop an understanding of growth, decay and changes over time.</p>	<p>Identify and describe the basic structure of a variety of common flowering plants, including trees.</p>	<p>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>		<p>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.</p>		
<p><b>Curricular Aims:</b>  <b>Nursery:</b>          Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.  <b>Reception:</b>          Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more. Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.</p>				<p>Investigate the way in which water is transported within plants.</p>		

To shows care and concern for living things and the environment.				Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.		
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**Everyday Materials and their uses & properties and changes of materials**

To choose different materials for a particular purpose.	Distinguish between an object and the material from which it is made.	Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.				Compare/group together materials on the basis of their properties, including their hardness, solubility, transparency, conductivity and response to magnets
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To understand and talk about similarities and differences in relation to different materials.	Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.	Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.				Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.
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live and around the world.						
	Compare and group together a variety of everyday materials on the basis of their simple physical properties.					Demonstrate that dissolving, mixing and changes of state are reversible changes.
						Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda

**States of Matter**

<p><b>Curricular Aims:</b></p> <p><b>Nursery:</b> Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.</p> <p><b>Reception:</b> Show curiosity about the world in which I live and talk about my local area. Share own knowledge</p>				Compare and group materials together, according to whether they are solids, liquids or gases		
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and ask questions of others to find out more Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.						
				Observe that some materials change state when they are heated or cooled and measure 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 temperature.		

**Rocks**

<p><b>Curricular Aims:</b></p> <p><b>Nursery:</b> Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.</p> <p><b>Reception:</b> Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more Appreciate some similarities and differences between,</p>			Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.			
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lives, cultures and religions, both where I live and around the world.						
			Describe in simple terms how fossils are formed when things that have lived are trapped within rock.			
			Recognise that soils are made from rocks and organic matter.			

### Seasonal Changes

To comment and asks questions about aspects of their familiar world such as the place where they live or the natural world.	Observe and describe weather associated with the seasons and how day length varies.					
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live and around the world.

## Light

### Curricular Aims:

#### Nursery:

Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.

#### Reception:

Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more. Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.

Recognise that they need light in order to see things and that dark is the absence of light.

Recognise that light appears to travel in straight lines.

Notice light is reflected from surfaces.

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.

Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.

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.

Recognise that shadows are formed when light from a source is blocked by a solid object.

Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

				Find patterns in the way that the size of shadows change.		
<b>Sound</b>						
<p><b>Curricular Aims:</b></p> <p><b>Nursery:</b> Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.</p> <p><b>Reception:</b> Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more. Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.</p>				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 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.		
<b>Forces and Magnets</b>						

<p><b>Curricular Aims:</b></p> <p><b>Nursery:</b> Talk about my immediate family and experiences that I have had chatting in everyday play and focused sessions, showing the ability to concentrate, think through and extend ideas and real and imaginary thoughts with others.</p> <p><b>Reception:</b> Show curiosity about the world in which I live and talk about my local area. Share own knowledge and ask questions of others to find out more. Appreciate some similarities and differences between, lives, cultures and religions, both where I live and around the world.</p>			<p>Compare how things move on different surfaces.</p> <p>Notice some forces need contact between 2 objects, but magnetic forces can act at a distance</p>		<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p>	
			<p>Observe how magnets attract or repel each other and attract some materials and not others.</p>		<p>Identify the effects of air resistance, water resistance, and friction that act between moving surfaces.</p>	
			<p>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.</p>		<p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	
			<p>Describe magnets as having two poles. Predict whether two magnets will attract or repel each</p>			

			other, depending on which poles are facing.			
<b>Electricity</b>						
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				Construct a simple series circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.		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
				Identify whether 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.		Use recognised symbols when representing a simple circuit in a diagram.
				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 common conductors / insulators and associate metals with being good conductors.		

**Earth and Space**

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					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.