

## Grades and Science Skills KS3 Assessment Criteria

Yr 9	Researching	Planning/Predicting	Assessing Risks	Collecting & Recording Data	Processing Data	Patterns	Concluding	Evaluating
Identify List	Simple statement based on what is thought/known.	Identify some equipment to use. Outline plan.	Identify some hazards / risks.	Some results obtained and recorded.	Identify simple changes in dependent variable e.g. increases / goes up / biggest.			
		Identify & list equipment. Simple prediction. Simple method.	Describe specific hazards / risks.	Some results obtained and recorded clearly.	Data presented in chart or graph. Addition / subtraction.	Simple conclusion based on observations recorded.		
T Describe & Patterns	Use 1 or 2 sources to research information. Describe researched info from 1 or 2 sources in own words.	Plan a fair test. Identify independent (IV), dependant (DV) & control variables (CV). 2 values for independent variable (IV). Link measurement to equipment. Prediction with simple explanation.	Describe safety precautions for identified risks.	Relevant data collected. Results tabulated. Appropriate column / row headings. Units.	Appropriate graph type: bar chart / scatter graph / line graph. Multiplication / division. Correct spacing of numerical scale along graph axis. Average calculations.	Describe main trend / pattern in results. Identify anomalous results. Compare data to other groups and describe similarities / differences.	Suggest reason for observed change. Conclusion linked to independent variable.	Simple statement about method used / quality of results. Describe strengths & weaknesses in method. Describe <b>repeatability</b> of data.
C Explain	Find info from at least 3 different sources. Identify and describe trends in relevant researched info.	Detailed method for fair test. Clear fully labelled diagram. Appropriate number & range for independent variable. Predict and explain relationship / trend between variables linking to key scientific ideas.	Explain safety precautions for all risks for specific activities.	Correct units included in column headings only.	Accurate line of best fit. Correct units. Explain repeat / no repeat tests. Unit conversions. Read values off graph.	Explain similarities & differences in results when compared to other groups / theoretical data.	Use scientific knowledge & understanding to explain trends / patterns.	Suggest changes to method/equipment to improve quality of data.
B Apply	List sources. Explain trends or patterns in research.	Justify choice of equipment / no. & range of values for independent variable. Make quantitative predictions. Justify prediction using scientific knowledge and understanding.	Link risks and precautions to identify resultant risks.	Correct units. Consistent levels of precision.	Consistent rounding to appropriate level of precision/significant figures. Correct units. Extrapolate / interpolate info from line of best fit. Range bars.	Use scientific knowledge & understanding / abstract ideas / models to explain trends and patterns. Explain anomalous results.		Explain repeatability of data/anomalous results, linking to range bars. Use scientific knowledge & understanding to explain how improvements will improve quality of data.
A Evaluate Synthesis Link	Evaluate relative significance of information to draw conclusion. Full bibliography. Report referenced throughout.	Evaluate impact on results of not controlling variables. Evaluate impact of variables that cannot be easily controlled.	Justify resultant risks. Explain emergency action linking to specific risks.	Correct units. Appropriate and consistent levels of precision.	Use standard form. Use line of best fit to plot/calculate new data not apparent from data. Rearrange and use equations in calculations. Correct units.	Identify and explain numerical relationships between variables.	Justify whether a firm conclusion can be drawn from data.	Evaluate level of <b>uncertainty</b> in data. Evaluate the impact of strengths / weaknesses. Evaluate <b>accuracy</b> of data (compare to theoretical).

