Progression across Year 5 and 6

	Working towards		Secure (*End of Year 6 expectation*)		Beyond	
Scientific enquiry and questioning	• **Questioning** Ask questions to develop a deeper understanding about scientific concepts. • **Scientific vocabulary** Begin to use scientific vocabulary within questions and answers. Identify ways to investigate enquiries.		• **Relevant questions** Ask relevant questions, using scientific vocabulary, to extend learning. • **Scientific enquiry** Confidently identify a range of enquiries to solve a question, selecting the most appropriate. Inform new enquiries by identifying and using scientific evidence.		• **Develop enquiry** Begin to ask questions to develop a line of enquiry based on observations, prior experience and scientific concepts. • **Generate questions** Generate questions from the results of an investigation.	
Variable identification and understanding (planning)	• **Variable understanding** Understand and explain why variable control is important (how this has an effect on an enquiry). • **Variable identification** Begin to identify which variables need to stay the same and which need to change. • **Key components** Identify the key components of an investigation *e.g. prediction, method, fair test, results.*		• **Planning an enquiry** Plan different types of scientific enquiries to answer questions. • **Recognise and control variables** Identify when control is necessary and the impact of variables. • **Repeating investigations** Identify the necessity to repeat investigations to increase accuracy, identifying anomalies. • **Technical vocabulary** Use vocabulary such as variable and constant and relate this to investigations.		• **Scientific technical vocabulary** Confidently use scientific, technical vocabulary such as variable and constant to explain investigations. • **Explain** Explain why variables and constants have been chosen if there were more than one variable.	
Predictions	• **Patterns** Inform predictions by recognising patterns, similarities and differences between observations. • **Reasoning** Make simple reasoning comments by using prior knowledge.		• **Informed predictions** Make informed predictions when setting up further investigations in new contexts. • **Secure understanding** Use understanding of scientific concepts to justify and provide reasoning for predictions.		• **Explaining** Explain and provide reasoning for predictions using previous knowledge, scientific vocabulary and terminology.	
Observations and measurements	• **Scientific vocabulary** Use some scientific vocabulary to show an emerging understanding of a concept. • **Measure accurately** Use a range of devices, not always able to select the most appropriate.		• **Accurate precise measurement** Take measurements, using a range of scientific equipment, with increasing accuracy and precision. • **Appropriate selection** of measure. Identify when appropriate to repeat readings. • **Explain** observations using scientific vocabulary and show clear reasoning.		• **Recognise reliability** Consider and comment on measure reliability and impact on results. • **Improvement** Comment on measure improvement to directly impact results. • **Interpretation** Begin to interpret observations and patterns.	
Recording	• **Simple vocabulary** Record findings using simple scientific vocabulary, appropriate to the context. • **Present** data in a chart, graph, table or diagram.		• **Scientific diagrams** with increasing complexity e.g. diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs appropriate to the results. • **Appropriate recording** Identify appropriate method and when repeat readings are necessary.		• **Accurate recording** in a range of different ways, making comparisons between recording techniques. • **Organise and interpret** Confidently organise and interpret recordings, justifying chosen method.	
Classifying and presenting	• **Classify and present data** in different ways to provide evidence to answer a scientific question (not necessarily the most appropriate). • **Simple presentation with basic** scientific language.		• **Present and classify** findings, conclusions, causal relationships and explanations in a range of different ways. • **Degree of trust** Identify patterns and explain these using correct terminology.		• **Accurate techniques** Make comparisons between data- using tables, charts and graphs as evidence. • **Identify patterns** and confidently explain why they have occurred.	
Conclusions	• **Simple comparisons** Compare variables using simple sentences and comparison vocabulary *e.g. the heavier the weight, the greater the stretch.*		• **Explain** Use prior knowledge, correct terminology and evidence to explain findings, using diagrams to support where necessary. • **Identify uncertainties** Recognise uncertainties due to variables and control. Identify possible errors and provide reasoning.		• **Adapt to create precision** Independently identify possible errors. Adapt experiments to produce more precise conclusions.	