



Progression of Skills in Science

The National Curriculum for primary science (2014) aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Strand		Early Years Foundation Stage	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Working scientifically	Asking Questions	<ul style="list-style-type: none"> • Explore/Observe - look closely at/notice features in the natural world including animals and plants, weather and seasons, and natural materials e.g. water, ice, sand, stones, etc. • Describe - talk about what they notice/observe in the natural world, e.g. features of animals, plants, natural materials, seasons, weather, etc; talk about changes they notice and changes over time, based on real experiences or books read to them at home or school. • Questioning - show an interest in and be curious about the natural world; ask questions about what they notice/observe or changes that occur, e.g., changes in plants throughout the seasons. • Research - talk to people (visits/visitors/family), think of questions to ask to find out about plants, animals, seasons, processes; use first-hand experiences/use secondary sources, (e.g. books, photographs, internet). • Vocabulary - use simple vocabulary to name and describe objects, materials, living things and environments. 	<ul style="list-style-type: none"> • Ask simple questions and recognise that they can be answered in different ways • Say what they expect to happen • Consider purposes and uses simply (<i>What can we do with plastic?</i>) 	<ul style="list-style-type: none"> • Ask questions and recognise that they can be answered in different ways • Make predictions • Begin to say if a test is fair • Consider purposes and uses (<i>What can we do with waterproof materials?</i>) 	<ul style="list-style-type: none"> • Ask questions related to the topic of study • Make predictions • Suggest what to change, what to measure • Say if the test is fair • Consider purposes and uses. (<i>How can we use forces to help us?</i>) 	<ul style="list-style-type: none"> • Ask questions related to the topic of study • Make predictions • Plan in terms of scientific ideas • Consider purposes and uses in everyday life 	<ul style="list-style-type: none"> • Ask specific questions related to the topic of study • Identify relevant factors to take into account • Make additional predictions based on patterns in data • Consider purposes and uses of the science studied 	<ul style="list-style-type: none"> • Ask specific questions related to the topic of study • Suggest a question to investigate • Consider safety issues • Consider purposes and uses in terms of benefit or harm
	Measuring and Recording	<ul style="list-style-type: none"> • Talk about what they know and understand about similarities and/or differences, e.g., in relation to the natural world around them and other environments they have learnt about through real experiences or books read at home or school. • Test - make suggestions, show resilience, work with others • Compare/sort/group/identify/classify: notice similarities, notice differences in the natural world, including plants and animals. • Equipment and measures - use senses/use simple equipment to make observations, (e.g., magnifiers, pipettes, egg timers, digital microscopes, etc). 	<ul style="list-style-type: none"> • Suggest how an idea could be tested • Make and communicate observations verbally or by drawing • Measure using standard or non-standard units • Make block graphs 	<ul style="list-style-type: none"> • Make and communicate observations by drawing and by writing • Use comparison in observations • Measure length and time using standard 	<ul style="list-style-type: none"> • Make and communicate observations by writing • Measure length accurately • Measure volume accurately • Record results in tables or charts 	<ul style="list-style-type: none"> • Choose equipment • Make and record observations • Measure temperature and time with appropriate accuracy • Decide on the appropriate way to record results (<i>tables, charts, drawings</i>) 	<ul style="list-style-type: none"> • Choose equipment • Make and record observations • Repeating measurements • Measure with appropriate accuracy • Create framework for recording results (<i>Make tables, charts etc.</i>) 	<ul style="list-style-type: none"> • Choose equipment • Make and record careful observations • Repeating measurements • Measure carefully

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Concluding and Evaluating</p>	<ul style="list-style-type: none"> Record - draw pictures e.g., observational drawings of plants, mini-beasts, take photographs, make models or record in scrapbooks. Explain - talk about what they know and what they have learnt about the natural world. Talk about why things happen/occur in relation to different processes e.g. ice melting, seasonal changes. 	<ul style="list-style-type: none"> Say what their observations show Say if what they expected to happen did happen Compare observations 	<ul style="list-style-type: none"> Present information in charts, tables and interpret Encourage explanations and draw conclusions Link predictions to findings 	<ul style="list-style-type: none"> Look for patterns in results Consider if there is enough evidence Use scientific knowledge to explain findings 	<ul style="list-style-type: none"> Interpret evidence Use results to draw conclusions Explain findings using scientific knowledge and understanding Identify and link patterns with explanations Explain and demonstrate repeats to increase reliability 	<ul style="list-style-type: none"> Present data in graphs Present line graphs and linking this to the original idea Write conclusions based on the evidence or data 	<ul style="list-style-type: none"> Explain findings scientifically Decide if the evidence supports the original idea Decide which observations should be repeated and why Interpret patterns and identify anomalous results Consider trends in results and to decide which results do not fit the pattern Write conclusions based on the evidence or data