SOUTH WILTS GRAMMAR SCHOOL

Year 8 Standards – Science

Knowledge/skills These must relate to the CURRICULUM How far have students learned the curriculum?	Working **towards** SWGS Standard for end of Year 8	Working **at** SWGS Standard for end of Year 8	Working **beyond** SWGS Standard for end of Year 8
Investigative Skills	Identify the independent and dependent variables Decide on and follow a valid procedure when provided with suitable equipment. Produce a written description of the measurements to be taken with a diagram where appropriate. Identify hazards involved and carry out investigations safely Record results clearly in a table	Confidently identify the key variables in an investigation including the variables to be controlled Decide on and follow a valid procedure when provided with suitable equipment Write a clear step-by step method including how to take measurements. Including a scientific diagram where appropriate Identify significant hazards, suggest precautions and remedial actions and carry out investigations safely Record data in a table with correct quantities and units in table headings	Confidently identify the independent, dependant and all relevant control variables Decide on and follow a valid procedure when provided with suitable equipment, using preliminary measurements to decide the range of the independent variable and values for the control variables Write a clear step-by-step method that includes the procedures to minimise error. Include a scientific diagram where appropriate. Identify all specific hazards and suggest precautions and remedial actions in the event of an accident. Design a table suitable for collating data without any guidance. Record data with appropriate resolution.

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			Identify the limitations of experiments and make suggestions to improve the method.
Mathematical and Data Handling Skills	Substitute values into an equation Calculate arithmetic means Plot two variables from experimental data to produce a scatter graph or bar chart with correctly labelled axes and plotting Describe trends from a graph and link to relevant science	Rearrange a three-part equation involving addition, subtraction, multiplication or division with support Calculate arithmetic means taking into account anomalous results Draw straight or curved trend lines on a scatter graph Link findings in data to theoretical knowledge and include data in description of the trend	Independently change the subject of an equation involving addition, subtraction, multiplication or division Process data to support the explanation of a trend Regularly use appropriate significant figures in calculations Add range bars to plotted data on a graph and draw curved or straight trend lines that lie within range bars Identify mathematical links in data and use to predict future trends
Scientific Knowledge	Consistently recall scientific facts typically achieving below 70% in knowledge-based assessments Regularly use subject specific terminology in the correct context Use models to communicate a scientific process	Consistently recall scientific facts and apply to familiar contexts – typically achieving 70%-85% in knowledge-based assessments Confidently use subject specific terminology in the correct context	Consistently recall scientific facts and apply to familiar contexts – typically achieving above 85% in knowledge-based assessments Confidently use subject specific terminology in the correct context

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		Use models to communicate a scientific process	Evaluate the strengths of different models used to communicate a scientific process