

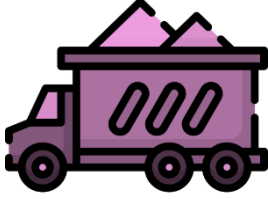







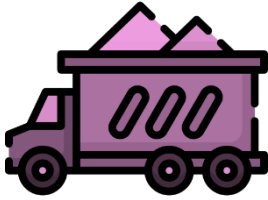







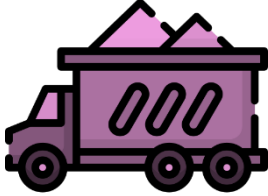







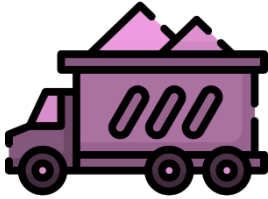









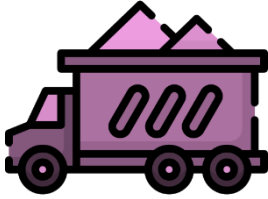

# Science – Sticky Knowledge Progression





EARLY YEARS	Animals, including humans. 	Plants 	Materials 	Seasonal Changes 
<b>Nursery</b> Foundational Knowledge	<p>I know the names of lots of different animals.</p> <p>I know the sounds some animals make.</p> <p>I know where some animals live.</p> <p>I know the names of some animal babies.</p> <p>I know how to look after some animals.</p> <p>I know the names of basic human body parts.</p>	<p>I know the names of lots of different flowers and trees.</p> <p>I know that many plants begin as seeds.</p> <p>I know that seeds need to be planted in soil.</p> <p>I know that seeds need water to grow.</p>	<p>I know the names of everyday materials.</p> <p>I know a range of descriptive words.</p>	<p>I know the names of the four seasons.</p> <p>I know the features of each season.</p> <p>I know the names of and observe different types of weather.</p>
	<p><b>Observing &amp; Measuring</b></p> 	<p><b>Planning &amp; Testing Ideas</b></p> 	<p><b>Recording &amp; Interpreting Data</b></p> 	<p><b>Explaining &amp; Reporting</b></p> 
	<p>I look closely at animals.</p> <p>I use my senses to describe what I experience (look, touch, smell).</p>	<p>I ask simple questions.</p> <p>I try out ideas in play.</p>	<p>I sort and group objects.</p> <p>I notice patterns.</p>	<p>I talk about what I have done and what I have noticed.</p>



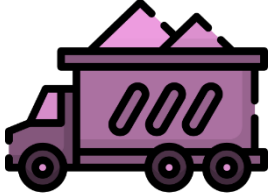

<b>Reception</b>	<p>Animals, including humans.</p> 	<p>Plants</p> 	<p>Materials</p> 	<p>Seasonal Changes</p> 
	<p>I know about woodland habitats.</p> <p>I know about nocturnal and diurnal animals.</p> <p>I know about predators and prey.</p> <p>I know that some animals are extinct and some are endangered.</p> <p>I know the names of the human body parts.</p>	<p>I know that a seed grows a root and a shoot.</p> <p>I know that seeds need nutrients from the soil.</p> <p>I know that seeds come from adult plants.</p>	<p>I know the names of lots of different materials.</p> <p>I know a range of descriptive words.</p>	<p>I know that the year is divided into four seasons.</p> <p>I know key events in each season.</p> <p>I can describe and observe the weather associated with different seasons.</p> <p>I can describe different temperatures.</p> <p>I know that the weather can impact what we do.</p>
<b>Reception</b> Foundational Knowledge	<p>Observing &amp; Measuring</p> 	<p>Planning &amp; Testing Ideas</p> 	<p>Recording &amp; Interpreting Data</p> 	<p>Explaining &amp; Reporting</p> 
	<p>I observe changes over time.</p> <p>I use simple equipment.</p> <p>I compare objects (bigger/smaller, longer/shorter).</p>	<p>I suggest ways to find things out.</p> <p>I can predict what might happen.</p> <p>I explore cause and effect in play.</p>	<p>I make simple collections or pictorial records.</p> <p>I sort objects into groups based on shared features.</p> <p>I describe similarities and differences.</p>	<p>I describe my observations clearly to others.</p> <p>I use new vocabulary modelled by adults.</p>





