MYP Science Criterion A Assessment Rubrics

MYP 1 rubric for year 6

Criterion A: Knowing and understanding **The student is able to...**				
Strand	**Level 1-2**	**Level 3-4**	**Level 5-6**	**Level 7-8**
A.i. **Outlining knowledge**	***select*** scientific knowledge	***recall*** scientific knowledge	***state*** scientific knowledge	***outline*** scientific knowledge
A.ii. **Solving problems**	***select*** scientific knowledge and understanding to ***suggest solutions*** to problems set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***suggest solutions*** to problems set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar situations*** and ***suggest solutions*** to problems set in ***unfamiliar situations***
A.iii. **Analyzing and evaluating information**	***apply*** information to ***make judgments, with limited success***.	***apply*** information to ***make judgments***.	***apply*** information to make scientifically supported judgments.	***interpret*** information to make scientifically supported judgments

What you did to achieve this level:	What you could do to improve:

MYP 3 rubric for year 7 and year 8

Criterion A: Knowing and understanding

The student is able to...

Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
A.i. **Describing knowledge**	***recall*** scientific knowledge	***state*** scientific knowledge	***outline*** scientific knowledge	***describe*** scientific knowledge
A.ii. **Solving problems**	***apply*** scientific knowledge and understanding to ***suggest solutions*** to problems set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar situations*** and ***suggest solutions*** to problems set in ***unfamiliar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar and unfamiliar situations***
A.iii. **Analyzing and evaluating information**	***apply*** information to make ***judgments***.	***apply*** information to make ***scientifically supported judgments***.	***interpret*** information to make ***scientifically supported judgments***.	***analyse*** information to make ***scientifically supported judgments***.

What you did to achieve this level:	What you could do to improve:

MYP 5 rubric for years 9 and 10

Criterion A: Knowing and understanding

The student is able to...

Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
A.i. **Explaining knowledge**	***state*** scientific knowledge	***outline*** scientific knowledge	***describe*** scientific knowledge	***explain*** scientific knowledge
A.ii. **Solving problems**	***apply*** scientific knowledge and understanding to ***suggest solutions*** to problems set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar situations*** and ***suggest solutions*** to problems set in ***unfamiliar situations***	***apply*** scientific knowledge and understanding to ***solve problems*** set in ***familiar and unfamiliar situations***
A.iii. **Analysing and evaluating information**	***interpret*** information to make ***judgments***	***interpret*** information to make ***scientifically supported judgments***	***analyse*** information to make ***scientifically supported judgments***	***analyse*** and ***evaluate*** information to make ***scientifically supported judgments***

What you did to achieve this level:	What you could do to improve:

Glossary of MYP command terms

Term	IB MYP definition on top Our definition underneath
Analyse	MYP definition: Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions. Our definition: Take apart and look at how the parts interact. Look for patterns and figure out what those patterns mean.
Apply	MYP definition: Use knowledge and understanding in response to a given situation or real circumstance. Our definition: Use what you already know in a new and/or different situation.
Cultural	MYP definition: Patterns of knowledge, behaviour, beliefs, shared attitudes, values, goals and practices that characterize groups of people Our definition: The shared beliefs and values of different groups of people.
Data	MYP definition: Measurement of a parameter that can be quantitative (volume, temperature, pH and so on) or qualitative (colour, shape, texture and so on) Our definition: Numbers or descriptions from observations during an experiment.
Dependent variable	MYP definition: The variable in which values are measured in the experiment Our definition: The variable that YOU change during an experiment.
Describe	MYP definition: Give a detailed account or picture of a situation, event, pattern or process. Our definition: Tell how something happened (i.e. “first this, then that, then the next thing”). In experiments, identify the minimum and maximum values of data in experimental results and recount the overall trends between variables.
Design	MYP definition: Produce a plan, simulation or model. Our definition: Use the design cycle to create something original.
Discuss	MYP definition: Offer a considered and balanced review that includes a range of arguments, factors or hypotheses. Opinions or conclusions should be presented clearly and supported by appropriate evidence. Our definition: Look at both sides of an argument or an issue, weighing the strengths and limitations of each side. Conclusions should be based on scientific evidence.
Document	MYP definition: Credit sources of information used by referencing or citing, following the APA system. References should be included in the text and also at the end of the piece of work in a bibliography. Our definition: Use in-text references & a bibliography to show where you found ideas and information.
Economic	MYP definition: Production, distribution, and use of income, wealth, and commodities Our definition: Anything having to do with money, either personally or as a society

