



Wheelock
Primary School

Science Progression in knowledge

**Red statements link from different units.*

Wheelock Science Progression in Knowledge

	EYFS	Step One	Step Two	Step Three	Step Four	Step Five	Step Six
BIOLOGY							
Plants	<i>Children know about similarities and differences in relation to places, objects, materials and 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.</i>	<ul style="list-style-type: none"> I can name a variety of common wild and garden plants. I can name the petals, stem, leaf and root of a plant. I can name the root, trunk, branches and leaves of a tree. <i>I can sort living and non-living things.</i> 	<ul style="list-style-type: none"> I can describe how and what plants need in order to grow and stay healthy (water, light, and suitable temperature) <i>I can identify and name plants and animals in a range of habitats.</i> 	<ul style="list-style-type: none"> I can describe the parts of plants and trees. I can explore and describe the needs of different plants for survival. I can explore and describe how water is transported within plants. I can describe the plant life cycle, especially the importance of flowers. 	<ul style="list-style-type: none"> <i>I can use classification keys to group, identify and name living things.</i> <i>I can create classification keys to group, identify and name living things (for other use).</i> <i>I can describe how changes to an environment could endanger living things.</i> 	<ul style="list-style-type: none"> <i>I can describe the differences between different life cycles.</i> <i>I can describe the process of reproduction in plants.</i> 	<ul style="list-style-type: none"> <i>I can classify living things into groups based on characteristics, similarities and differences.</i> <i>I can describe how living things have been classified.</i> <i>I can give reasons for classifying plants and animals in a specific way.</i> <i>I can explain how animals and plants are adapted to suit their environments.</i>
Animals, including humans	<i>Children know about similarities and differences in relation to places, objects, materials and 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.</i>	<ul style="list-style-type: none"> I can name a variety of animals including fish, amphibians, reptiles, birds and mammals. I can classify and name animals by what they eat (carnivore, herbivore and omnivore). I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals). I can sort living and non-living things. I can name parts of the human body that I can see. I can link the correct part of the human body to each sense. 	<ul style="list-style-type: none"> I can explain the basic stages of the life cycle including humans. I can describe what animals and humans need to survive. I can describe why exercise, a balanced diet and good hygiene are important for humans. <i>I can describe how animals find their food and explain a simple food chain.</i> <i>I can name some different sources of food for animals.</i> 	<ul style="list-style-type: none"> I can explain the importance of a nutritious and balanced diet. I can explain how nutrients, water and oxygen are transported within animals and humans. I can describe and explain the skeletal system of a human. I can describe and explain the muscular system of a human. I can describe the purpose of the skeleton in humans and animals. 	<ul style="list-style-type: none"> I can identify and name parts of the human digestive system. I can describe the functions of the organs in the human digestive system. I can identify and describe the different types of teeth in humans. I can describe the functions of different human teeth. I can use food chains to identify producers, predators and prey. I can construct food chains to identify producers, predators and prey. 	<ul style="list-style-type: none"> I can create a timeline to indicate stages of growth in humans. <i>I can describe the life cycle of different living things (mammals, amphibians, insects and birds).</i> <i>I can describe the differences between different life cycles.</i> <i>I can describe the process of reproduction in plants.</i> <i>I can describe the process of reproduction in animals.</i> 	<ul style="list-style-type: none"> I can identify and name the main parts of the human circulatory system. I can describe the function of the heart, blood vessels and blood. I can discuss the impact of diet, exercise, drugs and lifestyle on health. I can describe the way in which nutrients and water are transported in animals, including humans. <i>I can explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).</i> <i>I can explain how animals and plants are adapted to suit their environments.</i>

