GHYLLGROVE PRIMARY SCHOOL

Subject: Science

Investigation Skills

Key Stage 1	♣ 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.	➢ raise their own questions ➢ use simple features to compare ➢ decide how to sort and group ➢ observe changes over time ➢ begin to notice patterns and relationships ➢ ask people questions ➢ use simple secondary sources to find answers ➢ use simple measurements and equipment (for example, hand lenses, egg timers) to gather data, carry out simple tests, record simple data, and talk about what they have found out and how they found it out. ➢ record and communicate their findings in a range of ways ➢ begin to use simple scientific language
Lower Key Stage 2	♣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	➢ raise their own questions about the world around them ➢ recognise when a simple fair test is necessary and help to decide how to set it up ➢ talk about criteria for grouping, sorting and classifying ➢ use simple keys ➢ begin to look for naturally occurring patterns and relationships and decide what data to collect to identify them. ➢ help to make decisions about what observations to make, how long to make them for and the type of simple equipment that might be used. ➢ collect data from their own observations and measurements, using notes, simple tables and standard units, and help to make decisions about how to record and analyse this data. ➢ finding ways of improving what they have already done ➢ recognise when and how secondary sources might help them to

	♣ 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.	answer questions that cannot be answered through practical investigations ➢ use relevant scientific language to discuss their ideas
Upper Key Stage 2	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 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.	➢ explore ideas and raise different kinds of questions ➢ select and plan the most appropriate type of scientific enquiry to use to answer scientific questions ➢ recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. ➢ develop keys and other information records to identify, classify and describe living things and materials, ➢ identify patterns that might be found in the natural environment ➢ make their own decisions about what observations to make, what measurements to use and how long to make them for, and whether to repeat them; ➢ choose the most appropriate equipment to make measurements and explain how to use it accurately ➢ look for different causal relationships in their data and identify evidence that refutes or supports their ideas ➢ use their results to identify when further tests and observations might be needed ➢ recognise which secondary sources will be most useful to research their ideas and begin to separate opinion from fact ➢ They should use relevant scientific language and illustrations to discuss, communicate and justify their scientific ideas.