<b>KEY STAGE ONE</b>	<p>Animals, including humans.</p> 	<p>Plants</p> 	<p>Materials</p> 	<p>Seasonal Changes</p> 
	<p>I know that animals are living things that breathe, eat and move.</p> <p>I know all about mammals.</p> <p>I know all about amphibians.</p> <p>I know all about birds.</p> <p>I know about omnivores, herbivores and carnivores.</p> <p>I know the names of common animal body parts.</p> <p>I know that humans are mammals.</p> <p>I can name the five senses and the part of the body they are related to.</p>	<p>I know that some plants are wild and some grow in gardens.</p> <p>I know the names of the key parts of a plant.</p> <p>I know what each part of a plant does.</p>	<p>I can describe the properties of materials.</p> <p>I can sort and group together materials based on their properties.</p>	<p>I know which are the hottest and coldest seasons in the UK.</p> <p>I know that the length of the day alters with the season.</p> <p>I know all about weather forecasts.</p> <p>I know that countries around the world have different climates.</p> <p>I know that countries near the equator have hotter climates.</p> <p>I know that the Arctic and Antarctic have colder climates.</p> <p>I know that the climate can affect which plants will grow.</p> <p>I know that animals are adapted to their climate.</p> <p>I know about extreme weather.</p>
<b>Year One</b>	<p>Observing &amp; Measuring</p> 	<p>Planning &amp; Testing Ideas</p> 	<p>Recording &amp; Interpreting Data</p> 	<p>Explaining &amp; Reporting</p> 
	<p>I use my senses to identify and describe the features of animals, plants and materials.</p> <p>I measure with standard and non-standard units.</p> <p>I observe seasonal change over time.</p>	<p>I ask simple scientific questions about the world around me.</p> <p>I suggest ways to answer these questions (look, compare, test).</p> <p>I carry out simple tests with support.</p>	<p>I record data with drawings, labels and simple charts.</p> <p>I notice patterns.</p> <p>I classify objects into simple groups.</p>	<p>I used everyday language to describe what happened.</p> <p>I use some topic words.</p> <p>I share findings verbally or through drawings.</p>



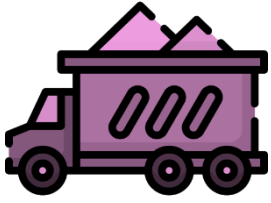





<b>Year Two</b>	<p><b>Animals, including humans.</b></p> 	<p><b>Plants</b></p> 	<p><b>Materials</b></p> 	<p><b>Seasonal Changes</b></p> 
	<p>I know that some things are alive, and some things are not.</p> <p>I know that some things are no longer alive.</p> <p>I know that living things breathe, eat and move.</p> <p>I know what living things needs to survive.</p> <p>I know that animals have different kinds of offspring.</p> <p>I can describe the life cycle of at least three different animals.</p> <p>I know about metamorphosis.</p> <p>I know about a healthy lifestyle.</p> <p>I know that most living things live in a habitat to which they are suited.</p>	<p>I know what plants need to survive and be healthy.</p> <p>I know what happens if plants do not get what they need.</p> <p>I know how some plants are suited to their environment.</p>	<p>I can explain how the properties of different materials make them suitable for different purposes.</p> <p>I know that some materials are transparent.</p> <p>I know that some materials are translucent.</p> <p>I know that some materials are opaque.</p>	<p>I know which are the hottest and coldest seasons in the UK.</p> <p>I know that the length of the day alters with the season.</p> <p>I know all about weather forecasts.</p> <p>I know that countries around the world have different climates.</p> <p>I know that countries near the equator have hotter climates.</p> <p>I know that the Artic and Antarctic have colder climates.</p> <p>I know that the climate can affect which plants will grow.</p> <p>I know that animals are adapted to their climate.</p> <p>I know about extreme weather.</p>
	<p><b>Observing &amp; Measuring</b></p> 	<p><b>Planning &amp; Testing Ideas</b></p> 	<p><b>Recording &amp; Interpreting Data</b></p> 	<p><b>Explaining &amp; Reporting</b></p> 
	<p>I make careful observations using simple equipment (magnifiers and rulers).</p> <p>I measure length, weight and temperature using standard units.</p> <p>I notice and describe changes over time.</p>	<p>I ask questions which can be tested.</p> <p>I plan simple tests with support (decide what to change and what to keep the same).</p> <p>I make simple predictions.</p>	<p>I record results in tables, simple charts and labelled drawings.</p> <p>I group and classify materials or living things by more than one property.</p> <p>I notice patterns.</p>	<p>I use scientific vocabulary to talk about my findings (rough/smooth, herbivore).</p> <p>I explain why things happen.</p> <p>I communicate my findings verbally and in simple written forms.</p>