<p>Living things and habitats</p>	<p>Children know about similarities and differences in relation to places, objects, materials and 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>	<ul style="list-style-type: none"> • I can name a variety of common wild and garden plants. • I can name the petals, stem, leaf and root of a plant. • I can name the root, trunk, branches and leaves of a tree. • I can classify and name animals by what they eat (carnivore, herbivore and omnivore). • I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals). • I can sort living and non-living things. • I can observe and comment on the changes in the seasons. 	<ul style="list-style-type: none"> • I can identify things that are living, dead and never lived. • I can describe how a specific habitat provides for the basic needs of living things there (plants and animals). • I can identify and name plants and animals in a range of habitats. • I can match living things to their habitat. • I can describe how animals find their food and explain a simple food chain. • I can name some different sources of food for animals. • I can explain the basic stages of the life cycle including humans. 	<ul style="list-style-type: none"> • I can describe the plant life cycle, especially the importance of flowers. 	<ul style="list-style-type: none"> • I can use classification keys to group, identify and name living things. • I can create classification keys to group, identify and name living things (for other use). • I can describe how changes to an environment could endanger living things. • I can use food chains to identify produces, predators and prey. • I can construct food chains to identify producers, predators and prey. 	<ul style="list-style-type: none"> • I can describe the life cycle of different living things (mammals, amphibians, insects and birds). • I can describe the differences between different life cycles. • I can describe the process of reproduction in plants. • I can describe the process of reproduction in animals. 	<ul style="list-style-type: none"> • I can classify living things into groups based on characteristics, similarities and differences. • I can describe how living things have been classified. • I can give reasons for classifying plants and animals in a specific way. • I can describe how the earth and living things have changed over time. • I can explain about reproduction and offspring (recognising that offspring normally vary and are identical to their parents). • I can explain how animals and plants are adapted to their environment.
<p>Evolution and Inheritance</p>	<p>Children know about similarities and differences in relation to places, objects, materials and 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>		<ul style="list-style-type: none"> • I can describe how a specific habitat provides for the basic needs of living things there (plants and animals). • I can explain the basic stages of the life cycle including humans. 	<ul style="list-style-type: none"> • I can describe how fossils are formed. • I can describe the plant life cycle, especially the importance of flowers. 	<ul style="list-style-type: none"> • I can describe how changes to an environment could endanger living things. 	<ul style="list-style-type: none"> • I can describe the process of reproduction in plants. • I can describe the process of reproduction in animals. • I can create a timeline to indicate stages of growth in humans. 	<ul style="list-style-type: none"> • I can describe how the earth and living things have changed over time. • I can explain how fossils can be used to find out about the past. • I can explain about reproduction and offspring (recognising that offspring normally vary and are identical to their parents). • I can explain how animals and plants are adapted to their environment.

CHEMISTRY

<p>Everyday materials</p> <p>(including states of matters/ material changes)</p>	<p>Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They</p>	<ul style="list-style-type: none"> • I can distinguish between an object and the material it is made from. • I can explain the materials that an object is made from. • I can name wood, plastic, glass, metal, water and rock. • I can describe the properties of everyday materials. 	<ul style="list-style-type: none"> • I can identify and name a range of materials, wood, plastic, metal, glass, brick, rock, paper and cardboard. • I can suggest why a material might or might not be used for a specific job. • I can explore how shapes can be changed by squashing, 	<ul style="list-style-type: none"> • I can explore and describe how objects move on different surfaces. • I can explain how some forces require contact and some do not and give examples. • I can explore and explain how objects attract and repel in relation to objects and other magnets. 	<ul style="list-style-type: none"> • I can group materials based on their state of matter (solid, liquid, gas). • I can describe how some materials can change state. • I can explore how materials change state. 	<ul style="list-style-type: none"> • I can compare and group materials based on their properties (hardness, solubility, transparency, conductivity and response to magnets). • I can describe how a material dissolves to form a solution, explaining the process of dissolving. 	
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	<i>make observations of animals and plants and explain why some things occur and talk about changes.</i>	<ul style="list-style-type: none"> I can group objects based on the materials they are made from. 	bending, twisting and stretching.	<ul style="list-style-type: none"> <i>I can compare and group rocks based on their appearance and physical properties.</i> <i>I can describe how fossils are formed.</i> 	<ul style="list-style-type: none"> I can measure the temperature at which materials change state. I can describe the water cycle. <p>I can explain the part played by evaporation and condensation in the water cycle.</p>	<ul style="list-style-type: none"> I can describe and show how to recover a substance from a solution. I can describe how some materials can be separated (e.g. through filtering, sieving and evaporating). I know and can demonstrate that some changes are reversible and some are not. I can explain how some changes result in the formation of a new material and that this usually irreversible. 	
Rocks	<i>Children know about similarities and differences in relation to places, objects, materials and 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.</i>	<ul style="list-style-type: none"> <i>I can distinguish between an object and the material it is made from.</i> <i>I can explain the materials that an object is made from.</i> <i>I can name wood, plastic, glass, metal, water and rock.</i> 	<ul style="list-style-type: none"> <i>I can identify and name a range of materials, wood, plastic, metal, glass, brick, rock, paper and cardboard.</i> <i>I can suggest why a material might or might not be used for a specific job.</i> 	<ul style="list-style-type: none"> I can compare and group rocks based on their appearance and physical properties. I can describe how fossils are formed. I can describe how soil is made. I can describe and explain the difference between sedimentary and igneous rock. 			<ul style="list-style-type: none"> <i>I can explain how fossils can be used to find out about the past.</i>

