



## Science Progression Of Skills @ SVPS

Nursery

Reception

Year 1

Year 2

|  |  | Science Progression Of Skills @ SVPS  |           |  |  |
|--|--|---|-----------|--|--|
|  |  | Nursery   | Reception | Year 1   | Year 2   |
|  |  | <b>Asking simple questions and recognising that they can be answered in different ways</b>  |           |  |  |
| <b>Asking questions and recognising that they can be answered in different ways.</b> | <p>In the EYFS, the characteristics of effective learning from the <a href="#">Statutory Framework for the Early Years Foundation Stage</a> are the foundations on which the working scientifically skills build in Key Stage 1. While children are playing and exploring, teachers should be modelling, encouraging and supporting them to do the following:</p> <p>Children show curiosity and ask questions</p> |   |           | <p>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.</p> <p>The children answer questions developed with the teacher often through a scenario.</p> | <p>Year 1 skills + The children are involved in planning how to use resources provided to answer the questions using different types of enquiry, helping them to recognise that there are different ways in which questions can be answered.</p>   |
|  |  | <b>Observing closely, using simple equipment</b>  |           |  |  |
| <b>Making observations and taking measurements</b>                                   | <p>Children will explore and make observations about natural/ manmade materials, indoors and outside</p> <p>Use all their senses in hands-on exploration of natural materials</p> <p>Explore and talk about different forces they can feel.</p>  | <p>Children make observations using their senses and simple equipment</p> <p>Children make direct comparisons</p>   |           | <p>Children begin to take measurements, initially by comparisons, then using non-standard units.</p>   | <p>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.</p>  |
|  |  |   |           | <b>Performing simple tests</b>   | <b>Identifying and classifying</b>   |
| <b>Engaging in practical enquiry to answer questions</b>                             | <p>Explore and respond to different natural phenomena in their setting and on trips</p> <p>Children can talk about the differences between materials and changes they notice.</p>  | <p>Children identify, sort and group in different ways.</p>   |           | <p>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.</p>  | <p>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. They use simple secondary sources (such as identification sheets) to name living things. They describe the characteristics they used to identify a living thing.</p> |
|  |  | <b>Gathering and recording data to help in answering questions</b>  |           |  |  |
| <b>Recording and presenting evidence</b>   | <p>The children will talk about what they see, using a wide vocabulary.</p>  | <p>Children record observations by drawing, taking photographs, using sorting rings and boxes.</p> <p>On simple tick sheets, children use their observations to help them answer questions.</p> |           | <p>The children record their observations e.g. using photographs, videos, drawings, labelled diagrams or in writing</p>  | <p>They record their measurements e.g. Using prepared tables, pictograms, tally charts and block graphs.</p> <p>They classify using simple prepared tables and sorting rings.</p>  |
|  |  | <b>Using their observations and ideas to suggest answers to questions</b>   |           |  |  |
| <b>Answering questions and concluding</b>  | <p>The children will explore collections of materials with similar and/or different properties and ask questions about them.</p>   | <p>Children talk about what they have done and found out.</p>   |           | <p>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.</p>  | <p>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.</p>  |
|  |  | <b>Using their observations and ideas to suggest answers to questions</b>   |           |  |  |
|  |  |   |           | <p>The children recognise 'biggest and smallest', 'best and worst' etc. from their data</p>  | <p>The children recognise 'biggest and smallest', 'best and worst' etc. from their data</p>  |



## Science Progression Of Skills @ SVPS

Year 3

Year 4

Year 5

Year 6

**Asking relevant questions and using different types of scientific enquiries to answer them**

**Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary**

**Asking questions and recognising that they can be answered in different ways.**

The children answer questions posed by the teacher.  
The children consider their prior knowledge when asking questions.  
They independently use a range of question stems. Where appropriate, they answer these questions

Year 3 Skills + Given a range of resources, the children decide for themselves how to gather evidence to answer the question. They recognise when secondary sources can be used to answer questions that cannot be answered through practical work. They identify the type of enquiry that they have chosen to answer their question.

Children independently ask scientific questions. This may be stimulated by a scientific experience or involve asking further questions based on their developed understanding following an enquiry.

Given a wide range of resources the children decide for themselves how to gather evidence to answer a scientific question. They choose a type of enquiry to carry out and justify their choice. They recognise how secondary sources can be used to answer questions that cannot be answered through practical work.

**Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.**

**Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate**

**Making observations and taking measurements**

The children make systematic and careful observations.

They use a range of equipment for measuring length, time, temperature and capacity. They use standard units for their measurements.

The children select measuring equipment to give the most precise results e.g. ruler, tape measure or trundle wheel, force meter with a suitable scale.

During an enquiry, they make decisions e.g. whether they need to: take repeat readings (fair testing); increase the sample size (pattern seeking); adjust the observation period and frequency (observing over time); or check further secondary sources (researching); in order to get accurate data (closer to the true value).

**Setting up simple practical enquiries, comparative and fair tests**

**Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.**

**Engaging in practical enquiry to answer questions**

The children select from a range of practical resources to gather evidence to answer questions generated by themselves or the teacher. They follow their plan to carry out: observations and tests to classify; comparative and simple fair tests; observations over time; and pattern seeking.

A fair test is performed by changing a variable that is quantitative e.g. the thickness of the material or the area of the canopy. This leads to establishing a causative relationship.

The children select from a range of practical resources to gather evidence to answer their questions. They carry out fair tests, recognising and controlling variables. They decide what observations or measurements to make over time and for how long. They look for patterns and relationships using a suitable sample.

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**Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions. Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables**

**Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.**

**Recording and presenting evidence**

The children sometimes decide how to record and present evidence. They record their observation e.g. using photographs, videos, pictures, labelled diagrams or writing. They record their measurements e.g. using tables, tally charts and bar charts (given templates, if required, to which they can add headings). They record classifications e.g. using tables, Venn diagrams, Carroll diagrams.

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Children present the same data in different ways in order to help with answering the question.

**Using straightforward scientific evidence to answer questions or to support their findings**

**Identifying scientific evidence that has been used to support or refute ideas or arguments**

**Answering questions and concluding**

Children answer their own and others' questions based on observations they have made, measurements they have taken or information they have gained from secondary sources. The answers are consistent with the evidence.

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**Identifying differences, similarities or changes related to simple scientific ideas and processes**

**Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions**

They draw conclusions based on their evidence and current subject knowledge.

They identify ways in which they adapted their method as they progressed or how they would do it differently if they repeated the enquiry.

**Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions**

**Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations**

In their conclusions, children: identify causal relationships and patterns in the natural world from their evidence; identify results that do not fit the overall pattern; and explain their findings using their subject knowledge

They evaluate, for example, the choice of method used, the control of variables, the precision and accuracy of measurements and the credibility of secondary sources  
Used

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