



# EYFS Progression in Working Scientifically Skills

This document shows how the [Development Matters](#) statements, that relate to the working scientifically skills in the [National Curriculum in England: science programmes of study](#), build across Nursery and Reception and are linked to the working scientifically statements for Key Stage 1.

## Mapping the PLAN EYFS working scientifically skills definitions to their Key Stage 1 and 2 equivalents

The table below shows how the PLAN EYFS working scientifically skills definitions, which are based on the relevant statements in Development Matters, map to the equivalent PLAN definitions for Key Stage 1 & 2.

| PLAN EYFS working scientifically skills definitions   | PLAN Key Stage 1 & 2 working scientifically skills definitions               |
|---|--|
| Show curiosity and ask questions  | Asking questions and recognising that they can be answered in different ways |
| Make observations using their senses and simple equipment   | Making observations and taking measurements                                  |
| Make direct comparisons   | Engaging in practical enquiry to answer questions                            |
| Identify, sort and group  |  |
| Record their observations by drawing, taking photographs, using sorting rings or boxes and, in Reception, on simple tick sheets | Recording and presenting evidence  |
| Talk about what they have done and found out  | Answering questions and concluding   |
| Use their observations to help them to answer their questions   |  |

## Progression in working scientifically skills from Nursery to Key Stage 1

The following four tables expand on the mapping shown above by identifying the Development Matters statements from the different areas of learning for Nursery and Reception (shown in bold) that are linked to the PLAN EYFS working scientifically skills definitions. The bullet points that follow the Development Matters statements are additional guidance that illustrate their application in a science context. For Years 1 & 2, the working scientifically statements from the National Curriculum that link to the PLAN Key Stage 1 & 2 working scientifically skills definitions are shown in bold with their associated guidance. Together, these provide a progression in working scientifically skills from Nursery, through Reception, to Key Stage 1.

The statements from Development Matters in italics in the tables below indicate that they feature more than once.

| Nursery  | Reception  | Years 1 & 2   |
|--|--|---|
| <b>Show curiosity and ask questions</b>  |  | <b>Asking questions and recognising that they can be answered in different ways</b>   |
| <p><b>Understand ‘why’ questions, like: “Why do you think the caterpillar got so fat?”</b> (Communication and language)</p> <ul style="list-style-type: none"> <li>• While playing and exploring, the children demonstrate their curiosity.</li> <li>• While playing and exploring, the children begin to ask ‘I wonder ...’ questions.</li> <li>• With support, the children think of ideas for answering their questions.</li> </ul> | <p><b>Ask questions to find out more and to check they understand what has been said to them.</b> (Communication and language)</p> <ul style="list-style-type: none"> <li>• While playing and exploring, the children ask ‘I wonder...’ questions.</li> <li>• With support, the children develop their ideas for answering their questions.</li> </ul> | <p><b>Asking simple questions and recognising that they can be answered in different ways</b></p> <ul style="list-style-type: none"> <li>• While exploring the world, the children develop their ability to ask questions (such as what something is, how things are similar and different, the ways things work, which alternative is better, how things change and how they happen). Where appropriate, they answer these questions.</li> <li>• The children answer questions developed with the teacher often through a scenario.</li> <li>• The children are involved in planning how to use resources provided to answer the questions using different types of scientific enquiry, helping them to recognise that there are different ways in which questions can be answered.</li> </ul> |

| Nursery   | Reception  | Years 1 & 2   |
|---|--|---|
| <p>Make observations using their senses and simple equipment<br/>           Make direct comparisons<br/>           Identify, sort and group</p>   |  | <p>Making observations and taking measurements<br/>           Engaging in practical enquiry to answer questions</p>   |
| <p><b>Use all their senses in hands-on exploration of natural materials.</b> (Understanding the world)</p> <p><b>Explore how things work.</b> (Understanding the world)</p> <p><b>Use one-handed tools and equipment.</b> (Physical development)</p> <p><b>Choose the right resources to carry out their own plan. For example, choosing a spade to enlarge a small hole they dug with a trowel.</b> (Physical development)</p> <p><b>Make comparisons between objects relating to size, length, weight and capacity.</b> (Mathematics)</p> <p><b>Compare quantities using language: ‘more than’, ‘fewer than’.</b> (Mathematics)</p> <p><b>Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen, or one which is suggested to them.</b> (Personal, social and emotional development)</p> <ul style="list-style-type: none"> <li>• With support, explore the natural and made world using their senses.</li> <li>• With support, the children use magnifying glasses or tablets with magnifiers to make observations.</li> <li>• The children explore using beakers/scoops etc.</li> <li>• Make comparisons between objects (“This leaf is bigger than that one.”) and quantities (“There are more flowers on this one.”).</li> </ul> | <p><b>Explore the natural world around them.</b> (Understanding the world)</p> <p><b>Describe what they see, hear and feel whilst outside.</b> (Understanding the world)</p> <p><b>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</b> (Physical development)</p> <p><b>Count objects, actions and sounds.</b> (Mathematics)</p> <p><b>Use talk to help work out problems and organise thinking and activities, and to explain how things work and why they might happen.</b> (Communication and language)</p> <p><b>Show resilience and perseverance in the face of challenge.</b> (Personal, social and emotional development)</p> <ul style="list-style-type: none"> <li>• Explore the natural and made world using their senses.</li> <li>• The children use magnifying glasses or tablets with magnifiers to make observations.</li> <li>• The children use smaller pieces of equipment such as syringes and pipettes.</li> <li>• With support, make comparisons, using hands and feet and other non-standard measures e.g. building blocks and beakers.</li> <li>• While playing and exploring, the children, try out using resources to answer a question.</li> </ul> | <p><b>Observing closely, using simple equipment</b></p> <ul style="list-style-type: none"> <li>• Children explore the world around them. They make careful observations to support identification, comparison and noticing change. They use appropriate senses, aided by equipment such as magnifying glasses or digital microscopes, to make their observations.</li> <li>• They begin to take measurements, initially by comparisons, then using non-standard units.</li> </ul> <p><b>Performing simple tests</b></p> <ul style="list-style-type: none"> <li>• The children use practical resources provided to gather evidence to answer questions generated by themselves or the teacher. They carry out: tests to classify; comparative tests; pattern seeking enquiries; and make observations over time.</li> </ul> <p><b>Identifying and classifying</b></p> <ul style="list-style-type: none"> <li>• Children use their observations and testing to compare objects, materials and living things. They sort and group these things, identifying their own criteria for sorting.</li> <li>• They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.</li> </ul> |

