Biology and Chemistry Written Communication Descriptors

Learning Objective	Start of Year 7	1	2	3	4	5	6	Ready to start GCSE
Accuracy of knowledge and understanding		Quality of writing is typical of a student making satisfactory progress through the course. Some ideas are unclear or missing. Factual mistakes have been made that need correction.		Writing shows good use of what has been learnt in lessons or expected research. Explanation demonstrates sound understanding and meets learning objectives.		Knowledge demonstrated is beyond what is expected. Scientific ideas have been explained beyond the level delivered in lessons. Evidence of in-depth research that shows understanding beyond learning objectives.		
Relevance of content		Some correct facts and ideas given. Some of the content does not help explain the ideas.		Most of the content is useful and contributes to meeting the objectives of the task.		All relevant, additional examples given to make explanations clear and to help the reader understand the scientific ideas.		
Structure and organisation		Presentation needs to be improved to make it easier to understand. Order of ideas need to be changed to make it easier to follow.		Reasonable structure and organisation that communicates information effectively. Main ideas are easily understood.		Organised, logical order of ideas that allows the reader to easily understand the content of the writing.		
Use of scientific terminology		Scientific words have been used. More scientific words need to be used to make explanations easier to understand.		New scientific words and phrases used and have been used correctly.		Wide range of scientific words and phrases have been used accurately, that contributes to the quality of explanation		
Spelling, punctuation and grammar		General mistakes made that could be avoided by checking work		Reasonable accuracy, but some mistakes made with new scientific vocabulary.		Almost faultless. Excellent use of vocabulary and punctuation.		

Biology and Chemistry Investigation Planning Descriptors

Learning Objective	Start of Year 7 1 2	3 4	5 6 Ready to start GCSE
Clear aim and objective	Some detail and explanation is given to describe the purpose of the experiment. The science idea needs to be more obvious.	Aim is clear, dependent and independent variables are obvious. The question that is being investigated is stated.	Plan is based on a clear hypothesis or prediction. Question investigated is logical demonstrating good scientific reasoning.
Scientific equipment	Some correct equipment chosen. List of equipment needs to be completed.	Equipment selected will allow the collection of valid (useful) results.	A complete equipment list that will allow precise, reliable data to be collected.
Technique/method	Method allows results to be collected. More detail needed so that the steps in the method are clear. The order of steps need to be changed. Equipment and quantities need to be checked.	A clear method, appropriate technique that will collect valid data. Repeats or comparison of results with others needs to be considered.	A detailed plan that will allow the collection of precise and reliable data.
Validity of results	Some reference to controlling variables is given.	At least one has a clear method for control or monitoring of a variable. A key variable has been missed Method of control needs more detail and explanation.	All significant control variables have been identified with a clear method for control or monitoring. Reasons for controlling variables have been explained using scientific knowledge.
Safety	Some reference to considering safety.	A safety precaution is described hazard identified.	Plan clearly identifies hazards with risk assessment and precautions given.

Biology and Chemistry Presentation & Processing of Data Descriptors

Learning Objective	Start of Year 7 1 2	3 4	5 6 Ready to start GCSE
Presentation of data	Some data has been recorded. Measurements recorded meet the aim of the investigation. Design needs to be improved.	Expected amount of data recorded. Correct choice of table design, graph or chart. Trends in data can be seen	Comprehensive data recorded Correct choice of table design, graph or chart. Trends in data can be described in detail.
Table Design, headings and units	Data presented in a table. Design does not include all necessary data. Some data presented incorrectly.	Data presented in correct columns. Table has appropriate headings and units.	Design has independent variable in first column. Headings are detailed with correct units. Table contains processed data.
Graph/Chart Design, labels and units	Some data plotted correctly. Trend cannot be clearly seen. Scales are incorrect or wrong size. Line has not been drawn.	Data is presented correctly. Trend can be seen. Labels and units are correct. Variables are on wrong axes. Line of best fit needs improvement	Labels are detailed with correct units Trend can be described in detail Correct line of best fit Processed data has been plotted
Quality of Data	Some data recorded accurately More data required to draw a strong conclusion.	Enough data collected to meet the aim of the experiment. Repeats or comparison with other peoples' data needs to be considered.	All data accurately recorded. Data processed correctly Anomalies identified.

