SHORT VERSION MODIFIED FOR BIOLOGY 1

IB Experimental Sciences Assessment Criteria

Planning

- Define problem(s)/research question(s).
- Formulate hypothesis(es) that includes a proposed quantitative relationship between two or more variables.
- Select and describe any relevant variables that might also affect the outcome, even though they might not be specifically investigated.
- Design realistic procedures including appropriate apparatus, materials and methods for control of variables and collection of data. Include a description of measurement techniques.

Data collection

- Observe and record raw data with precision; include qualitative and quantitative data with appropriate units.
- Present data in an organized way, using tables.

Data analysis

- Transform and/or manipulate data. Include statistical or graphical analysis, drawings which have been transformed into diagrams, maps drawn from actual measurements and/or correctly labeled drawings.
- Present data appropriately to provide effective communication. Presentation is neat, and clear, unambiguous titles are used.

Evaluation

- Evaluate the result(s) of the experiment(s).
- Evaluate the procedure(s), considering processes, use of equipment and management of time.
- Suggest modifications to the procedure(s) where appropriate.

Manipulative skills

- Carry out techniques proficiently.
- Follow safe working practices, providing evidence for this in the data log.
- Follow instructions.

Personal skills

- Work within a team, recognizing and encouraging the contributions of others. Recognizing the contributions of others begins by each member expecting every other member to contribute. Encouraging the contributions of others means actively seeking out reluctant or less confident team members.
- Approach experimentation with self-motivation, demonstrated by taking initiative and working with minimal direction from the teacher.
- Approach experimentation with perseverance, demonstrated by continuing to work with steady effort in spite of difficulties.
- Approach experimentation in an ethical manner, with emphasis on integrity of the data in your log.
- Pay attention to the environmental impact, providing evidence for this in the data log.

Level descriptors for the assessment criteria

A	**3**	The student meets **ALL** aspects of the criteria completely.
B	**2**	The students meets **ALL** aspects of the criteria partially, and **MOST** aspects completely.
C	**1**	The students meets **ALL** aspects of the criteria partially OR a **FEW** aspects completely.
D	**0**	The student has not reached a standard described by any of the descriptors above.
F	**F**	No determination can be made because the work is not complete and/or documented.