



Lessons Sequence							
TOPIC (S)	<table border="1"> <tr> <td>1. Lab rules and expectations 2. Apparatus 3. Measuring 4. Hazards and risk assessments 5. The Bunsen Burner</td> <td>6. Flame tests and Mg 7. Variables 8. Writing method 9. Stopping distance 10. Drawing tables</td> <td>11. Penguin huddling 12. Drawing graphs 13. Insulation Investigation 14. Conclusions 15. Evaluating 16. Maths Skills 17. End of topic assessment</td> </tr> </table>	1. Lab rules and expectations 2. Apparatus 3. Measuring 4. Hazards and risk assessments 5. The Bunsen Burner	6. Flame tests and Mg 7. Variables 8. Writing method 9. Stopping distance 10. Drawing tables	11. Penguin huddling 12. Drawing graphs 13. Insulation Investigation 14. Conclusions 15. Evaluating 16. Maths Skills 17. End of topic assessment			
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Knowledge & Skills development	<table border="1"> <tr> <td> <ul style="list-style-type: none"> Recall the lab rules Identify all lab apparatus and uses Correctly use a variety of measuring equipment Identify and describe the hazard symbols used within science Light a Bunsen burner safely Investigate the different colours produced by metals in a flame Recall the three variables and apply them to numerous practical investigations </td> <td> <ul style="list-style-type: none"> Write detailed methods Investigate stopping distance at various speeds Draw accurate tables and graphs for data collection Investigate why penguins huddle Investigate the best materials for insulation Write detailed conclusions and evaluations Calculate means and use significant figures correctly </td> </tr> </table>	<ul style="list-style-type: none"> Recall the lab rules Identify all lab apparatus and uses Correctly use a variety of measuring equipment Identify and describe the hazard symbols used within science Light a Bunsen burner safely Investigate the different colours produced by metals in a flame Recall the three variables and apply them to numerous practical investigations 	<ul style="list-style-type: none"> Write detailed methods Investigate stopping distance at various speeds Draw accurate tables and graphs for data collection Investigate why penguins huddle Investigate the best materials for insulation Write detailed conclusions and evaluations Calculate means and use significant figures correctly 				
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Assessment / Feedback Opportunities	<table border="1"> <tr> <td>Targeted questioning throughout topic</td> <td>Teacher assessment of practical skills during investigation - verbal</td> <td>AWOL assessment – formative teacher assessment in students books</td> <td>Mid topic assessment – formative assessment</td> <td>Homework topic quiz – formative assessment</td> <td>End of topic assessment – teacher summative assessment</td> </tr> </table>	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	AWOL assessment – formative teacher assessment in students books	Mid topic assessment – formative assessment	Homework topic quiz – formative assessment	End of topic assessment – teacher summative assessment
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Cultural Capital	<ul style="list-style-type: none"> Use of lab equipment (real science) 						
SMSC / Promoting British Values <small>(Democracy, Liberty, Rule of Law, Tolerance & Respect)</small>	<ul style="list-style-type: none"> National speed limits – the reason why Working in groups during practicals or research tasks Life Skills – Insulation at home/energy bills Life Skills – Stopping distances relating to speed on roads/ road safety tyre tread Life Skills – Hazard symbols in the home 						
Reading opportunities	<ul style="list-style-type: none"> Recommended Read: Max Einstein – The genius experiment Recommended Read: Ground-breaking scientists Recommended Read: Working Scientifically (Oaka Books) 						
Key Vocabulary	Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly, significant figures, insulation, Friction, huddling, thermal, roaring, safety, Beaker, Conical, Measuring, Cylinder, flammable, hazardous, corrosive						
Digital Literacy	SharePoint resources including topic quiz Possible use of excel to plot graphs and analyse data, powerpoint, word, etc to present information, internet for research						

Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators, significant figures.
Careers	Laboratory technicians, investigative scientist, lecturer, chemical factory worker, Highway agency, environmental scientist, zoologist