PLANNING (a)

CRITERIA	Defining problem/research question	Formulating an hypothesis (prediction)	Selection of variables
Complete	The problem/research question is stated clearly	The hypothesis (prediction) is directly related to the research question and it is explained	The key variables are selected
Partial	The problem/research question is stated, but it is unclear or incomplete	The hypothesis (prediction) is stated but it is not explained	Some variables are selected
Not at all	No problem/research question is stated	No hypothesis (prediction) is stated	No variables are selected

PLANNING (b)

CRITERIA	Designing a method with appropriate apparatus /materials	Designing a method for the control of variables	Designing a method for the collection of (raw) data
Complete	Appropriate apparatus /materials are selected, diagrams may be acceptable	A realistic method that allows for the control of the variables is designed	A method that allows for the collection of sufficient relevant data and excludes the collection of irrelevant data is designed
Partial	Some appropriate apparatus/materials are selected or some essential features are missing	A method that makes some attempt to allow for the control of variables is designed	A method that allows for the collection of insufficient relevant data or both relevant and irrelevant data is designed
Not at all	No apparatus/materials are selected	A method that makes no attempt to allow for the control of variables is designed	A method that allows for the collection of only irrelevant data is designed or no method is designed

DATA COLLECTION

CRITERIA	Observing (collecting) and recording raw data	Presenting raw data
Complete	Raw data (qualitative/quantitative) is recorded appropriately, including units and uncertainties when necessary	raw data is presented clearly, allowing for easy interpretation
Partial	Some raw data is recorded	Raw data is presented in a disorganised manner
Not at all	No raw data is recorded	Raw data is presented incomprehensibly or is missing

DATA ANALYSIS

CRITERIA	Transforming and manipulating (processing) raw data	Presenting processed data
Complete	The raw data is processed correctly to produce results that help interpretation; where appropriate error analysis is included	Data/results are presented appropriately and effectively; where relevant, errors and uncertainties are taken into account
Partial	Some processing of the raw data is made (attempted) or errors are made in processing the data	Data/results are presented appropriately but not very effectively; where relevant, errors and uncertainties are not taken into account
Not at all	No processing of the raw data is carried out	Data/results are presented inappropriately or are presented incomprehensibly or are absent

EVALUATION

CRITERIA	Evaluating (interpreting) results (drawing conclusions)	Evaluating procedure(s)	Modifying the proceedure
Complete	A valid conclusion, with an explanation, is given; where appropriate, results are compared with literature values	The procedure (apparatus, materials and methods) including limitations, weaknesses or errors in manipulation is evaluated. Discussions of the limitations of data analysis may be included	Suggestions to improve the investigation following the identification of weaknesses are stated
Partial	A conclusion that has some validity is stated	The procedure is evaluated partly, but some obvious limitations or errors are missed, irrelevant points made in made	Suggestions to improve the investigation are stated but are simplistic
Not at all	A conclusion that completely misinterprets the results is drawn or no conclusion is drawn	The procedure is evaluated superficially or the evaluation is completely irrelevant or is absent	Suggestions to improve the investigation are unrealistic or no suggestions are stated

MANIPULATIVE SKILLS

CRITERIA	Carry out a range of techniques proficiently with due attention paid to safety	Following a variety of instructions
Complete	A wide range of techniques can be carried out with proficiency and appropriate attention paid to safety	A wide variety of instructions can be followed accurately and little, or no assistance is required in adapting to new circumstances
Partial	A limited range of techniques can be carried out with proficiency and appropriate attention paid to safety	A wide variety of instructions can be followed, mainly accurately, but some assistance may be required
Not at all	Only little attention is paid to safety, whatever the range of techniques that can be carried out with proficiency	Some instructions can be followed accurately but assistance is required

PERSONAL SKILLS (a) (summative only)

CRITERIA	Working within a team	Recognising the contributions of others	Encouraging others' contributions
Complete	Teams, whose members collaborate, can be formed with a wide variety of people	The views of all the members of the team are acknowledged and respected	The views of all members of the team are expected and actively sought, even from those that are reluctant or less confident
Partial	Teams can be formed with a variety of people, but the members may not always collaborate	The views of most members of the team are acknowledged	The views of the more confident members of the team are expected and actively sought
Not at all	Teams can be formed with a limited number of people, but the members may not always collaborate	The views of some members of the team of are acknowledged with reluctance	The views of other members of the team are sought but only after prompting

PERSONAL SKILLS (b) **(**summative only)

CRITERIA	Approaching scientific investigations with self- motivation and perseverance	Approaching scientific investigations in an ethical manner	Approaching scientific investigations while paying due attention to the environmental impact
Complete	Scientific investigations can be approached independently, with initiative shown, and followed through to completion	Considerable attention is paid to the ethical aspects of scientific investigation including authenticity of data and information and the approach to materials whether living or non-living	Considerable attention is paid to the environmental impact of scientific investigations
Partial	Scientific investigations can be approached independently and followed through to completion	Some attention is paid to the ethical aspects of scientific investigation including authenticity of data and information and the approach to materials whether living or non-living	Some attention is paid to the environmental impact of scientific investigations
Not at all	Scientific investigations can be approached independently or followed through to completion	Little attention is paid to the ethical aspects of scientific investigation including authenticity of data and information and the approach to materials whether living or not	Little attention is paid to the environmental impact of scientific investigations