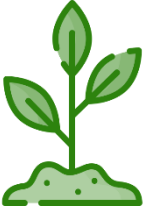
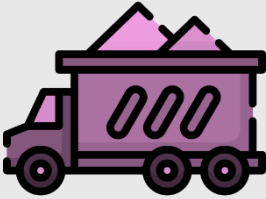





<b>LOWER KEY STAGE TWO</b>	Animals, including humans.  	Plants  	Materials  	Scientific Processes  
	<p>I know the location and simple function of the lungs, heart, stomach and intestines.</p> <p>I know the simple function of bones and the skeleton.</p> <p>I know about the simple function of muscles.</p> <p>I know about different food groups.</p> <p>I know that eating the right amounts of different foods (a balanced diet) is important for energy, growth and staying healthy.</p> <p>I know about the importance of hydration.</p> <p>I know why exercise is important.</p> <p>I know why hygiene is important.</p> <p>I know why rest is important.</p>	<p>I know the parts of a plant and their functions.</p> <p>I know the life cycle of a flowering plant.</p> <p>I know what plants need to grow.</p> <p>I know about the transport of water in plants.</p>		<p>I know about pushes and pulls.</p> <p>I know about friction.</p> <p>I know about contact and non-contact forces.</p> <p>I know what magnets do.</p> <p>I know about magnetic poles.</p> <p>I know about the everyday uses of magnets.</p> <p>I know that some materials are magnetic and some are not.</p> <p>I know about different light sources.</p> <p>I know how light helps us see.</p> <p>I know all about shadows.</p> <p>I know the meaning of the terms transparent, translucent and opaque.</p> <p>I know about sunlight and sun safety.</p>

<b>Year Three</b>	<p>Observing &amp; Measuring</p> 	<p>Planning &amp; Testing Ideas</p> 	<p>Recording &amp; Interpreting Data</p> 	<p>Explaining &amp; Reporting</p> 
	<p>I use a range of equipment accurately (thermometers, rulers and magnets).</p> <p>I make systematic observations and record them over time.</p> <p>I use repeated observations to check results.</p>	<p>I ask questions that can be investigated in practical ways.</p> <p>I set up simple comparative tests.</p> <p>I identify simple variables to change or measure.</p>	<p>I use table and bar charts to record results.</p> <p>I group and classify more complex features.</p> <p>I identify patterns and relationships in results.</p>	<p>I use scientific language to explain what they found out.</p> <p>I link results to scientific ideas.</p> <p>I present findings in different ways (oral, written, drawings).</p>

	<p>Animals, including humans.</p> 	<p>Plants</p> 	<p>Materials</p> 	<p>Scientific Processes</p> 
<p><b>Year Four</b></p>	<p>I know the simple journey of food (digestion).</p> <p>I know about different types of teeth and their simple functions.</p> <p>I know how to look after my teeth.</p> <p>I know all about food chains.</p>		<p>I know about igneous rocks.</p> <p>I know about sedimentary rocks.</p> <p>I know about metamorphic rocks.</p> <p>I know about fossils.</p> <p>I know about soil.</p>	<p>I know about solids.</p> <p>I know about liquids.</p> <p>I know about gases.</p> <p>I know about heating and cooling.</p> <p>I know what electricity is.</p> <p>I know where electricity comes from.</p> <p>I know about electrical safety.</p> <p>I know about electrical appliances.</p> <p>I know about simple circuits.</p> <p>I know about conductors and insulators.</p> <p>I know how sounds are made.</p> <p>I know how we hear.</p> <p>I know how sound travels.</p> <p>I know about pitch and volume.</p> <p>I know about sound and distance.</p> <p>I know about changing sounds.</p>

