St. Peter's C of E Primary School
Working Scientifically – Progression of Skills

In the EYFS, the characteristics of effective learning from the Statutory Framework for the Early Years Foundation Stage 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:

- show curiosity and ask questions
- make observations using their senses and simple equipment
- make direct comparisons
- use equipment to measure
- record their observations by drawing, taking photographs, using sorting rings or boxes and, in Reception, on simple tick sheets
- use their observations to help them to answer their questions
- talk about what they are doing and have found out
- identify, sort and group

	KS1 (Years 1 & 2)	LKS2 (Years 3 & 4)	UKS2 (Years 5 & 6)
Statutory Requirements	Pupils should be taught to use the following practical scientific methods, processes and skills: • asking simple questions and recognising that they can be answered in different ways • observing closely, using simple equipment • performing simple tests • identifying and classifying • using their observations and ideas to suggest answers to questions • gathering and recording data to help in answering questions	Pupils should be taught to use the following practical scientific methods, processes and skills: • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • 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 • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings	Pupils should be taught to use the following practical scientific methods, processes and skills: • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments

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Strands	**Progression Statements**		
Scientific Language	• Children use simple scientific vocabulary.	• Children can use relevant scientific vocabulary when talking about a topic and recording their ideas	• Children can read, spell, use and pronounce scientific vocabulary accurately.
Questioning	• Children ask questions to find out more about a science topic	• Children can ask questions about a science topic and suggest ways to find out the answers.	• Children plan and carry out different types of scientific enquiries to answer questions
Testing	• Children can carry out simple tests.	• Children learn how to set up a fair test so that everything is the same apart from the thing they are testing.	• Children can identify and control variables (things which can be changed) to ensure a fair test.
Observing and Measuring	• Children are supported to observe the world around them and the outcomes of tests. They may use basic equipment to perform measurements.	• Children make careful observations for an agreed purpose. • Children use a range of equipment to take accurate measurements using standard units, e.g. centimetres, minutes and Celsius.	• Children make their own decisions about what observations to make, length/frequency of observations and use of equipment. • Children make measurements with increasing accuracy and take repeated measurements where appropriate.
Identifying and Classifying	• Children should be able to group and compare objects, materials and living things.	• Children can talk about criteria for grouping, sorting and classifying and use simple keys	• Children can use and develop classification keys.
Data	• Children can record simple data • With guidance they should begin to notice patterns in the data, e.g. the height of a plant increasing over time.	• Collect and record data in a variety of ways. • Begin to look for patterns and relationships in their data.	• Decide how to collect and record data of increasing complexity in a variety of different ways. • Children can identify causal relationships in their data.
Reporting	• Children can talk about what they have found out and how they found it out.	• Children communicate their ideas and conclusions in a variety of ways. • With support, they may suggest improvements to tests or new questions to investigate.	• Children can present their findings and conclusions in a variety of different ways and are able to justify their scientific ideas with evidence. • They can evaluate tests and use results to suggest linked investigations and predict further outcomes.