

### IB Internal Assessment Criteria:

CCC	3	CC
CCP,CCN,CPP	2	CP
CPN,CNN,PPP,PPN	1	CN,PP
PNN,NNN	0	PN,NN

#### Planning (a)

	Defining Problem/Research Question	Formulating an Hypothesis(prediction)	Selection of variables
Complete	Identifies a focused problem or research question	Relates the hypothesis or prediction directly to the research question and explains it, quantitatively where appropriate	Selects the relevant independent and controlled variable(s).
Partial	States the problem or research question, but it is unclear or incomplete.	States the hypothesis or prediction but does not explain it	Selects some relevant variables.
Not at all	Does not state the problem or research question <b>or</b> repeats the general aim provided by the teacher.	Does not state a hypothesis or prediction.	Does not select any relevant variables.

#### Planning (b)

	Selecting appropriate apparatus or materials*	Designing a method for the control of variables	Designing a method for the collection of raw data
Complete	Selects appropriate apparatus or materials.	Describes a method that allows for the control of the variables.	A method that allows for sufficient <u>relevant</u> data and excludes collection of <u>irrelevant</u> data is designed
Partial	Selects some appropriate apparatus or materials.	Describes a method that makes some attempt to control the variables.	Describes a method that allows for the collection of insufficient relevant data.
Not at all	Does not select any apparatus or materials.	Describes a method that does not allow for the control of the variables.	Describes a method that does not allow any relevant data to be collected.

\*suitable diagrams are acceptable

#### Data Collection

	Collecting and recording raw data	Organizing and presenting raw data
Complete	Records appropriate raw data (qualitative and/or quantitative), including units and uncertainties where necessary.	Presents raw data clearly, allowing for easy interpretation.
Partial	Records some appropriate raw data.	Presents raw data but does not allow for easy interpretation.
Not at all	Does not record any appropriate raw data.	Does not present raw data or presents it incomprehensibly.

#### Data Processing and Presentation

	Processing raw data	Presenting processed data
Complete	Processes the raw data correctly.	Presents processed data appropriately, helping interpretation and, where relevant, takes into account errors and uncertainties.
Partial	Some raw data is processed correctly.	Presents processed data appropriately but with some errors and/or omissions.
Not at all	No processing of raw data is carried out <b>or</b> major errors are made in processing.	Presents processed data inappropriately or incomprehensibly.

#### Conclusion and Evaluation

	Drawing conclusions	Evaluating procedure(s) and results	Improving the investigation
Complete	Gives a valid conclusion, based on the correct interpretation of the results, with an explanation and, where appropriate, compares results with literature values.	Evaluates procedure(s) and results including limitations, weaknesses or errors.	Identifies weaknesses and states realistic suggestions to improve the investigation.
Partial	States a conclusion that has some validity.	Evaluates procedure(s) and results but misses some obvious limitations or errors.	Suggests only simplistic improvements.
Not at all	Draws a conclusion that misinterprets the results.	The evaluation is superficial or irrelevant.	Suggests unrealistic improvements.

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### Manipulative Skills

	Carrying out techniques safely	Following a variety of instructions*
Complete	Is competent and methodical in the use of the technique(s) and the equipment, and pays attention to safety issues	Follows the instructions accurately, adapting to new circumstances (seeking assistance when required).
Partial	Requires assistance in the use of a routine technique. Works in a safe manner with occasional prompting.	Follows the instructions but requires assistance.
Not at all	Does not carry out the technique(s) <b>or</b> misuses the equipment, showing no regard for safety.	Does not follow the instructions <b>or</b> requires constant supervision.

\* Instructions may be given in a variety of forms: oral, written worksheets, diagrams, photographs, videos, flowcharts, audiotapes, models, computer programs etc.

### Personal Skills (a)

	Working within a team*	Recognizing the contributions of others	Exchanging and integrating ideas
Complete	Collaborates with others, recognizing their needs, in order to complete the task.	Expects, actively seeks and acknowledges the views of others.	Exchanges ideas with others, integrating them into the task.
Partial	Requires guidance to collaborate with others.	Acknowledges some views.	Exchanges ideas with others but requires guidance in integrating them into the task.
Not at all	Is unsuccessful when working with others.	Disregards views of others.	Does not contribute.

\* A team is defined as two or more people.

### Personal Skills (b)

	Approaching scientific investigations with self-motivation and perseverance	Working in an ethical manner	Paying attention to environmental impact
Complete	Approaches the investigation with self-motivation and follows it through to completion.	Pays considerable attention to the authenticity of the data and information, and the approach to materials (living or non-living).	Pays considerable attention to the environmental impact of the investigation.
Partial	Approaches the investigation with self-motivation <b>or</b> follows it through to completion.	Pays some attention to the authenticity of the data and information, and the approach to materials (living or non-living).	Pays some attention to the environmental impact of the investigation.
Not at all	Lacks perseverance and motivation.	Pays little attention to the authenticity of the data and information, and the approach to materials (living or non-living).	Pays little attention to the environmental impact of the investigation.