## Grades and Science Skills KS3 Assessment Criteria

Yr 8	Researching	Planning/Predicting	Assessing Risks	Collecting & Recording Data	Processing Data	Patterns	Concluding	Evaluating
Identify	Simple statement based on what is thought/known.	Identify some equipment to use. Outline plan.	Identify some hazards / risks.	Some results obtained and recorded.	Identify simple changes in dependent variable e.g. increases / goes up / biggest.			
<b>T</b> List & Describe	Use 1 or 2 sources to research information.	Identify & list equipment. Plan a fair test. Simple prediction with reason. 2 values for independent variable (IV). Link measurement to equipment.	Describe specific hazards / risks. Describe safety precautions for some risks.	Relevant data collected. Results tabulated & recorded clearly.	Appropriate graph type: bar chart / scatter graph / line graph. Addition / subtraction. Multiplication / division.	Describe main trend / pattern in results.	Suggest reason for observed change.	Simple statement about method used / quality of results.
<b>C</b> Patterns	Describe researched info from 1 or 2 sources in own words.	Identify independent (IV), dependant (DV) & control variables (CV). Prediction with simple explanation.	Describe safety precautions for all risks identified.	Appropriate column / row headings. Units.	Correct spacing of numerical scale along graph axis. Average calculations.	Identify anomalous results. Compare data to other groups and describe similarities / differences.	Conclusion linked to independent variable.	Describe strengths & weaknesses in method. Describe <b>repeatability</b> of data.
<b>B</b> Explain	Find info from at least 3 different sources. Identify and describe trends in relevant researched info.	Detailed method for fair test. Clear fully labelled diagram. Appropriate number & range for independent variable. Predict and explain relationship / trend between variables linking to key scientific ideas.	Explain safety precautions for all risks for specific activities.	Correct units included in column headings only.	Accurate line of best fit. Correct units. Explain repeat / no repeat tests. Unit conversions. Read values off graph.	Explain similarities & differences in results when compared to other groups / theoretical data.	Use scientific knowledge & understanding to explain trends / patterns.	Suggest changes to method/equipment to improve quality of data.
<b>A</b> Apply	List sources. Explain trends or patterns in research.	Justify choice of equipment / no. & range of values for independent variable. Make quantitative predictions. Justify prediction using scientific knowledge and understanding.	Link risks and precautions to identify resultant risks.	Correct units. Consistent levels of precision.	Consistent rounding to appropriate level of precision/significant figures. Correct units. Extrapolate / interpolate info from line of best fit. Range bars.	Use scientific knowledge & understanding / abstract ideas / models to explain trends and patterns. Explain anomalous results.		Explain repeatability of data/anomalous results, linking to range bars. Use scientific knowledge & understanding to explain how improvements will improve quality of data.
Evaluate Synthesis Link	Evaluate relative significance of information to draw conclusion. Full bibliography. Report referenced throughout.	Evaluate impact on results of not controlling variables. Evaluate impact of variables that cannot be easily controlled.	Justify resultant risks. Explain emergency action linking to specific risks.	Correct units. Appropriate and consistent levels of precision.	Use standard form. Use line of best fit to plot/calculate new data not apparent from data. Rearrange and use equations in calculations. Correct units.	Identify and explain numerical relationships between variables.	Justify whether a firm conclusion can be drawn from data.	Evaluate level of <b>uncertainty</b> in data. Evaluate the impact of strengths / weaknesses. Evaluate <b>accuracy</b> of data (compare to theoretical).

## Grades and Science Skills KS3 Assessment Criteria

Yr 7	Researching	Planning/Predicting	Assessing Risks	Collecting & Recording Data	Processing Data	Patterns	Concluding	Evaluating
<b>T</b> Identify & List	Simple statement based on what is thought/known.	Identify & list equipment. Simple prediction. Simple method.	Identify some hazards / risks.	Some results obtained and recorded clearly.	Data presented in chart or graph. Addition / subtraction.	Identify simple changes in dependent variable e.g. increases / goes up / biggest.	Simple conclusion based on observations recorded.	
<b>C</b> Describe	Use 1 or 2 sources to research information.	Plan a fair test. Prediction with reason. 2 values for independent variable (IV). Link measurement to equipment.	Describe safety precautions for some risks.	Relevant data collected. Results tabulated.	Appropriate graph type: bar chart / scatter graph / line graph. Multiplication / division.	Describe main trend / pattern in results.	Suggest reason for observed change.	Simple statement about method used / quality of results.
<b>B</b> Patterns	Describe researched info from 1 or 2 sources in own words.	Identify independent (IV), dependant (DV) & control variables (CV). Prediction with simple explanation.	Describe safety precautions for all risks identified.	Appropriate column / row headings. Units.	Correct spacing of numerical scale along graph axis. Average calculations.	Identify anomalous results. Compare data to other groups and describe similarities / differences.	Conclusion linked to independent variable.	Describe strengths & weaknesses in method. Describe <b>repeatability</b> of data.
<b>A</b> Explain	Find info from at least 3 different sources. Identify and describe trends in relevant researched info.	Detailed method for fair test. Clear fully labelled diagram. Appropriate number & range for independent variable. Predict and explain relationship / trend between variables linking to key scientific ideas.	Explain safety precautions for all risks for specific activities.	Correct units included in column headings only.	Accurate line of best fit. Correct units. Explain repeat / no repeat tests. Unit conversions. Read values off graph.	Explain similarities & differences in results when compared to other groups / theoretical data.	Use scientific knowledge & understanding to explain trends / patterns.	Suggest changes to method/equipment to improve quality of data.
<b>Apply</b>	List sources. Explain trends or patterns in research.	Justify choice of equipment / no. & range of values for independent variable. Make quantitative predictions. Justify prediction using scientific knowledge and understanding.	Link risks and precautions to identify resultant risks.	Correct units. Consistent levels of precision.	Consistent rounding to appropriate level of precision/significant figures. Correct units. Extrapolate / interpolate info from line of best fit. Range bars.	Use scientific knowledge & understanding / abstract ideas / models to explain trends and patterns. Explain anomalous results.		Explain repeatability of data/anomalous results, linking to range bars. Use scientific knowledge & understanding to explain how improvements will improve quality of data.
<b>Evaluate Synthesis Link</b>	Evaluate relative significance of information to draw conclusion. Full bibliography. Report referenced throughout.	Evaluate impact on results of not controlling variables. Evaluate impact of variables that cannot be easily controlled.	Justify resultant risks. Explain emergency action linking to specific risks.	Correct units. Appropriate and consistent levels of precision.	Use standard form. Use line of best fit to plot/calculate new data not apparent from data. Rearrange and use equations in calculations. Correct units.	Identify and explain numerical relationships between variables.	Justify whether a firm conclusion can be drawn from data.	Evaluate level of <b>uncertainty</b> in data. Evaluate the impact of strengths / weaknesses. Evaluate <b>accuracy</b> of data (compare to theoretical).