



Wheelock  
Primary School

# Science Unit Mapping

*Cycle A and B to be taught*

*as a rolling curriculum, so children leaving each key stage will have covered the required teaching and learning for their age group.*

# Wheelock Science Unit Mapping- two year cycle

A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	<p><i>Science to be taught through EYFS topics and related early learning goals.</i>            Areas will include: Seasonal Changes / Properties of materials / States of Matter / Animals / Minibeasts / Space / Floating and Sinking / Plants / Health / Exercise</p> <p style="text-align: right;"><i>See separate EYFS document with science links to EYFS goals.</i></p>					
Year 1/2	<p style="text-align: center;"><b><u>Plants</u></b> <b><u>(Step 1 and 2)</u></b></p> <ul style="list-style-type: none"> <li>• I can name a variety of common wild and garden plants.</li> <li>• I can name the petals, stem, leaf and root of a plant.</li> <li>• I can name the root, trunk, branches and leaves of a tree.</li> <li>• I can describe how and what plants need in order to grow and stay healthy (water, light, and suitable temperature)</li> </ul> <p><b><u>Sessions on Autumn Seasonal Changes</u></b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on the changes in the seasons.</li> </ul>	<p style="text-align: center;"><b><u>Everyday Materials</u></b> <b><u>(Step 1)</u></b></p> <ul style="list-style-type: none"> <li>• I can distinguish between an object and the material it is made from.</li> <li>• I can explain the materials that an object is made from.</li> <li>• I can name wood, plastic, glass, metal, water and rock.</li> <li>• I can describe the properties of everyday materials.</li> <li>• I can group objects based on the materials they are made from.</li> </ul>	<p style="text-align: center;"><b><u>Seasonal Changes</u></b> <b><u>(Step 1)</u></b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on the changes in the seasons.</li> <li>• I can name the seasons and suggest the type of weather in each season.</li> </ul>	<p style="text-align: center;"><b><u>Animals, including Humans (Step 1)</u></b></p> <ul style="list-style-type: none"> <li>• I can name a variety of animals including fish, amphibians, reptiles, birds and mammals.</li> <li>• I can classify and name animals by what they eat (carnivore, herbivore and omnivore).</li> <li>• I can sort animals into categories (including fish, amphibians, reptiles, birds and mammals).</li> <li>• I can sort living and non-living things.</li> <li>• I can name parts of the human body that I can see.</li> <li>• I can link the correct part of the human body to each sense.</li> </ul> <p><b><u>Sessions on Summer Seasonal Changes</u></b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on the changes in the seasons.</li> </ul>		
Year 3/4	<p style="text-align: center;"><b><u>Rocks</u></b> <b><u>(Step 3)</u></b></p> <ul style="list-style-type: none"> <li>• I can compare and group rocks based on their appearance and physical properties.</li> <li>• I can describe how fossils are formed.</li> <li>• I can describe how soil is made.</li> </ul> <p>I can describe and explain the difference between sedimentary and igneous rock.</p>	<p style="text-align: center;"><b><u>Electricity</u></b> <b><u>(step 4)</u></b></p> <ul style="list-style-type: none"> <li>• I can identify and name appliances that require electricity to function.</li> <li>• I can construct a series circuit.</li> <li>• I can identify and name the components in a series circuit (including cells, wires, bulbs, switches and buzzers).</li> </ul>	<p style="text-align: center;"><b><u>States of Matter</u></b> <b><u>(Step 4)</u></b></p> <ul style="list-style-type: none"> <li>• I can group materials based on their stage of matter (solid, liquid, gas).</li> <li>• I can describe how some materials can change state.</li> <li>• I can explore how materials change state.</li> <li>• I can measure the temperature at which materials change state.</li> </ul>	<p style="text-align: center;"><b><u>Sound</u></b> <b><u>(Step 4)</u></b></p> <ul style="list-style-type: none"> <li>• I can describe how sound is made.</li> <li>• I can explain how sound travels from a source to our ears.</li> <li>• I can explain the place of vibration in hearing.</li> <li>• I can explore the correlation between pitch and the object producing a sound.</li> </ul>	<p style="text-align: center;"><b><u>Animals, including Humans (Step 4)</u></b></p> <ul style="list-style-type: none"> <li>• I can identify and name parts of the human digestive system.</li> <li>• I can describe the functions of the organs in the human digestive system.</li> <li>• I can identify and describe the different types of teeth in humans.</li> <li>• I can describe the functions of different human teeth.</li> <li>• I can use food chains to identify producers, predators and prey.</li> <li>• I can construct food chains to identify producers, predators and prey.</li> </ul>	

