

	Year 9	Year 9	Year 9	Year 9	Year 9	Year 9	Year 9	Year 9
	1	2	3	4	5	6	7	8
Planning	<p>I can suggest how to find things out and produce my own method with help.</p> <p>I can follow methods using simple equipment and I can make observations.</p>	<p>I can predict what I think will happen in an experiment.</p> <p>I can plan a fair test, write a method and follow instructions without help.</p> <p>I work safely.</p> <p>I can identify a control variable needed to keep an experiment fair.</p>	<p>I can use skills I've learned to plan investigations that answer scientific questions. I can use what I've learned to write predictions and hypotheses.</p> <p>I can identify the Independent and Dependent Variables.</p> <p>I can identify more than one control variable.</p> <p>I can identify 1 or 2 hazards and write a risk assessment.</p> <p>I follow procedures and work safely.</p>	<p>I can use scientific ideas to independently develop hypotheses and plan experiments. I can explain my hypothesis in detail.</p> <p>I can write detailed plans. I can identify the IV, DV and at least 2 control variables. I can explain why things need to be kept the same without just saying "to make it a fair test".</p> <p>I can independently identify 2 or more hazards and write a risk assessment.</p> <p>I follow procedures accurately and work safely.</p> <p>I understand why scientists need to repeat experiments and plan for this.</p>	<p>I can use scientific theories to independently develop hypotheses and plan experiments. I can explain my hypotheses in a detailed, extended way using more than one step in my explanations.</p> <p>I can use theories and explanations to independently plan controlled experiments which yield valid results. I can identify the IV, DV and various control variables and explain why they need to be controlled without any help.</p> <p>I can write detailed risk assessments, follow procedures and suggest improvements and weaknesses as I work. I manage risks whilst working.</p>	<p>I can use scientific theories to independently develop hypotheses and plan experiments. I can explain my hypotheses in a detailed, extended way.</p> <p>I can use theories and explanations to independently plan controlled experiments which yield valid results. I can identify the IV, DV and various control variables and explain why they need to be controlled. I can identify sources of error when I am doing the work.</p> <p>I can write detailed risk assessments, follow procedures and suggest improvements and weaknesses as I work. I manage risks whilst working.</p>	<p>I can use scientific models and theories to independently develop hypotheses and plan experiments. I can explain my hypotheses in a detailed, extended way.</p> <p>I can use scientific ideas to independently plan controlled experiments which yield valid results and I can identify sources of error in my plan before starting practical work and work out how to minimise errors.</p> <p>I can identify the IV, DV and various control variables and explain why they need to be controlled</p> <p>I can write detailed risk assessments, follow procedures and suggest improvements and weaknesses as I</p>	<p>I can use scientific models and theories to independently develop hypotheses and plan experiments. I can explain my hypotheses in a detailed, extended way.</p> <p>I can use scientific ideas to independently plan controlled experiments which yield valid results and I can identify sources of error in my plan before starting practical work and work out how to minimise errors.</p> <p>I can identify the IV, DV and various control variables and explain why they need to be controlled.</p> <p>I can write detailed risk assessments, follow procedures and suggest improvements and weaknesses as I</p>
Conclusions / Analysis	<p>I can use tables to record my data and can draw graphs with help.</p> <p>I can say whether my results were what I expected.</p>	<p>I can put data into results tables and draw bar charts with confidence but I sometimes need help with the scale.</p> <p>I can read graphs and tables and describe the main patterns that I see.</p> <p>I can make observations and say what I think caused these.</p> <p>I use units and keywords in my work.</p>	<p>I can present data in tables and plot graphs accurately. I can read data from graphs. I always put the IV on the x axis and the DV on the y axis.</p> <p>I can read graphs and tables and describe the main patterns that I see. I can make broad conclusions based on the evidence I see in data.</p> <p>I can calculate the mean, range and interval.</p>	<p>I can choose the best type of graph to use and I use appropriate units and language. I always put the IV on the x axis and the DV on the y axis.</p> <p>I can read graphs and tables and describe the main patterns that I see. I can make broad conclusions based on the evidence I see in data.</p> <p>I can identify anomalous results.</p> <p>I can calculate the mean, range and interval.</p>	<p>I always present data in the most appropriate way and use appropriate units and language.</p> <p>I can quickly understand lots of different types of tables and graphs.</p> <p>I can analyse patterns and trends in data and make detailed conclusions consistent with data.</p> <p>I can identify anomalous results and suggest what caused them.</p> <p>I can calculate the mean, range and interval.</p>	<p>I always present data in the most appropriate way and use appropriate units and language.</p> <p>I can analyse various data and can write detailed conclusions consistent with data. I can say why I made my conclusions.</p> <p>I can identify anomalous results in my data and leave them out when calculating a mean. I can suggest the cause of anomalous results.</p> <p>I can calculate the mean, range and interval. I understand how repeats affect my mean.