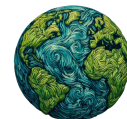




MYP Science Criteria B and C Rubrics

MYP 1 rubrics for year 6

Criterion B: Inquiring and designing				
The student is able to...				
Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
B.i. Outlining a question	select a problem or question to be tested by a scientific investigation	state a problem or question to be tested by a scientific investigation	state a problem or question to be tested by a scientific investigation	outline a problem or question to be tested by a scientific investigation
B.ii. Outlining a prediction	select a testable prediction	state a testable prediction	outline a testable prediction	outline a testable prediction using scientific reasoning
B.iii. Outlining variables and data collection	state a variable	state how to manipulate the variables, and state how data will be collected	outline how to manipulate the variables, and state how relevant data will be collected	outline how to manipulate the variables, and outline how sufficient, relevant data will be collected
B.iv. Designing a method and selecting materials	design a method with limited success .	design a safe method in which he or she selects materials and equipment .	design a complete and safe method in which he or she selects appropriate materials and equipment .	design a logical, complete and safe method in which he or she selects appropriate materials and equipment .
What you did to achieve this level:		What you could do to improve:		



Criterion C: Processing and evaluating The student is able to...				
Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
C.i. Transforming and presenting data	<i>collect and present</i> data in numerical and/or visual forms	<i>correctly collect and present</i> data in numerical and/or visual forms	<i>correctly collect, organize and present</i> data in numerical and/or visual forms	<i>correctly collect, organize, transform and present</i> data in numerical and/or visual forms
C.ii. Interpreting and outlining results	<i>Interpret</i> data	<i>accurately interpret</i> data and <i>outline</i> results	<i>accurately interpret</i> data and <i>outline</i> results using <i>scientific reasoning</i>	<i>accurately interpret data</i> and <i>outline</i> results using <i>correct scientific reasoning</i>
C.iii. Discussing the validity of a prediction	<i>state</i> the validity of a prediction based on the outcome of a scientific investigation, <i>with limited success</i>	<i>state</i> the validity of a prediction based on the outcome of a scientific investigation	<i>outline</i> the validity of a prediction based on the outcome of a scientific investigation	<i>discuss</i> the validity of a prediction based on the outcome of a scientific investigation
C.iv. Discussing the validity of a method	<i>state</i> the validity of the method based on the outcome of a scientific investigation, <i>with limited success</i>	<i>state</i> the validity of the method based on the outcome of a scientific investigation	<i>outline</i> the validity of the method based on the outcome of a scientific investigation	<i>discuss</i> the validity of the method based on the outcome of a scientific investigation
C.v. Describing improvements or extensions	<i>state</i> improvements or extensions to the method that would benefit the scientific investigation, <i>with limited success.</i>	<i>state</i> improvements or extensions to the method that would benefit the scientific investigation.	<i>outline</i> improvements or extensions to the method that would benefit the scientific investigation.	<i>describe</i> improvements or extensions to the method that would benefit the scientific investigation.
What you did to achieve this level:		What you could do to improve:		



MYP 3 rubrics for year 7 and year 8

Criterion B: Inquiring and designing				
The student is able to...				
Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
B.i. Describing a question	<i>state</i> a problem or question to be tested by a scientific investigation, with limited success	<i>state</i> a problem or question to be tested by a scientific investigation	<i>outline</i> a problem or question to be tested by a scientific investigation	<i>describe</i> a problem or question to be tested by a scientific investigation
B.ii. Explaining a prediction	<i>state</i> a testable hypothesis	<i>outline</i> a testable hypothesis using scientific reasoning	<i>outline</i> and explain a testable hypothesis using scientific reasoning	<i>outline</i> and explain a testable hypothesis using correct scientific reasoning
B.iii. Describing variables and data collection	<i>state</i> the variables	<i>outline</i> how to manipulate the variables, and <i>state</i> how relevant data will be collected	<i>outline</i> how to manipulate the variables, and <i>outline</i> how sufficient, relevant data will be collected	<i>describe</i> how to manipulate the variables, and <i>describe</i> how sufficient, relevant data will be collected
B.iv. Designing a method and selecting materials	design a method , with limited success .	design a safe method in which he or she selects materials and equipment .	design a complete and safe method in which he or she selects appropriate materials and equipment .	design a logical, complete and safe method in which he or she selects appropriate materials and equipment .
What you did to achieve this level:		What you could do to improve:		