		<ul style="list-style-type: none"> <li>• I can draw a circuit diagram.</li> <li>• I can predict and test whether a lamp will light within a circuit.</li> <li>• I can describe the function of a switch in a circuit.</li> <li>• I can describe the difference between conductors and insulators and give examples of each.</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe the water cycle.</li> <li>• I can explain the part played by evaporation and condensation in the water cycle.</li> </ul>	<ul style="list-style-type: none"> <li>• I can explore the correlation between the volume of a sound and the vibrations that produced it.</li> <li>• I can describe what happens to a sound as it travels away from its source.</li> </ul>	
Year 5/6	<p style="text-align: center;"><b><u>Forces</u></b> <b><u>(Step 5)</u></b></p> <ul style="list-style-type: none"> <li>• I can explain what gravity is and its impact on our lives.</li> <li>• I can identify and explain the effect of air resistance.</li> <li>• I can identify and explain the effect of friction.</li> <li>• I can explain how levers, pulleys and gears allow a smaller force to have a greater effect.</li> </ul>	<p style="text-align: center;"><b><u>Earth and Space</u></b> <b><u>(Step 5)</u></b></p> <ul style="list-style-type: none"> <li>• I can describe and explain the movement of the Earth and other planets in relation to the sun.</li> <li>• I can describe and explain the movement of the moon relative to the Earth.</li> <li>• I can explain and demonstrate how night and day are created.</li> <li>• I can describe the Sun, Earth and Moon (using the term spherical).</li> </ul>	<p style="text-align: center;"><b><u>Properties of materials</u></b> <b><u>(Step 5)</u></b></p> <ul style="list-style-type: none"> <li>• I can compare and group materials based on their properties (hardness, solubility, transparency, conductivity and response to magnets).</li> <li>• I can describe how a material dissolves to form a solution, explaining the process of dissolving.</li> <li>• I can describe and show how to recover a substance from a solution.</li> <li>• I can describe how some materials can be separated (e.g. through filtering, sieving and evaporating).</li> <li>• I know and can demonstrate that some changes are reversible and some are not.</li> <li>• I can explain how some changes result in the formation of a new material and that this usually irreversible.</li> </ul>	<p style="text-align: center;"><b><u>Living things and habitats</u></b> <b><u>(Step 5)</u></b></p> <ul style="list-style-type: none"> <li>• I can describe the life cycle of different living things (mammals, amphibians, insects and birds).</li> <li>• I can describe the differences between different life cycles.</li> <li>• I can describe the process of reproduction in plants.</li> <li>• I can describe the process of reproduction in animals.</li> </ul> <p>I can create a timeline to indicate stages of growth in humans.</p>	