<b>Year Four</b>	<b>Observing &amp; Measuring</b> 	<b>Planning &amp; Testing Ideas</b> 	<b>Recording &amp; Interpreting Data</b> 	<b>Explaining &amp; Reporting</b> 
	<p>I make accurate measurements using standard units (time, volume, temperature).</p> <p>I observe and compare using equipment.</p> <p>I notice patterns when variables change.</p>	<p>I plan fair tests with some independence (choose variable and controls).</p> <p>I make clear predictions and explain my reasoning.</p> <p>I carry out investigations safely and systematically.</p>	<p>I record data in charts, tables, and bar graphs.</p> <p>I begin to use simple line graphs.</p> <p>I spot trends and explain them in relation to scientific ideas.</p>	<p>I use the correct vocabulary when explaining.</p> <p>I offer reasons for results and link them to prior learning.</p> <p>I write simple conclusions.</p>

<b>UPPER KEY STAGE TWO</b>	Animals, including humans.  	Earth and Space  	Materials  	Scientific Processes  
<b>Year Five</b>	<p>I know about the stages of the human life cycle.</p> <p>I know how humans grow and develop.</p> <p>I know about reproduction.</p> <p>I can compare the human life cycle to other animals.</p>	<p>I know about the solar system.</p> <p>I know all about the sun.</p> <p>I know all about the planets.</p> <p>I know all about the moon.</p> <p>I know about day and night.</p> <p>I know about the Earth's orbit and the seasons.</p> <p>I know about gravity on Earth and in space.</p>	<p>I can compare and group materials based on their properties.</p> <p>I know that some materials dissolve in a liquid.</p> <p>I can explain why certain materials are used for particular purposes.</p>	<p>I know all about heating and cooling.</p> <p>I know about solutions and mixtures.</p> <p>I know about reversible and irreversible changes.</p>
	<p><b>Observing &amp; Measuring</b></p> 	<p><b>Planning &amp; Testing Ideas</b></p> 	<p><b>Recording &amp; Interpreting Data</b></p> 	<p><b>Explaining &amp; Reporting</b></p> 
	<p>I take precise measurements and repeat readings for accuracy.</p> <p>I use a wider range of equipment (thermometers, measuring cylinders).</p> <p>I observe subtle changes.</p>	<p>I plan and carry out fair and comparative tests independently.</p> <p>I select appropriate equipment and explain why it is suitable.</p> <p>I make predictions based on prior knowledge and research.</p>	<p>I use tables, bar charts and line graphs accurately.</p> <p>I analyse results to identify trends and patterns.</p> <p>I draw conclusions from evidence.</p>	<p>I use precise scientific vocabulary.</p> <p>I explain findings using evidence and logical reasoning.</p> <p>I communicate conclusions clearly, written and orally.</p>

<b>UPPER KEY STAGE TWO</b>	Animals, including humans. 	Plants 	Materials 	Scientific Processes 
	<p>I know about inheritance.</p> <p>I know about variation.</p> <p>I know about adaptation.</p> <p>I know about evolution.</p> <p>I know about fossils.</p> <p>I know about the work of key scientists (Darwin, Anning).</p> <p>I know about the main parts of the circulatory system.</p> <p>I know about double circulation.</p> <p>I know about the functions of the circulatory system.</p> <p>I know how to keep the circulatory system healthy.</p>			<p>I know how to draw simple circuit diagrams.</p> <p>I know about series circuits.</p> <p>I know about electrical variables.</p> <p>I know about electrical safety.</p> <p>I know how light travels.</p> <p>I know about reflection.</p> <p>I know about refraction.</p> <p>I know how we see.</p> <p>I know about colour.</p>
<b>Year Six</b>	<b>Observing &amp; Measuring</b> 	<b>Planning &amp; Testing Ideas</b> 	<b>Recording &amp; Interpreting Data</b> 	<b>Explaining &amp; Reporting</b> 
	<p>I carry out detailed observations and measurements with accuracy and precision.</p> <p>I select and use a variety of equipment confidently.</p> <p>I take repeated readings when necessary to check reliability.</p>	<p>I plan investigations to test hypotheses, identifying variables clearly.</p> <p>I justify my choice of methods and equipment.</p> <p>I recognise and control variables in tests.</p>	<p>I record complex data using appropriate formats (tables, line graphs, scatter graphs).</p> <p>I analyse and interpret results, identifying casual links or anomalies.</p> <p>I draw conclusions based on evidence and scientific understanding.</p>	<p>I use scientific language and abstract concepts.</p> <p>I evaluate methods, suggest improvements and reflect on the reliability of my results.</p> <p>I present findings clearly using a range of formats (reports, presentations).</p>