Criterion C: Processing and evaluating The student is able to...				
Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
C.i. Transforming and presenting data	<i>collect and present</i> data in numerical and/or visual forms	<i>correctly collect and present</i> data in numerical and/or visual forms	<i>correctly collect, organize and present</i> data in numerical and/or visual forms	<i>correctly collect, organize, transform and present</i> data in numerical and/or visual forms
C.ii. Interpreting and outlining results	<i>accurately interpret</i> data	<i>accurately interpret</i> data and <i>describe</i> results	<i>accurately interpret</i> data and <i>describe</i> results <i>using scientific reasoning</i>	<i>accurately interpret</i> data and <i>describe</i> results <i>using correct scientific reasoning</i>
C.iii. Discussing the validity of a prediction	<i>state</i> the validity of a hypothesis <i>with limited reference</i> to a scientific investigation	<i>state</i> the validity of a hypothesis based on the outcome of a scientific investigation	<i>outline</i> the validity of a hypothesis based on the outcome of a scientific investigation	<i>discuss</i> the validity of a hypothesis based on the outcome of a scientific investigation
C.iv. Discussing the validity of a method	<i>state</i> the validity of the method <i>with limited reference</i> to a scientific investigation	<i>state</i> the validity of the method based on the outcome of a scientific investigation	<i>outline</i> the validity of the method based on the outcome of a scientific investigation	<i>discuss</i> the validity of the method based on the outcome of a scientific investigation
C.v. Describing improvements or extensions	<i>state limited</i> improvements or extensions to the method.	<i>state</i> improvements or extensions to the method that would benefit the scientific investigation.	<i>outline</i> improvements or extensions to the method that would benefit the scientific investigation.	<i>describe</i> improvements or extensions to the method that would benefit the scientific investigation.
What you did to achieve this level:		What you could do to improve:		

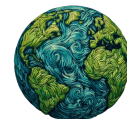


MYP 5 rubrics for years 9 and 10

Criterion B: Inquiring and designing				
The student is able to...				
Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
B.i. Explaining a question	state a problem or question to be tested by a scientific investigation	outline a problem or question to be tested by a scientific investigation	describe a problem or question to be tested by a scientific investigation	explain a problem or question to be tested by a scientific investigation
B.ii. Formulating and explaining a hypothesis	outline a testable hypothesis	formulate a testable hypothesis using scientific reasoning	formulate and explain a testable hypothesis using scientific reasoning	formulate and explain a testable hypothesis using correct scientific reasoning
B.iii. Explaining how to manipulate variables and collect data	outline the variables	outline how to manipulate the variables, and outline how relevant data will be collected	describe how to manipulate the variables, and describe how sufficient, relevant data will be collected	explain how to manipulate the variables, and explain how sufficient, relevant data will be collected
B.iv. Designing a method and selecting materials	design a method, with limited success .	design a safe method in which he or she selects materials and equipment .	design a complete and safe method in which he or she selects appropriate materials and equipment .	design a logical, complete and safe method in which he or she selects appropriate materials and equipment .
What you did to achieve this level:		What you could do to improve:		

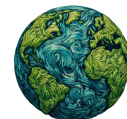


Criterion C: Processing and evaluating The student is able to...				
Strand	Level 1-2	Level 3-4	Level 5-6	Level 7-8
C.i. Transforming and presenting data	<i>collect and present</i> data in numerical and/or visual forms	<i>correctly collect and present</i> data in numerical and/or visual forms	<i>correctly collect, organize and present</i> data in numerical and/or visual forms	<i>correctly collect, organize, transform and present</i> data in numerical and/or visual forms
C.ii. Interpreting and outlining results	<i>interpret</i> data	<i>accurately interpret</i> data and <i>explain</i> results	<i>accurately interpret</i> data and <i>explain</i> results <i>using scientific reasoning</i>	<i>accurately interpret</i> data and <i>explain</i> results using <i>correct scientific reasoning</i>
C.iii. Discussing the validity of a prediction	<i>state</i> the validity of a hypothesis based on the outcome of a scientific investigation	<i>outline</i> the validity of a hypothesis based on the outcome of a scientific investigation	<i>discuss</i> the validity of a hypothesis based on the outcome of a scientific investigation	<i>evaluate</i> the validity of a hypothesis based on the outcome of a scientific investigation
C.iv. Discussing the validity of a method	<i>state</i> the validity of the method based on the outcome of a scientific investigation	<i>outline</i> the validity of the method based on the outcome of a scientific investigation	<i>discuss</i> the validity of the method based on the outcome of a scientific investigation	<i>evaluate</i> the validity of the method based on the outcome of a scientific investigation
C.v. Describing improvements or extensions	<i>state</i> improvements or extensions to the method.	<i>outline</i> improvements or extensions to the method that would benefit the scientific investigation.	<i>describe</i> improvements or extensions to the method that would benefit the scientific investigation.	<i>explain</i> improvements or extensions to the method that would benefit the scientific investigation.
What you did to achieve this level:		What you could do to improve:		