Biology and Chemistry Analysis & Conclusion Descriptors

Learning Objective	Start of Year 7 1 2	3 4	5 6 Ready to start GCSE
Describing results	The basic trend in the data is described	Trend is identified and described clearly using scientific terminology.	Trend is described clearly with reference to data. Detail in pattern of results has been identified, changes in gradient of trend have been described.
Making conclusions	Statement is correct in the context of the results and shows some understanding of the scientific idea.	Statement clearly states how the independent variable affects the dependent variable. Expected scientific knowledge and understanding is used to explain the results.	Statement is a clear conclusion that explains how it answers the aim of the practical or supports the hypothesis/prediction. A detailed explanation of results is given using good scientific terminology and illustrated using data from the practical.
Application of Conclusion	A basic understanding of how the conclusion relates to the wider topic or scientific context.	Conclusion is explained in the wider context of the topic. Conclusion shows awareness of further investigations that could be carried out.	Conclusion suggests further investigations, hypotheses and predictions to be investigated or asks further scientific questions.

Biology and Chemistry Evaluation Descriptors

Learning Objective	Start of Year 7 1 2	3 4	5 6 Ready to start GCSE
Advantages	A strength or piece of supporting evidence is given.	Clear identification of more than one strength, advantage or piece of supporting evidence.	Strengths or supporting evidence is clearly explained using good scientific terminology. The importance of each strength and its consequence is clear.
Disadvantages	A weakness, limitation or disadvantage is given.	Clear identification of more than one weakness, limitation or contradicting evidence.	Weaknesses or contradicting evidence is clearly explained using good scientific terminology. The importance of each weakness and its consequence is clear.
Decision making	A judgement or opinion is given that relates to the topic or experiment	A relevant judgement or opinion is given that is clearly based on the advantages and disadvantages that have been described.	An objective and logical judgement or opinion is given which is supported by the evidence. It is clear how the decision is supported by the advantages and disadvantages.
Strength of argument	Some reasons for decision have been given. More thought needed to strengthen opinion or judgement.	A logical structured argument that clearly supports the opinion or judgement.	A forceful argument that is difficult to criticise or deny.

Biology and Chemistry Research Descriptors

Learning Objective	Start of Year 7 1 2	3 4	5 6 Ready to start GCSE
Breadth of Research	Some of the objectives have been researched. Further research is needed to complete the task.	Research meets all the learning objectives.	Research extends beyond the learning objectives. Evidence that multiple sources have been used provide examples or develop the wider context of the research
Depth of Research	The level of detail is satisfactory at this stage of the course.	The level of detail is great enough to produce a good quality piece of work.	Content is detailed beyond expectation and is approaching GCSE level. Multiple sources used to help develop detailed knowledge and understanding
Record of research	There is a basic record of the research carried out.	There is a sufficient record of research. It is presented clearly in a usable form.	Research is presented in a logical and well-structured format that allows it to be easily understood.
Sources of research	Sources are limited, unclear. Some copying of text.	More than one source used. Sources are made clear. Research presented in own words	Multiple sources used and referenced. Research recorded clearly that improves the quality of notes, task and learning.

Biology and Chemistry Presenting Science Descriptors

Learning Objective	Start of Year 7 1 2	3 4	5 6 Ready to start GCSE
Accuracy of knowledge and understanding	Basic knowledge and understanding is demonstrated. There are some mistakes and gaps in expected knowledge.	Expected knowledge and understanding is demonstrated that meets the learning objectives.	Knowledge and understanding is beyond expectations.
Relevance of content	Some content is relevant. Objective of the presentation is not fully met.	Content is mostly relevant and the objective of the presentation is met.	Content is all relevant, engaging and well-chosen to enhance the quality of the presentation.
Quality of the presentation	Presentation addresses the main learning objectives. Some improvements need to be made to the form or the structure of the presentation to make it clearer.	The form and structure of the presentation is sufficient to deliver the expected knowledge and understanding. The presentation is informative and enjoyable.	The form and structure of the presentation is engaging and imaginative with clear presentation of information.
Delivery of presentation	Basic knowledge and understanding is presented but lacks confidence and clarity.	Expected knowledge and understanding is communicated clearly and with confidence.	Content of presentation is delivered accurately with detailed explanation that develops the audience's understanding.