

Amport CE (Aided) Primary School



COURAGE COMPASSION RESPECT

Disciplinary Knowledge and the National Curriculum Statutory requirements for Working Scientifically

HIAS Science Team, October 2022, Final version

Year 1/2

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
<i>Asking simple questions and recognising that they can be answered in different ways</i>	What a scientific question is
	How scientific question can be answered
	Using simple secondary sources
<i>Observing closely, using simple equipment</i>	Variables in practical work (change & measure)
	Use of simple equipment
	Observe changes over time

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
<i>Identifying and classifying cont.</i>	Comparing objects
	Identify patterns
<i>Using their observations and ideas to suggest answers to questions</i>	What scientific evidence is
	What scientific evidence is not
	What conclusions are used for
	What a scientific conclusion

<i>Performing simple tests</i>	Measuring
	Recording of data
<i>Identifying and classifying</i>	Identifying objects
	Classifying
	Sorting objects

	should include
<i>Gathering and recording data to help in answering questions.</i>	What data is
	What a table is
	How to place data into a table
	That data in a table can be clearer when displayed as a graph

Year 3/4

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
<i>Asking relevant questions and using different types of scientific enquiries to answer them</i>	Scientific hypotheses
	Scientific models
	Scientific theories
<i>Setting up simple practical enquiries, comparative and fair tests</i>	Variables in science-change and measure
	Control variables- (keep the same)
<i>Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</i>	Observing
	Taking accurate measurements
	Awareness of scale and a range of units
	Correct use of apparatus including thermometer
	Safety in science

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
<i>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</i>	Table design and construction
	Use of secondary sources
	Classifying
	Identify patterns and relationships
<i>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</i>	Table design and construction
	Creating keys
	Scientific drawing including labels
	Creating bar charts from data
<i>Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions</i>	Oral presentations on findings
	Written explanations

Year 5/6

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
<i>Planning different types of scientific enquiries to answer questions including recognising and controlling variables where necessary</i>	Scientific hypotheses
	Developing Scientific models
	Scientific theories
	Variables in science-change (independent) and measure (dependent)
	Control variables- (keep the same)
<i>Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate</i>	Making accurate observations
	Taking accurate measurements
	Awareness of scale and a range of units
	Correct use of a range of apparatus
	Safety in science
	Repeatability
	Awareness of sources of error in investigations

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
<i>Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.</i>	Complex table design and construction
	Use of high quality and reliable secondary sources
	Classifying
	Create classification keys
	Identifying patterns in nature
	Scientific drawing including labels
	Creating bar charts from data
	Creating scatter / line graphs from data
	Ascertain the level of uncertainty in collected results
	Identify scientific evidence that has been used to support or refute ideas or arguments
Evolution of scientific ideas and models	
The placebo effect	

<i>Working Scientifically Statement</i>	Disciplinary Knowledge
Using test results to make predictions to set up further comparative and fair tests	Interpreting relationships from scatter graphs/line graphs or bar charts
	Validity of results
	Posing further questions based on data
Reporting and presenting findings from enquiries, including conclusions, casual relationships and explanations of and degree of trust in results, in oral and written form such as displays and other presentations	Improvements to procedures
	Oral presentations on findings
	Constructing a scientific conclusion linking collected evidence to substantive knowledge
	Illustrated presentations of research, techniques/methods and findings