Term	**IB MYP definition on top** **Our definition underneath**
Environmental	MYP definition: Circumstances, objects, or conditions by which one is surrounded Our definition: Our surroundings, particularly the natural (not built) world
Ethical	MYP definition: Process of rational inquiry to decide on issues as right or wrong, as applied to the people and their actions Our definition: Determining whether or not an action is right or wrong
Evaluate	MYP definition: Make an appraisal by weighing the strengths versus the limitations. Our definition: Look at how well something worked, whether it's a hypothesis, method, or collection of information.
Explain	MYP definition: Give a detailed account. Our definition: Tell how and why something happened and justify it with scientific evidence and/or reasons.
Extensions to the method	MYP definition: Developments for further inquiry as related to the outcome of the investigation Our definition: Take the original investigation idea and dig deeper into it; look at more complex 'next steps'
Formulate	MYP definition: Express precisely and systematically the relevant concepts or arguments. Our definition: Create or express something concisely and/or systematically.
Hypothesis	MYP definition: A tentative explanation for an observation or phenomenon that requires experimental confirmation; can take the form of a question or a statement Our definition: Predict how the dependent variable will respond when you change the independent variable
Independent variable	MYP definition: The variable that is selected and manipulated by the investigator in an experiment Our definition: The variable YOU change during an experiment
Interpret	MYP definition: Use knowledge and understanding to recognize trends and draw conclusions from given information. Our definition: Identify and describe patterns in data, and tell what those patterns mean.
Moral	MYP definition: Principles of right or wrong behaviour derived from a particular society Our definition: Relating ethical decisions to culture
Numerical forms	MYP definition: May include mathematical calculations such as averaging or determining values from a graph or table Our definition: Processed and calculated data, including formulas used

Term	**IB MYP definition on top** **Our definition underneath**
Outline	MYP definition: Give a brief account. Our definition: Briefly describe the major points or concepts.
Political	MYP definition: Relates to government or public affairs Our definition: How different groups or countries have power under the law
Present	MYP definition: Offer for display, observation, examination or consideration. Our definition: Clearly show other people.
Qualitative data	MYP definition: Refers to non-numerical data or information that is difficult to measure in a numerical way Our definition: Descriptions of observations during an experiment, which do not require numbers
Quantitative data	MYP definition: Refers to numerical measurements of the variables associated with the investigation Our definition: Numerical measurements of observations during an experiment
Select	MYP definition: Choose from a list or group. Our definition: Choose one or more things from a list or group.
Social	MYP definition: Interactions between groups of people involving issues such as welfare, safety, rights, justice or class Our definition: The ways in which people interact with one another
Solve	MYP definition: Obtain the answers using appropriate methods. Our definition: Get the right answer by using the procedure your teacher taught you.
State	MYP definition: Give a specific name, value or other brief answer without explanation or calculation. Our definition: Give a one- or two-word answer. Nothing else is needed.
Suggest	MYP definition: Propose a solution, hypothesis or other possible answer. Our definition: Propose one or more possible ways to solve a problem.
Transforming data	MYP definition: Involves processing raw data into a form suitable for visual representation. This process may involve, for example, combining and manipulating raw data (by adding, subtracting, squaring or dividing) to determine the value of a physical quantity and also taking the average of several measurements. It might be that the data collected are already in a form suitable for visual representation in the case of the distance travelled by a woodlouse, for example. If the raw data are represented in this way and a best-fit line graph is drawn the raw data have been processed Our definition: Using raw numerical data to find more complex patterns within results; doing some statistical analysis of the raw numbers; and changing data tables into visually useful graphs that clearly show the overall trends or patterns in the results.

Term	**IB MYP definition on top** **Our definition underneath**
Unfamiliar situation	MYP definition: Refers to a problem or situation in which the context or the application is modified so that it is considered unfamiliar for the student Our definition: A problem unlike those we have seen before; a new situation
Validity of the method	MYP definition: Refers to whether the method allows for the collection of sufficient valid data to answer the question. This includes factors such as whether the measuring instrument measures what it is supposed to measure, the conditions of the experiment and the manipulation of variables (fair testing) Our definition: Does the procedure create a fair test for the investigation? Why or why not?
Visual forms	MYP definition: May include drawing graphs of various types appropriate to the kind of data being displayed (for example, line graphs, bar graphs, histograms or pie charts) Our definition: Graphs which clearly show trends or patterns in numerical data