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| <ul style="list-style-type: none"><li>• While playing and exploring, the children select and use resources for a particular task.</li><li>• With support, the children sort and group objects.</li></ul> | <ul style="list-style-type: none"><li>• The children test things out to make comparisons e.g. Does the red car go further than the blue car?</li><li>• They identify and name objects by matching them with pictures.</li><li>• The children sort and group objects, sometimes using their own criteria.</li></ul> |  |
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| Nursery   | Reception   | Years 1 & 2   |
|---|---|---|
| Record their observations by drawing, taking photographs, using sorting rings or boxes and, in Reception, on simple tick sheets   |   | Recording and presenting evidence   |
| <p><b>Talk about what they see, using a wide vocabulary.</b> (Understanding the world)</p> <p><b>Create closed shapes with continuous lines, and begin to use these shapes to represent objects.</b> (Understanding the world)</p> <p><b>Draw with increasing complexity and detail, such as representing a face with a circle and including details.</b> (Understanding the world)</p> <ul style="list-style-type: none"> <li>• With support, the children talk about what they have observed.</li> <li>• They sometimes draw and make marks to record their observations.</li> <li>• With support, they use sorting rings and boxes.</li> </ul> | <p><b><i>Connect one idea or action to another using a range of connectives.</i></b> (Communication and language)</p> <p><b><i>Describe events in some detail.</i></b> (Communication and language)</p> <ul style="list-style-type: none"> <li>• The children, sometimes, draw and write simple labels to record their observations.</li> <li>• With support, they record their observations and comparisons e.g. using simple prepared tables, taking photographs, using sorting rings and boxes.</li> </ul> | <p><b>Gathering and recording data to help in answering questions</b></p> <ul style="list-style-type: none"> <li>• The children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing.</li> <li>• They record their measurements e.g. using prepared tables, pictograms, tally charts and block graphs.</li> <li>• They classify using simple prepared tables and sorting rings.</li> </ul> |

| Nursery   | Reception   | Years 1 & 2  |
|---|---|--|
| Use their observations to help them to answer their questions   |   | Answering questions and concluding   |
| <p><b>Make comparisons between objects relating to size, length, weight and capacity.</b> (Mathematics)</p> <p><b>Compare quantities using language: 'more than', 'fewer than'.</b> (Mathematics)</p> <ul style="list-style-type: none"> <li>• With support, the children demonstrate and talk about what they have done and noticed.</li> <li>• With support, the children notice how they made a difference to an outcome, e.g. "My car went further when I pushed it harder.", and answer the question, where appropriate.</li> <li>• With support, the children make comparisons between objects e.g. "My plant is taller than Sarah's."</li> </ul> | <p><b>Listen to and talk about selected non-fiction to develop a deep familiarity with new knowledge and vocabulary.</b> (Communication and language)</p> <p><b>Connect one idea or action to another using a range of connectives.</b> (Communication and language)</p> <p><b>Describe events in some detail.</b> (Communication and language)</p> <p><b>Compare length, weight and capacity.</b> (Mathematics)</p> <ul style="list-style-type: none"> <li>• The children talk about what they have observed.</li> <li>• The children demonstrate and talk about what they have found out.</li> <li>• They, sometimes, talk about what they have found out from secondary sources, including non-fiction texts.</li> <li>• The children notice and talk about how they made a difference to an outcome e.g. "My car went further when I pushed it harder."</li> <li>• The children make direct comparisons or use their recorded observations to communicate what they have found out and answer the question, where appropriate.</li> </ul> | <p><b>Using their observations and ideas to suggest answers to questions</b></p> <ul style="list-style-type: none"> <li>• Children use their experiences of the world around them to suggest appropriate answers to questions. They are supported to relate these to their evidence e.g. observations they have made, measurements they have taken or information they have gained from secondary sources.</li> <li>• The children recognise 'biggest and smallest', 'best and worst' etc. from their data.</li> </ul> |