<b>B</b>	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Reception	<p><i>Science to be taught through EYFS topics and related early learning goals.</i>            Areas will include: Seasonal Changes / Properties of materials / States of Matter / Animals / Minibeasts / Space / Floating and Sinking / Plants / Health / Exercise</p> <p style="text-align: right;"><i>See separate EYFS document with science links to EYFS goals.</i></p>					
Year 1/2	<p style="text-align: center;"><b><u>Everyday Materials</u></b> <b><u>(Step 2)</u></b></p> <ul style="list-style-type: none"> <li>• I can identify and name a range of materials, wood, plastic, metal, glass, brick, rock, paper and cardboard.</li> <li>• 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, bending, twisting and stretching.</li> </ul> <p><b><u>Sessions on Autumn Seasonal Changes</u></b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on the changes in the seasons.</li> </ul>		<p style="text-align: center;"><b><u>Living things and habitats</u></b> <b><u>(Step 2)</u></b></p> <ul style="list-style-type: none"> <li>• I can identify things that are living, dead and never lived.</li> <li>• I can describe how a specific habitat provides for the basic needs of living things there (plants and animals).</li> <li>• I can identify and name plants and animals in a range of habitats.</li> <li>• I can match living things to their habitat.</li> <li>• I can describe how animals find their food and explain a simple food chain.</li> <li>• I can name some different sources of food for animals.</li> </ul> <p><b><u>Sessions on Spring Seasonal Changes</u></b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on the changes in the seasons.</li> </ul>		<p style="text-align: center;"><b><u>Animals, including humans</u></b> <b><u>(Step 2)</u></b></p> <ul style="list-style-type: none"> <li>• I can explain the basic stages of the life cycle including humans.</li> <li>• I can describe what animals and humans need to survive.</li> <li>• I can describe why exercise, a balanced diet and good hygiene are important for humans.</li> </ul> <p><b><u>Sessions on Summer Seasonal Changes</u></b></p> <ul style="list-style-type: none"> <li>• I can observe and comment on the changes in the seasons.</li> </ul>	
Year 3/4	<p style="text-align: center;"><b><u>Animals, including Humans</u></b> <b><u>(Step 3)</u></b></p> <ul style="list-style-type: none"> <li>• I can explain the importance of a nutritious and balanced diet.</li> <li>• I can explain how nutrients, water and oxygen are transported within animals and humans.</li> <li>• I can describe and explain the skeletal system of a human.</li> </ul>	<p style="text-align: center;"><b><u>Forces and magnets</u></b> <b><u>(Step 3)</u></b></p> <ul style="list-style-type: none"> <li>• I can explore and describe how objects move on different surfaces.</li> <li>• I can explain how some forces require contact and some do not and give examples.</li> <li>• I can explore and explain how objects attract and repel in</li> </ul>	<p style="text-align: center;"><b><u>Light</u></b> <b><u>(Step 3)</u></b></p> <ul style="list-style-type: none"> <li>• I can explain that dark is the absence of light.</li> <li>• I can explain that light is needed in order to see.</li> <li>• I can explain that light is reflected from a surface.</li> <li>• I can explain and demonstrate how a shadow is formed.</li> </ul>	<p style="text-align: center;"><b><u>Plants</u></b> <b><u>(step 3)</u></b></p> <ul style="list-style-type: none"> <li>• I can describe the parts of plants and trees.</li> <li>• I can explore and describe the needs of different plants for survival.</li> <li>• I can explore and describe how water is transported within plants.</li> </ul>	<p style="text-align: center;"><b><u>Living things and habitats</u></b> <b><u>(Step 4)</u></b></p> <ul style="list-style-type: none"> <li>• I can use classification keys to group, identify and name living things.</li> <li>• I can create classification keys to group, identify and name living things (for other use).</li> <li>• I can describe how changes to an environment could endanger living things.</li> </ul>	

	<ul style="list-style-type: none"> <li>• I can describe and explain the muscular system of a human.</li> <li>• I can describe the purpose of the skeleton in humans and animals.</li> </ul>	<ul style="list-style-type: none"> <li>relation to objects and other magnets.</li> <li>• I can predict whether objects will be magnetic and carry out an enquiry to test this out.</li> <li>• I can describe how magnets work. I can predict whether magnets will attract or repel and give a reason.</li> </ul>	<ul style="list-style-type: none"> <li>• I can explore shadow size and explain my findings.</li> <li>• I can explain the danger of direct sunlight and describe how to keep protected.</li> </ul>	<ul style="list-style-type: none"> <li>• I can describe the plant life cycle, especially the importance of flowers.</li> </ul>	
Year 5/6	<p><b><u>Animals, including Humans (Step 6)</u></b></p> <ul style="list-style-type: none"> <li>• I can identify and name the main parts of the human circulatory system.</li> <li>• I can describe the function of the heart, blood vessels and blood.</li> <li>• I can discuss the impact of diet, exercise, drugs and life style on health.</li> <li>• I can describe the ways in which nutrients and water are transported in animals, including humans.</li> </ul>	<p><b><u>Light (Step 6)</u></b></p> <ul style="list-style-type: none"> <li>• I can explain how light travels.</li> <li>• I can explain and demonstrate how we see objects.</li> <li>• I can explain why shadows have the same shape as the object that casts them.</li> <li>• I can explain how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.</li> </ul>	<p><b><u>Evolution and Inheritance (Step 6)</u></b></p> <ul style="list-style-type: none"> <li>• I can describe how the earth and living things have changed over time.</li> <li>• I can explain how fossils can be used to find out about the past.</li> <li>• I can explain about reproduction and offspring (recognising that offspring normally vary and are not identical to their parents).</li> <li>• I can explain how animals and plants are adapted to suit their environment.</li> <li>• I can explain evolution.</li> </ul>	<p><b><u>Living things and habitats (Step 6)</u></b></p> <ul style="list-style-type: none"> <li>• I can classify living things into groups based on their characteristics, similarities and differences.</li> <li>• I can describe how living things have been classified.</li> <li>• I can give reasons for classifying plants and animals in a specific way.</li> </ul>	<p><b><u>Electricity (Step 6)</u></b></p> <ul style="list-style-type: none"> <li>• I can explain how the number and voltage of cells in a circuit links to the brightness of a lamp or the volume of a buzzer.</li> <li>• I can compare and give reasons for why components work and do not work in a circuit.</li> <li>• I can draw circuit diagrams using correct symbols.</li> </ul>

