



Progression of Skills - Science

Scientific skills, practical scientific methods and process

	Reception (Early Adopter EYFS)	Year 1	Year 2
Questioning and Researching in Science -: asking simple questions and recognising that they can be answered in different ways	<p>Explore the natural world around them -: Answer questions posed by adult e.g., how does it feel? What can you see? -about the natural world around them.</p> <p>Ask questions (begin to) whilst exploring. (Adult to ask -: why? How?)</p> <p>Respond and share their thoughts (adult needs to point out that it might not be the right answer but they can then go ahead and try to find out).</p> <p>Understand the need to explore and find out more. Introduce simple scientific processes and information Explore through first hand experiences, in books and on the computer.</p>	<p>Think of appropriate questions (with support) whilst exploring the world around them e.g., explore and answer questions about plants growing/animals in their habitats. Raise and answer questions about materials.</p> <p>Ask questions (with some support e.g., prompts) to gain appropriate information linked to the task.</p> <p>Use secondary sources (with support) such as books and computers to find answers.</p>	<p>Raise their own questions whilst exploring the world around them e.g., ask questions about physical processes, plants, animals, life processes, habitats. Think of ways to try and answer these questions.</p> <p>Ask people questions (when they think it is beneficial).</p> <p>Use simple secondary sources to find answers e.g., books, computers, videos. Understand (begin to) which pieces of information are relevant and which are not.</p>

	Reception	Year 1	Year 2
Planning, Observing and Measuring -: observing closely, using simple equipment	<p>Observe animals and plants-: Use the senses of sight, touch and sound to compare different objects, materials and living things. Observe and measure plant/ animal growth. Make verbal observations of changes. Draw and label pictures. Understand some important processes, including changing states of matter-: Explore through practical activities changes of state e.g. chocolate/ice. Make observations, prompted by adult asking questions-: What did it look like before? How does it feel now?</p> <p>Understand some important processes and changes in the natural world around them, including the seasons-: Observe changes in trees/plants. Notice changes in weather – look at pictures during year – annotated by adult. Measure-: Seasons- visual observations. Growth-non -standard visual comparisons- taller/longer/bigger, count amounts to 20 e.g., leaves on plants/legs on tadpoles, bricks. Compare weight /capacity if relevant. Use large hand-held magnifying glasses.</p>	<p>Take part (with support) in practical activities. Use all 5 senses when appropriate to make observations. Use simple features to compare objects (begin to), materials and living things- adult to suggest headings for comparable features.</p> <p>Observe (with guidance) changes over time- adult to suggest headings for observable changes including time measurements (adult to set standard measures- minutes, hours, days, months).</p> <p>Measure-: With support, use simple measurements (including standard units m, cm, kg, g, ml, l, hours, minutes, seconds) Use equipment (with support) – (rulers, jugs, hand lenses, sand timers, clocks) to gather data.</p>	<p>Take part in practical activities using all 5 senses when appropriate. Make relevant observations.</p> <p>Use simple features to compare objects, materials and living things.</p> <p>Observe changes over time- pupils to suggest headings for observable changes and suggest type of measurement they could use (time).</p> <p>Measure-; Use standard measurements (m, cm, kg, g, l, ml, c, hours, minutes, seconds) to the nearest appropriate unit. Use equipment with increasing independence (rulers, hand lenses, measuring vessels, thermometer, scales, clock, timers) to gather data.</p>

	Reception	Year 1	Year 2
Testing and obtaining evidence in Science:- performing simple tests	<p>Make observations and draw pictures of animals and plants:-</p> <p>Take part in whole class or group activities led by an adult.</p> <p>Observe simple measurements being taken e.g. measuring beans growing- using comparisons such as taller than /number of leaves/ hand spans.</p> <p>Gather evidence by drawing pictures of what they can actually see (not how have seen flowers and animals represented)</p> <p>Make (begin to) relevant observations.</p>	<p>Take part (with support) in practical activities that enable results to be gathered by the class.</p> <p>Gather relevant data (with support) Record it pictorially or with numbers in a suitable clear format - Simple tables created by adult.</p> <p>Interpret (begin to) block diagrams.</p>	<p>Take part in practical activities that enable results to be gathered by class, group, individuals.</p> <p>Suggest ways of recording the data they plan to gather.</p> <p>Work together to decide how best to gather and present the relevant results.</p> <p>Record data collected in simple pictograms, tally charts, block diagrams and simple tables.</p>

	Reception	Year 1	Year 2
Identifying and Comparing in Science:- identifying and classifying	<p>Explore the natural world around them:-</p> <p>Use (with guidance) simple visible features of animals e.g. legs/no legs, fur/scales.</p> <p>Sort them (begin to) into broad groups.</p>	<p>Compare 2 or more objects including visual features, common properties.</p> <p>Adult to set which simple features to compare with objects, materials and living things.</p> <p>Decide (with help) how to sort and group them- what could the title of our groups or sets be?</p>	<p>Suggest (child) simple features to use to compare objects, materials and living things. These features may be adaptations that it has made to its habitat or a child applying knowledge about its habitat/property of material- not necessarily a visual feature.</p> <p>Decide (child) how to sort and group the objects, materials, living- things.</p>

	Reception	Year 1	Year 2
Considering Evidence-: using their observations and ideas to suggest answers to questions	Discuss (adult to encourage) findings and how they relate to the questions posed. Talk about findings related to objects and events. How do we know that the bean grew? What did we see? What do our pictures show?	Recognise (With support, begin to) how the data they have gathered or things they have observed, might answer the original questions they set out to answer. Look at patterns and relationships in their data and observations. Talk about (begin to) what they have found out and how they found it out by answering questions posed by adult.	Recognise ways in which they might answer scientific questions e.g., by understanding that the data gathered or activity led to relevant information that will help to answer their original question or problem. Notice (begin to with guidance) patterns and relationships. Talk about what they have found out and how they found it out.

	Reception	Year 1	Year 2
Gathering, presenting results and evaluating-: gathering and recording data to help in answering questions	Draw pictures of animals and plants-: Record the practical activities by using pictures with simple labels (if appropriate) or scribed by an adult to gather their thoughts together and consider what they have found out. Understand some important processes-: Use pictures and verbal observations (scribed by adults) of simple practical activities to show understanding. Use (begin to) new relevant vocabulary that has been modelled by adults to describe what they have seen, heard, felt.	Gather relevant data (with support). Record it pictorially or with numbers in a suitable clear format - Simple pre prepared tables. Communicate their findings (with help) in a range of ways and begin to use simple scientific language linked to the knowledge in the Programme of study. Talk about what they have done, share pictures, pre-prepared tables that they have filled in. Show understanding (begin to through questioning) of what they did and why.	Suggest and decide together how best to gather/ present the relevant results. Record data collected in simple pictograms, tally charts, block diagrams and simple tables. Communicate their findings (with help) in a range of ways and begin to use simple scientific language linked to the Programme of Study. Talk (with prompts) about the relevant activity, Explain simple steps in the process. Share the results and their thoughts as to whether they answered their original question or task.