‘Key Sheet’ – Working Scientifically

Year Group; 6

Key Skills	Key Content
• Consider how scientists have combined evidence from observation and measurement with creative thinking to suggest new ideas • 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 correctly. • Identify trends and patterns. • Take accurate measurements using appropriate scientific equipment. • Communicate findings in tables, bar charts and line graphs, scatter graphs. • Draw conclusions and communicate them in appropriate scientific language. • Provide explanations for differences in observations and measurements. • Make practical suggestions for improving methods in their work giving suggestions for further testing. • Decide when observations and measurements need to be checked, by repeating, to give more reliable data.	• 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.
Key questions	**Key Vocabulary**
What do think will happen? What have you read/ experienced that might help you form a prediction? How could we find out? What equipment would be needed? What will we measure? What equipment will be used to measure? What will your experiment look like? How can the test be kept fair (variable and constants) How many times will you test? Why? Why is it important for tests to be fair? What data are you collecting? How?	Prediction Conclusion Measure Accuracy Fair test Repeated test Variable Constant Data Tables bar charts line graphs scatter graphs

How will the data be recorded? (tables, bar charts and line graphs, scatter graphs.) What did you notice? What patterns can you see from the data? What does this show you? – this could be written as an 'er statement e.g. the hotter the temperature is, the faster the water will evaporate. Are there any of your results that don't follow the pattern? Why do you think that is? What would you change about your test? How could it be improved? Why might your measurements need to be repeated?	patterns justify explain