AOLE	Subject	Year	Assessment
Science and Technology	Science	8	Practical Assessments

Progression Table		
Progression Indicator	**Knowledge/Skills**	**How will I demonstrate this**
Excelling	● Pupils link experimental findings and theoretical knowledge to draw valid conclusions. ● Pupils critically evaluate the quality of data and justify improvements. ● Pupils devise, justify and use systematic methods of inquiry to rigorously investigate my scientific questions and recognise limitations. ● Pupils choose the most appropriate graph for the set of data and be able to justify their choice. ● Pupils can draw a graph independently, having decided for themselves on an appropriate, and accurate scale. ● Pupils can draw conclusions from the graph without any guidance. ● Pupils interpret a given graph, or their own graph independently. ● Pupils can draw conclusions from the graph without any guidance and can use their interpretation skills to compare different sets of data quantitatively and qualitatively. ● Pupils can start to decide if they should draw a line of best fit or a curve of best fit depending on their plotted points.	➔ I can suggest improvements to my inquiry. ➔ I can identify measurement tools with the correct resolution to make fine measurements with devices that record to 2 decimal places. ➔ I can justify why I need to control certain variables to ensure I am carrying out a fair investigation. ➔ I can decide if I need to draw a bar chart or a line graph depending on the type of data I have collected. ➔ I can draw my own graph, using my own scales. ➔ I can suggest that as one variable increases what the other variable is doing. ➔ I can identify what is happening using words and use numbers from the graph to allow comparison at different points in the graph and compare graphs. I can use the words increasing, decreasing and identify if the rate (how something changes in time) is changing. ➔ I can decide the type of line of best fit to plot based on the data points I have plotted.

Advancing	● Pupils can identify questions that can be investigated scientifically and suggest suitable methods of inquiry. ● Pupils use findings to draw valid conclusions. ● Pupils ensure their data is reliable and as accurate as possible and create data tables independently. ● Pupils use knowledge and understanding of the scientific topic to predict effects as part of their scientific exploration. They start to use qualitative descriptions to help. ● Pupils should start to consider what variables should be controlled to ensure their inquiry is a fair test. ● Pupils choose the most appropriate graph to draw for the set of data they have recorded. ● Fully understand the success criteria of different types of graphs, choosing the most appropriate graph using SALUTE to make improvements to their work.	➔ I can consider what variables to change and measure to plan my inquiry. ➔ I can write a conclusion and discuss if the results support my prediction. ➔ I can carry out repeat readings and calculate a mean using a table I have created. ➔ I can use my knowledge of the topic and the science I have learnt to predict what may happen. I can start to describe what I think may happen when I change my independent variable. ➔ I can select the correct variables I need to control, such as height, distance, temperature for a given experiment. ➔ I can start to select the most appropriate graph for the task with little to no help. ➔ I can use SALUTE to ensure my graph is correct and make improvements where necessary.
Securing	● Pupils show curiosity and question how things work. ● Pupils explore their environment, make observations and communicate their ideas. ● Pupils evaluate the data they want to collect. ● Pupils ask questions and use their experience to suggest simple methods of inquiry. ● Pupils can start to create data tables independently given the independent and dependent variables. ● Pupils can recognise patterns from their observations and investigations and can communicate their findings. ● Pupils draw graphs independently, with guidance on the most appropriate scale. ● Pupils can label the axes and write an appropriate title for the graph. ● Pupils can independently check their graphs using SALUTE (Scale Axis, Line, Units, Title, Equipment). ● Pupils can interpret a given graph, or their own drawn graph.	➔ I can formulate a question about the scientific topic. ➔ I can consider what variables should change. ➔ I can select the correct measurement tool for my inquiry. ➔ I can pose a question which will lead me to start an inquiry and write an aim. ➔ I can start to take multiple measurements when one variable is changed. ➔ I can start to plot the best type of graph to display my results. ➔ Using a suggested scale I can draw the correct type of graph on my own and write on the scale correctly. ➔ I can select the correct headings from my data table to put on the axis labels and use this to make a title. ➔ I am able to check the correct boxes to check I have all the parts needed for a complete graph. ➔ I can read a graph and identify simple questions such as: what drink has the most sugar given a bar chart of the sugar content of different drinks.

Beginning	● Pupils use their knowledge and understanding to predict effects as part of their scientific exploration. ● Pupils can suggest simple conclusions as a result of carrying out their inquiries. ● Pupils can record data in simple given tables with an independent variable and a dependent variable. ● Pupils complete a partially drawn graph or draw a simple graph on a given set of axes for a simple set of data. ● Pupils can plot points or draw bars accurately and begin to understand the success criteria using SALUTE (Scale Axis, Line, Units, Title, Equipment).	➔ I can write a simple statement of what I think my inquiry's results will be. ➔ I can write a conclusion, stating what I discovered. ➔ I can record a measurement when one variable is changed. ➔ I can complete a graph, accurately plotting the points or drawing the correct bars for data that has been given to me. ➔ I can start to consider the key parts I need to include in my graphs.