PHYSICS

Light	<i>Children know about similarities and differences in relation to places, objects, materials and 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.</i>	<ul style="list-style-type: none"> <i>I can observe and comment on the changes in the seasons.</i> <i>I can name the seasons and suggest the type of weather in each season</i> 		<ul style="list-style-type: none"> I can explain that dark is the absence of light. I can explain that light is needed in order to see. I can explain that light is reflected from a surface. I can explain and demonstrate how a shadow is formed. I can explore shadow size and explain my findings. I can explain the danger of direct sunlight and describe how to keep protected. 		<ul style="list-style-type: none"> <i>I can compare and group materials based on their properties (hardness, solubility, transparency, conductivity and response to magnets).</i> <i>I can describe and explain the movement of the moon relative to the Earth.</i> <i>I can explain and demonstrate how night and day are created.</i> 	<ul style="list-style-type: none"> I can explain how light travels. I can explain and demonstrate how we see objects. I can explain why shadows have the same shape as the object that casts them. I can explain how simple optical instruments work e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.
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<p>Forces</p>	<p>Children know about similarities and differences in relation to places, objects, materials and 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>		<ul style="list-style-type: none"> • I can explore how shapes can be changed by squashing, bending, twisting and stretching. 	<ul style="list-style-type: none"> • I can explore and describe how objects move on different surfaces. • I can explain how some forces require contact and some do not and give examples. • I can explore and explain how objects attract and repel in relation to objects and other magnets. • I can predict whether objects will be magnetic and carry out an enquiry to test this out. • I can describe how magnets work. <p>I can predict whether magnets will attract or repel and give a reason.</p>		<ul style="list-style-type: none"> • I can explain what gravity is and its impact on our lives. • I can identify and explain the effect of air resistance. • I can identify and explain the effect of friction. • I can explain how levers, pulleys and gears allow a smaller force to have a greater effect. 	
<p>Electricity</p>	<p>Children know about similarities and differences in relation to places, objects, materials and 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>		<ul style="list-style-type: none"> • I can identify things that are living, dead and never lived. 		<ul style="list-style-type: none"> • I can identify and name appliances that require electricity to function. • I can construct a series circuit. • I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers). • I can draw a circuit diagram. • I can predict and test whether a lamp will light within a circuit. • I can describe the function of a switch in a circuit. • I can describe the difference between conductors and insulators and give examples of each. 		<ul style="list-style-type: none"> • I can explain how the number and voltage of cells in a circuit links to the brightness of a lamp and the volume of a buzzer. • I can compare and give reasons for why components work and not work in a circuit. • I can draw circuit diagrams using correct symbols.
<p>Sound</p>	<p>Children know about similarities and differences in relation to places, objects, materials and 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>	<ul style="list-style-type: none"> • I can name parts of the human body that I can see. • I can link the correct part of the human body to each sense. 	<p>I can explain the basic stages of the life cycle including humans.</p>		<ul style="list-style-type: none"> • I can describe how sound is made. • I can explain how sound travels from a source to our ears. • I can explain the place of vibration in hearing. • I can explore the correlation between pitch and the object producing a sound. • I can explore the correlation between the volume of a sound and the vibrations that produced it. 	<p>I can create a timeline to indicate stages of growth in humans.</p>	<ul style="list-style-type: none"> • I can explain how sound travels. (L11 KNOWLEDGE ON SOUND TRAVEL)

					<ul style="list-style-type: none"> • I can describe what happens to a sound as it travels away from its source. 	
Earth and Space	<p>Children know about similarities and differences in relation to places, objects, materials and 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>	<ul style="list-style-type: none"> • I can observe and comment on the changes in the seasons. • I can name the seasons and suggest the type of weather in each season. 				<ul style="list-style-type: none"> • I can describe and explain the movement of the Earth and other planets in relation to the sun. • I can describe and explain the movement of the moon relative to the Earth. • I can explain and demonstrate how night and day are created. • I can describe the Sun, Earth and Moon (using the term spherical).
Seasonal changes	<p>Children know about similarities and differences in relation to places, objects, materials and 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>	<ul style="list-style-type: none"> • I can observe and comment on the changes in the seasons. • I can name the seasons and suggest the type of weather in each season. 		<ul style="list-style-type: none"> • I can explain the danger of direct sunlight and describe how to keep protected. 		<ul style="list-style-type: none"> • I can describe and explain the movement of the Earth and other planets in relation to the sun. • I can explain and demonstrate how night and day are created.