

Science Workshop 2025

A stylized illustration of a chemistry laboratory. In the foreground, a rack holds four test tubes containing red, teal, orange, and purple liquids. Behind them are several Erlenmeyer flasks: one with green liquid, one with orange liquid, and one with blue liquid. In the background, there are larger pieces of glassware, including a round-bottom flask with a green liquid and a tall, narrow tube. The entire scene is set against a dark gray background with faint, light gray outlines of laboratory equipment.

Purpose

- Give you an opportunity to work with your child(ren) in school
- Gain an understanding of what the Pucklechurch Science curriculum looks like
- Show you how we help the children develop their scientific understanding

What do we do at school?

- Sessions like today
- Enhance our curriculum with the use of technology
- Plan engaging, investigation focussed sequences of learning that incorporate cross-curricular elements
- Offer investigations that are linked to a particular type of enquiry
- Children encouraged to 'think like scientists' to fully immerse themselves in science and achieve the 'working scientifically' objectives

Types of enquiry...

Observing over
time



Identifying and
classifying



Research



Fair and
Comparative
testing



Pattern seeking



Exploring/
Problem Solving



Working scientifically objectives...

SCIENCE 'WORKING SCIENTIFICALLY' SKILLS PROGRESSION

	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Pucklechurch learners can...						
Questioning	With teacher support, ask simple questions: How? What will happen if...? Why?	Begin to ask their own questions and understand that not all questions can be answered through investigation.	Consider different questions to investigate.	Consider different questions to investigate and evaluate the potential of each.	Ask and answer specific, focussed questions.	Recognise and address variables within a question.	Control variables within a question.
Predicting	Make a (not necessarily plausible) prediction as to what might happen during an investigation.	Make increasingly plausible predictions as to what might happen during an investigation.	Justify predictions using the word 'because'.	Link predictions to existing scientific knowledge and/or past experiences and encounters.	Make predictions using scientific vocabulary.	Use observations and data from an investigation to make further predictions for future comparative tests.	Substantiate predictions with additional material e.g. by sketching a line graph to show expected patterns in results.
Investigating	Work as a class/group with an adult to perform simple practical tests and comparisons.	Make observations over time; compare and group using simple physical properties.	Perform simple tests with increasing independence.	Perform fair tests.	Perform comparative tests.	Use an increasingly wide range and of increasingly complex science equipment, e.g. ray boxes, microscopes, levers, pulleys, gears, within investigations.	
Measuring/observing	Use non-standard measurements, e.g. long, short, fast, slow, loud, quiet, bright, dull.	Observe, measure and begin to record, for example, lengths and heights, mass/weight, capacity and volume, time (hours, minutes, seconds).	Observe and use standard units to measure, for example, length/height (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml), using rulers, scales, thermometers and measuring vessels.	Use increasingly specialised equipment to observe and take measurements, e.g. data loggers, measuring cylinders.	Observe and read specialised measuring equipment with increasing accuracy, e.g. using decimals.	Observe and collate multiple data sets to enable comparisons and further analysis.	Observe and calculate averages and discard unreliable data.
Recording	Produce whole-class tables, charts or graphs using manipulatives (e.g. sticky-notes, bean bags, counters).	Populate pre-drawn tables, charts or graphs with data.	Draw simple pictograms, tally charts, block diagrams and/or tables to record and represent data; produce food chains.	Draw labelled tables and bar charts to record and represent data, and use keys.	Present discrete and continuous data appropriately, including basic line graphs.	Plot multiple data sets on one table, chart or graph, including line graphs, in order to make comparisons.	Record and represent data confidently and accurately on a range of charts and graphs, including scattergraphs and pie charts.
Explaining	Orally describe what happened during an investigation.	Use annotated drawings to describe what happened during an investigation.	Begin to notice patterns and relationships when answering questions.	Discuss the findings of an investigation in a basic written account and suggest improvements.	Explain basic causal relationships in written explanations and identify similarities and differences between comparative tests.	Explain more detailed causal relationships in written explanations, referring back to predictions in order to consider future tests.	Write detailed explanations which draw clear conclusions, make excellent use of scientific vocabulary and refer to specific findings.

What does the science sequence of lessons look like?

- Throughout the year, the children will be given opportunities to do complete...
- Enquiry lessons where the children can explore the new concept and make their own discoveries while using a range of resources
- Research lesson where the children are given the opportunity to use the internet and books from the library to find out their own facts
- Writing lessons where the children can showcase their writing skills in a cross-curricular context, often writing up the facts that they have researched as part of the unit into a factual report.
- Investigation lessons where the children will focus on one of the types of enquiry and will use a variety of the working scientifically skills
- Data lessons where the children can use their maths skills to represent the data from their investigation in a year group appropriate way
- Further cross curricular opportunities such as researching scientists to further the children's knowledge of the timeline of historical events.

Our curriculum...

EYFS

- Understanding the world...
- Seasonal changes
- Plants
- Life cycles
- Minibeasts
- Understand where certain animals and plants live/ grow.

Our curriculum...

Year 1

- Seasonal changes
- Animals, including humans
- Everyday materials
- Plants

Our curriculum...

Year 2

- Living things and their habitats
- Uses of everyday materials
- Plants
- Animals, including humans

Our curriculum...

Year 3

- Plants
- Rocks and soils
- Animals, including humans
- Light
- Forces and magnets

Our curriculum...

Year 4

- States of matter
- Living things and their habitats
- Animals, including humans
- Sound
- Electricity

Our curriculum...

Year 5

- Living things and their habitats
- Animals, including humans
- Properties and changes of materials
- Earth and Space
- Forces

Our curriculum...

Year 6

- Electricity
- Light
- Animals, including humans
- Living things and their habitats
- Evolution and Inheritance

In class...

In class today, you will see children taking part in an array of different science investigations.

The children will be focussing on different 'working scientifically' objectives and types of enquiry.

Enjoy the activities!