

## Science progression of skills NDPS

EYFS	Characteristic of effective learning	Early learning goals				
<b>Enquiry skills</b>	<p>Show curiosity about objects, events and people</p> <p>Questions why things happen Engage in open-ended activity</p> <p>Take a risk, engage in new experiences and learn by trial and error</p> <p>Find ways to solve problems / find new ways to do things / test their ideas</p> <p>Develop ideas of grouping, sequences, cause and effect</p> <p>Comments and asks questions about aspects of their familiar world such as the place where they live or the natural world</p> <p>Use senses to explore the world around them</p> <p>Make links and notice patterns in their experiences</p> <p>Create simple representations of events, people and objects</p> <p>Build up vocabulary that reflects the breadth of their experience</p>	<p>Choose the resources they need for their chosen activities</p> <p>Handle equipment and tools effectively</p> <p>Answer how and why questions about their experiences</p> <p>Make observations</p> <p>Develop their own narratives and explanations by connecting ideas or events</p> <p>Explain why some things occur and talk about changes</p>				
<b>Knowledge and understanding of the world</b>	<p>Know about the similarities and differences in relation to places, objects, materials and living things.</p> <p>They talk about the features of their own immediate environment and how environments might vary from one another.</p> <p>They make observations of animals and plants and explain why some things occur, and talk about changes.</p>					
<b>Working scientifically</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Year 6</b>
<b>Plan</b>	Ask simple questions when prompted- use everyday language and begin to use scientific words	Ask simple questions, by suggesting ideas and know they can be answered / investigated in different ways including secondary sources, such as books and video clips.	Ask relevant questions when prompted- use ideas to pose questions independently about the world around them.	Ask and suggest relevant questions and know that they can be answered in a variety of ways, using secondary sources such as ICT. Answer questions using straight forward scientific evidence.	Raise different types of scientific questions and hypotheses.  Plan different types of scientific enquiries to answer questions.	Pose and select the most appropriate line of enquiry to investigate questions. Plan different types of scientific enquiries to answer questions

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	Suggest ways of answering a question	Recognise that questions can be answered in different ways	Use different types of scientific enquiry to answer them. Set up simple and practical enquiries, comparative and fair tests with some support.	Use different types of scientific enquiries to answer their questions Set up simple and practical enquiries, comparative and fair tests	With prompting, recognise and control variables where necessary	Recognise and control variables where necessary
<b>Do</b>	Follow simple instructions to complete a simple test individually or in a group.  Observing- observing objects, materials, and living things and explain what they see.  Equipment- Make relevant observations using simple equipment Conduct simple tests, with support Identify and classify with guidance  Identifying- Sort groups and objects materials and living things with help according to the observational features.	Do things in the correct order when performing a simple test and begin to recognise when something is unfair.  Observing-Observe something closely and describe changes over time.  Equipment- Use simple equipment such as hand lenses or egg timers to take measurements.  Record and communicate their findings in a range of ways and begin to use simple scientific language Gather and record data to help answer questions Identifying-Decide with help how to group materials, living things and objects, noticing changes over time and begin to see patterns.	Discuss enquiry methods and describe what a fair test is.  Observing- Make decisions about what to observe in an investigation. Make systematic and careful observations, using simple equipment- stopwatches, data loggers. Equipment- Use standard units when taking measurements  Identifying-talk about criteria for grouping sorting and categorising, beginning to see patterns and relationships.	Make decisions about different enquiries including recognising when a fair test is necessary and begin to identify variables.  Observing-Make systematic and careful observations.  Equipment- Make systematic and careful observations using a range of equipment, including thermometers and data loggers Take accurate measurements using standard units, where appropriate  Identifying- Identifying similarities, differences and changes when talking about the different processes. Use and begin to create simple keys.	Plan a range of scientific enquires including comparative and fair tests. Observing-Plan and carry out comparative and fair tests, making systematic and careful observations.  Equipment- Select, with prompting, and use appropriate equipment to take readings(whatever equipment is needed) Take precise measurements using standard units Begin to understand the need for repeat readings.  Identifying-use and develop keys to identify, classify and describe living things and materials.	Select and plan the most suitable line of enquiry, explaining which variable need to be controlled and why, in a variety of comparative and fair tests.  Observing-make their own decisions about which observations to make, using test results and observations to make predictions or set up further tests.  Equipment- Use a range of scientific equipment to take measurements Take measurements with increasing accuracy and precision Take repeat readings when appropriate Identifying-identify and explain patterns seen in the natural environment.
<b>Record</b>	Gather and record data  Talk about their findings and explain what they've found out.	Record and communicate their findings in a range of ways and begin to use simple scientific language Gather and record data to help answer questions	Record- note form, writing frames, diagrams, tables and pictograms, tally charts.  With modelling and guidance, gather, record, classify and present data in a variety of ways to help to answer questions With prompting, use various ways of recording, grouping and displaying evidence and suggest how findings may be tabulated	Gather, record, classify and present data in a variety of ways to help to answer questions  Record findings using simple scientific language, drawings and labelled diagrams Record findings using keys, bar charts, and tables  Present information, findings and conclusions for a variety of different audiences. Displays, oral presentations or written explanations.	Take and process repeat readings Record data and results Record data using labelled diagrams, keys, tables and charts Use line graphs to record data, scientific diagrams, labels, classification keys and models.	Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, bar charts and line graphs.  Choose the most effective approach to record and report results- use mathematical knowledge too.
<b>Review</b>	Recognise findings Use their observations and ideas to suggest answers to simple questions.  Explain with help what they think they have found out.	Use their observations and ideas to suggest answers to simple questions.  Use simple scientific language to explain what they have found out.	With prompting, suggest conclusions from enquiries Suggest how findings could be reported Suggest possible improvements or further questions to investigate	Report on findings from enquiries, including oral and written explanations, of results and conclusions Report on findings from enquiries using displays or presentations Identify differences, similarities or	Report and present findings from enquiries, including conclusions and, with prompting, suggest causal relationships With support, present findings from enquiries orally and in writing Suggest further comparative or fair tests	With support, present findings from enquiries orally and in writing Suggest further comparative or fair tests Report and present findings from enquiries, including conclusions and causal relationships

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			<p>Draw with help a simple conclusion based on evidence from an enquiry or observation.</p>	<p>changes related to simple scientific ideas and processes Use straightforward scientific evidence to answer questions or to support their findings Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p>Use recorded data to make predictions, pose new questions and suggest improvements for further enquires.</p>	<p>Use a simple mode of communication to justify their conclusions on a hypothesis.</p> <p>Use a simple mode of communication to justify their conclusions on a hypothesis. Begin to recognise how scientific ideas change over time.</p>	<p>Identify validity of conclusion and required improvement to methodology. Discuss how scientific ideas develop over time.</p>
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