Year	Planning and Predicting	Investigating and Observing	Recording, Analysing and Evaluating	Vocabulary

Glen Hills Primary School Progression Map
Science – Working Scientifically

Year	SAS Key Learning Objectives			Vocabulary
	Planning and Predicting	Investigating and Observing	Recording, Analysing and Evaluating	
Year 1	• Suggest what might happen. • Suggest simple ways to test ideas.	• Make observations using appropriate senses. • Explore using the five senses. • Make simple comparisons and groupings.	• Communicate findings in simple ways. • Collect evidence to try to answer a question.	question answer observe observing compare group equipment identify find sort group record - diagram, chart labels compare describe
Year 1 GDS	• Organise a group of others to carry out an investigation/observation.	• Communicate observations orally, in drawing, labelling, simple writing and using ICT.	• Use charts to communicate findings. • Explain whether what happened was what they expected.	
Year 2	• With help, suggest some ideas and questions. • Think about how to collect evidence. • Suggest what might happen. • Think about and discuss whether comparisons and tests are fair or unfair.	• Make observations and comparison using simple equipment, following simple instructions. • Use first-hand experience and, with help, simple information sources to answer questions.	• Record findings in simple ways including tables, graphs etc. • Say whether what happened was what was expected.	question answer observe observing compare comparison evidence fair unfair equipment identify find classify sort group record – table, graph, diagram, chart, data compare, contrast describe biology
Year 2 GDS	• Choose own equipment which can be used and explain their choices.	• Begin to recognise when a test or comparison is unfair.	• Use comparative adjectives to explain patterns, e.g. bigger, smaller, greater, higher.	

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				chemistry physics
Year 3	• Respond to suggestions. • With help, put forward ideas about testing. • Make predictions. • With help, consider what constitutes a fair test. • With help, plan and carry out a fair test.	• Make observations and comparisons. • Measure length, volume of liquid and time in standard measures using simple measuring equipment. • Use first-hand experience and simple information sources to answer questions.	• Communicate findings in a variety of ways. • Say whether what happened was what was expected and draw simple conclusions. • With help, identify simple patterns and suggest explanations.	relevant questions research secondary sources guides scientific enquiry fair test vary system careful observation measurements accurate equipment thermometer measuring cylinder data gather record classify present record drawings labels keys bar charts tables oral written explanations conclusion predictions differences similarities changes evidence improve keys construct interpret
Year 3 GDS	• Plan out how to perform a task, varying one factors while keeping others the same.	• Explain when a test or comparison is unfair. • Show in the way they perform tasks how to vary one factors whilst keeping the others the same.	• Lead a group to communicate findings to the rest of the class, using a variety of resources.	
Year 4	• Recognise why it is important to collect data to answer questions. • Suggest questions that can be tested.	• Make relevant observations and comparisons. • Make measurements of time and length.	• Explain what the evidence shows in a scientific way and whether it supports predictions. • Suggest improvements in their	relevant questions research data secondary sources guides

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	• Put forward ideas and make predictions. • With help, consider what constitutes a fair test.	• Begin to think about why measurements of length should be repeated. • With help, carry out a fair test, recognising why and explaining why it is fair.	work.	scientific enquiry comparative fair test systematic, careful observation measurements accurate equipment units of length and time data repeat gather record classify present record drawings labels keys bar charts tables oral written explanations conclusion predictions differences similarities changes evidence improve keys construct interpret
Year 4 GDS	• Decide on an appropriate approach in their own investigations to answer questions.	• Explain which result should be chosen from a set of repeated results.	• Suggest improvements in their work, giving reasons.	
Year 5	• Recognise that scientific ideas are based on evidence and creative thinking. • Make predictions based on scientific knowledge. • Suggest methods of testing including a fair test. • Suggest how to collect evidence. • Select suitable equipment.	• Carry out a fair test, explaining why it is fair. • Understanding why observations and measurements need to be repeated. • Select information from provided sources.	• Communicate findings in a variety of ways. • Identify simple trends and patterns. • Communicate findings in tables, bar charts and line graphs, whilst making appropriate use of ICT. • Identify trends and patterns and offer explanations for these. • Draw conclusions and communicate them in appropriate	measurements accuracy precision repeat readings report data evidence average trends patterns diagrams labels keys tables bar/line graphs predictions further comparative fair test

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			• scientific language. • Suggest improvements in their work, giving reasons.	report present conclusions causal relationship explanations degree of trust evidence - support refute identify classify describe patterns systematic quantitative (measureable) measurements ideas source
Year 5 GDS	• Explain predictions in writing using scientific knowledge.	• Use averages to gain one representative results from a set of repeated results.	• Begin to explain anomalous data. • Draw own bar and line graphs to represent results.	
Year 6	• Consider how scientists have combined evidence from observation and measurement with creative thinking to suggest new ideas and explanations for phenomena. • Make predictions based on scientific knowledge and understanding. • Suggest methods of testing including a fair test and how to collect evidence, ensuring it is sufficient and appropriate.	• Carry out a fair test, identifying key factors to be considered. • Make a variety of relevant observations and measurements using simple apparatus. • Decide which observations and measurements need to be checked, by repeating, to give more reliable data. • Select information from a range of sources.	• Communicate findings in tables, bar charts, scatter graphs and line graphs, whilst making appropriate use of ICT. • Identify trends and patterns and results that do not appear to fit the pattern. • Provide explanations for differences in observations and measurements. • Draw conclusions and communicate them in appropriate scientific language. • Make practical suggestions for improving methods in their work giving suggestions.	evidence phenomena measurements accuracy precision repeat readings report data - scientific diagrams, labels, classification keys, tables, scatter/bar/line graphs predictions further comparative fair test report present conclusions causal relationship explanations degree of trust reliable
Year 6 GDS	• Explain predictions in writing using scientific knowledge and	• Understand the difference in how to investigate quantitative and	• Explain anomalous data with a variety of reasons.	

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	understanding.	qualitative data.	• Show how interpretation of evidence leads to new ideas.	evidence - support refute identify classify describe interpret patterns systematic quantitative (measurable) measurements conclusions anomalous