**IB SL Biology -- Biochemistry Internal Assessment**

Your job is to design and investigate an experiment in the realm of biochemistry. Your procedure and lab write-up must follow the IB laboratory grading criteria. Remember, you must write the procedure so that an experimenter who has never performed the lab could do the experiment and obtain the desired results.

**The design lab write-up is due: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.** You are then responsible for the Data Collection and Processing (DCP) and Conclusion and Evaluation (CE) portions of the lab as well. Again, these sections will be graded based on the IB laboratory grading criteria. Below is a reminder of the grading criteria for each section.

**The complete lab including the following sections, D, DCP, and CE, is due: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Design (D)**

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| --- | --- | --- | --- |
|  | Aspect 1 | Aspect 2 | Aspect 3 |
| **Levels/marks** | **Defining the problem and selecting variables** | **Controlling variables** | **Developing a method for collection of data** |
| **Complete / 2** | Formulates a focused problem/research question and identifies the relevant variables. | Designs a method for the effective control of the variables. | Develops a method that allows for the collection of sufficient relevant data. |
| **Partial / 1** | Formulate a problem/research question that is incomplete **or** identifies only some relevant variables. | Designs a method that makes some attempt to control the variables. | Develops a method that allows for the collection of insufficient relevant data. |
| **Not at all / 0**  | Does not identify a problem/research question **and** does not identify any relevant variables. | Designs a method that does not control the variables. | Develops a method that does not allow for any relevant data to be collected. |

**Data collection and processing (DCP)**

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| --- | --- | --- | --- |
|  | Aspect 1 | Aspect 2 | Aspect 3 |
| **Levels/marks** | **Recording raw data** | **Processing raw data** | **Presenting processed data** |
| **Complete / 2** | Records appropriate quantitative and associated qualitative raw data, including units and uncertainties where relevant. | Processes the quantitative raw data correctly. | Presents processed data appropriately and, where relevant, includes errors and uncertainties. |
| **Partial / 1** | Records appropriate quantitative and associated qualitative raw data, but with some mistakes and omissions. | Processes quantitative raw data, but with some mistakes and/or omissions. | Presents processed data appropriately, but with some mistakes and/or omissions. |
| **Not at all / 0**  | Does not record any appropriate quantitative raw data **or** raw data is incomprehensible. | No processing of quantitative raw data is carried out **or** major mistakes are made in processing. | Presents processed data inappropriately **or** incomprehensively. |

**Conclusion and Evaluation (CE)**

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| --- | --- | --- | --- |
|  | Aspect 1 | Aspect 2 | Aspect 3 |
| **Levels/marks** | **Concluding** | **Evaluating procedure(s)** | **Improving the investigation** |
| **Complete / 2** | States a conclusion, with justification, based on a reasonable interpretation of the data. | Evaluates weaknesses and limitations. | Suggests realistic improvements in respect of identified weaknesses and limitations. |
| **Partial / 1** | States a conclusion based on a reasonable interpretation of the data. | Identifies some weaknesses and limitations, but the evaluation is weak or missing.  | Suggests only superficial improvements. |
| **Not at all / 0**  | States no conclusion **or** the conclusion is based on an unreasonable interpretation of the data. | Identifies irrelevant weaknesses and limitations. | Suggests unrealistic improvements. |