</p>	<p>I always present data in the most appropriate way and use appropriate units and language.</p> <p>I can analyse various data and can write reasoned, detailed conclusions consistent with data. I can say why I made my conclusions and how they impact on my hypothesis.</p> <p>I can identify anomalous results by looking at data and take into account these weaknesses when calculating a mean and writing my conclusions.</p> <p>I can calculate the mean, range and interval and comment on these numbers. I understand how repeats affect my mean and what the range tells</p>	<p>I always present data in the most appropriate way and use appropriate units and language.</p> <p>I can analyse various data and can write reasoned, detailed conclusions consistent with data. I can say why I made my conclusions and how they impact on my hypothesis.</p> <p>I can identify anomalous results by looking at data and take into account these weaknesses when calculating a mean and writing my conclusions.</p> <p>I can calculate the mean, range and interval and comment on these numbers. I understand how repeats affect my mean and what the range tells</p>
Evaluating	<p>I can say why my experiment was not fair.</p> <p>I recognise examples of science in my life and can say why experiments are useful.</p> <p>I know that ideas can change over time.</p>	<p>I can identify a weakness (source of error) in my investigation and say how to improve it next time.</p> <p>I know why results from experiments are important.</p> <p>I know that scientific ideas change over time.</p>	<p>I can identify a weakness (source of error) in my investigation and say how to improve it next time.</p> <p>I can say how science can change peoples' ideas.</p> <p>I know that scientific ideas change over time and can explain how scientific ideas can be used to make money and/or help the environment.</p>	<p>I can identify more than one weakness (sources of error) in my investigation and suggest improvements. I can say how much I trust my data based on the weaknesses I've identified.</p> <p>I can say if my results are repeatable and why.</p> <p>I understand how scientific advances may have benefits and risks.</p> <p>I know that scientific ideas change over time and can describe how science affects people on personal, economic and environmental levels.</p>	<p>I can say if my data is accurate, repeatable and reproducible.</p> <p>I can give multiple reasons for what might have caused errors in experiments and can explain how to improve these.</p> <p>I have started to criticise data and understand the limitations of evidence.</p> <p>I understand how scientific advances may have ethical implications, benefits and risks.</p> <p>I can explain why scientific ideas change over time and can describe how science affects people on personal, economic and environmental levels.</p>	<p>I can give multiple reasons for what might have caused errors in experiments and can explain how to improve these.</p> <p>I can evaluate data based on accuracy, repeatability and reproducibility. I understand why it's important to have high resolution of measurements.</p> <p>I can recognise bias in experiments.</p> <p>I understand how scientific advances may have ethical implications, benefits and risks.</p> <p>I can explain why scientific ideas change over time and can explain personal, social, economic and environmental</p>	<p>I can give multiple reasons for what might have caused errors in experiments and can explain how to improve these.</p> <p>I can evaluate data based on accuracy, precision, repeatability and reproducibility. I can quickly recognise bias and weaknesses in experiments. I understand the limitations of the evidence and can write detailed evaluations of data based on all these factors.</p> <p>I understand why it's important to have high resolution of measurements.</p> <p>I understand how scientific advances may have ethical implications, benefits and risks. I can explain why scientific ideas change over time and can suggest and explain potential personal, social,</p>	<p>I can give multiple reasons for what might have caused errors in experiments and can explain how to improve these.</p> <p>I can evaluate data based on accuracy, precision, repeatability and reproducibility. I can quickly recognise bias and weaknesses in experiments. I understand the limitations of the evidence and can write detailed evaluations of data based on all these factors.</p> <p>I understand why it's important to have high resolution of measurements and can explain how the resolution and accuracy of measurements will impact my data.</p> <p>I understand how scientific advances may have ethical implications, benefits</p>
OVERALL	<p>I can describe my ideas in writing and find the correct information to answer questions.</p>	<p>I can develop simple written explanations on my own but need help with using some scientific theories and models.</p>	<p>I can explain things using simple scientific ideas and simple models.</p>	<p>I can develop extended (two-step) explanations using scientific ideas and knowledge and use abstract models to explain things. I need to be prompted to extend my explanations.</p>	<p>I can confidently develop my own extended explanations using scientific ideas, models and theories.</p>	<p>I can confidently develop my own extended explanations using scientific ideas, models and theories and I can link my ideas.</p>	<p>I can use detailed, secure knowledge, and a range of models and theories to give detailed explanations. I have started to link ideas from other things I have studied in Science.</p>	<p>I can use detailed, secure knowledge, and a range of concepts, models and theories to give detailed explanations, even when I am explaining something completely new to me. I can use and link ideas from other things I have studied in Science.</p>