Glossary of MYP command terms

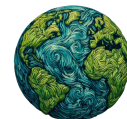
Term	<u>IB MYP definition</u> on top
	<u>Our definition</u> underneath
Analyse	<p><u>MYP definition:</u> Break down in order to bring out the essential elements or structure. To identify parts and relationships, and to interpret information to reach conclusions.</p> <p><u>Our definition:</u> Take apart and look at how the parts interact. Look for patterns and figure out what those patterns mean.</p>
Apply	<p><u>MYP definition:</u> Use knowledge and understanding in response to a given situation or real circumstance.</p> <p><u>Our definition:</u> Use what you already know in a new and/or different situation.</p>
Cultural	<p><u>MYP definition:</u> Patterns of knowledge, behaviour, beliefs, shared attitudes, values, goals and practices that characterize groups of people</p> <p><u>Our definition:</u> The shared beliefs and values of different groups of people.</p>
Data	<p><u>MYP definition:</u> Measurement of a parameter that can be quantitative (volume, temperature, pH and so on) or qualitative (colour, shape, texture and so on)</p> <p><u>Our definition:</u> Numbers or descriptions from observations during an experiment.</p>
Dependent variable	<p><u>MYP definition:</u> The variable in which values are measured in the experiment</p> <p><u>Our definition:</u> The variable that YOU change during an experiment.</p>
Describe	<p><u>MYP definition:</u> Give a detailed account or picture of a situation, event, pattern or process.</p> <p><u>Our definition:</u> 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.</p>
Design	<p><u>MYP definition:</u> Produce a plan, simulation or model.</p> <p><u>Our definition:</u> Use the design cycle to create something original.</p>
Discuss	<p><u>MYP definition:</u> 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.</p> <p><u>Our definition:</u> 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.</p>
Document	<p><u>MYP definition:</u> 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.</p> <p><u>Our definition:</u> Use in-text references & a bibliography to show where you found ideas and information.</p>
Economic	<p><u>MYP definition:</u> Production, distribution, and use of income, wealth, and commodities</p> <p><u>Our definition:</u> Anything having to do with money, either personally or as a society</p>



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



Term	IB MYP definition on top
	Our definition underneath
Outline	<p><u>MYP definition</u>: Give a brief account.</p> <p><u>Our definition</u>: Briefly describe the major points or concepts.</p>
Political	<p><u>MYP definition</u>: Relates to government or public affairs</p> <p><u>Our definition</u>: How different groups or countries have power under the law</p>
Present	<p><u>MYP definition</u>: Offer for display, observation, examination or consideration.</p> <p><u>Our definition</u>: Clearly show other people.</p>
Qualitative data	<p><u>MYP definition</u>: Refers to non-numerical data or information that is difficult to measure in a numerical way</p> <p><u>Our definition</u>: Descriptions of observations during an experiment, which do not require numbers</p>
Quantitative data	<p><u>MYP definition</u>: Refers to numerical measurements of the variables associated with the investigation</p> <p><u>Our definition</u>: Numerical measurements of observations during an experiment</p>
Select	<p><u>MYP definition</u>: Choose from a list or group.</p> <p><u>Our definition</u>: Choose one or more things from a list or group.</p>
Social	<p><u>MYP definition</u>: Interactions between groups of people involving issues such as welfare, safety, rights, justice or class</p> <p><u>Our definition</u>: The ways in which people interact with one another</p>
Solve	<p><u>MYP definition</u>: Obtain the answers using appropriate methods.</p> <p><u>Our definition</u>: Get the right answer by using the procedure your teacher taught you.</p>
State	<p><u>MYP definition</u>: Give a specific name, value or other brief answer without explanation or calculation.</p> <p><u>Our definition</u>: Give a one- or two-word answer. Nothing else is needed.</p>
Suggest	<p><u>MYP definition</u>: Propose a solution, hypothesis or other possible answer.</p> <p><u>Our definition</u>: Propose one or more possible ways to solve a problem.</p>



Term	IB MYP definition on top
	Our definition underneath
Transforming data	<p><u>MYP definition:</u> 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</p> <p><u>Our definition:</u> 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.</p>
Unfamiliar situation	<p><u>MYP definition:</u> Refers to a problem or situation in which the context or the application is modified so that it is considered unfamiliar for the student</p> <p><u>Our definition:</u> A problem unlike those we have seen before; a new situation</p>
Validity of the method	<p><u>MYP definition:</u> 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)</p> <p><u>Our definition:</u> Does the procedure create a fair test for the investigation? Why or why not?</p>
Visual forms	<p><u>MYP definition:</u> 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)</p> <p><u>Our definition:</u> Graphs which clearly show trends or patterns in numerical data</p>