

IBMYP CRITERION

IBMYP Global Context: Using the world as the broadcast context for learning, the MYP program strives to develop meaningful explorations of: (1) **identities and relationships** (2) **orientation in space and time** (3) **personal and cultural expression** (4) **scientific and technical innovation** (5) **globalization and sustainability** (6) **fairness and development**

IBMYP ASSESSMENTS & PBL Tasks:

Throughout this course you will be evaluated using a variety of assessments which require you to use the concepts and skills we are currently studying combined with good problem solving techniques, critical thinking, and your previous knowledge of mathematics. Grading will be determined using a combination of the VBCPS grading scale and the four IBMYP criteria: A, B, C, and D.

When you are assigned a PBL (Problem Based Learning) task, it is **essential** that you **READ** the rubric(s) which you will be graded on **PRIOR** to doing the task!!!! Most unit assessments/tests will be graded using criterion A.

IBMYP Criterion A: Knowing and understanding

- i. select the appropriate mathematics when solving problems in both familiar and unfamiliar situations
- ii. apply the selected mathematics successfully when solving problems
- iii. solve problems correctly in a variety of contexts

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below
1 – 2	The student is able to: i. select appropriate mathematics when solving simple problems in familiar situations ii. apply the selected mathematics successfully when solving these problems iii. generally solve these problems correctly
3 – 4	The student is able to: i. select appropriate mathematics when solving more complex problems in familiar situations ii. apply the selected mathematics successfully when solving these problems iii. generally solve these problems correctly
5 – 6	The student is able to: i. select appropriate mathematics when solving challenging problems in familiar situations ii. apply the selected mathematics successfully when solving these problems iii. generally solve these problems correctly
7 – 8	The student is able to: i. select appropriate mathematics when solving more complex problems in both familiar and unfamiliar situations ii. apply the selected mathematics successfully when solving these problems iii. generally solve these problems correctly

IBMYP Criterion B: Investigating Patterns

- i. **select** and **apply** mathematical problem-solving techniques to discover complex patterns
- ii. **describe** patterns as general rules consistent with findings
- iii. **prove**, or **verify** and **justify**, general rules

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below
1 – 2	The student is able to: i. apply , with teacher support, mathematical problem-solving techniques to discover simple patterns ii. state predictions consistent with patterns
3 – 4	The student is able to: i. apply mathematical problem-solving techniques to discover simple patterns ii. suggest general rules consistent with findings
5 – 6	The student is able to: i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings iii. verify the validity of these general rules
7 – 8	The student is able to: i. select and apply mathematical problem-solving techniques to discover complex patterns ii. describe patterns as general rules consistent with findings iii. prove , or verify and justify , these general rules.

Note: A task that does not allow students to select a problem-solving technique is too guided and should result in students earning a maximum achievement level of 4 in year 5. However, teachers should give enough direction to ensure that all students can begin the investigation.

For year 5, a student who describes a general rule consistent with incorrect findings will be able to achieve a maximum achievement level of 6, provided that the rule is of an equivalent level of complexity.

IBMYP Criterion C: Communicating

- i. **use** appropriate mathematical language (notation, symbols and terminology) in both oral and written explanations
- ii. **use** appropriate forms of mathematical representation to present information
- iii. move between different forms of mathematical representation
- iiii. **communicate** complete, coherent and concise mathematical lines of reasoning
- iv. **organize** information using a logical structure

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below
1 – 2	The student is able to: <ul style="list-style-type: none"> i. use <u>limited</u> mathematical language ii. use <u>limited</u> forms of mathematical representation to present information iii. communicate through lines of reasoning that are <u>difficult to interpret</u>
3 – 4	The student is able to: <ul style="list-style-type: none"> i. use <u>some</u> appropriate mathematical language ii. use <u>appropriate</u> forms of mathematical representation to present information <u>adequately</u> iii. communicate through lines of reasoning that are <u>complete</u> iv. adequately organize information using a <u>logical structure</u>
5 – 6	The student is able to: <ul style="list-style-type: none"> i. usually use appropriate mathematical language ii. usually use appropriate forms of mathematical representation to <u>consistently</u> present information <u>correctly</u> iii. usually move effectively between different forms of mathematical representation iv communicate through lines of reasoning that are complete and <u>coherent</u> v. present work that is <u>usually</u> organized using a logical structure
7 – 8	The student is able to: <ul style="list-style-type: none"> i. <u>consistently</u> use appropriate mathematical language ii. use appropriate forms of mathematical representation to consistently present information correctly iii. move effectively between different forms of mathematical representation iv. communicate through lines of reasoning that are complete, coherent and <u>concise</u> v. present work that is <u>consistently</u> organized using a logical structure

IBMYP Criterion D: Applying mathematics in real-life contexts

- i. **identify** relevant elements of authentic real-life situations
- ii. **select** appropriate mathematical strategies when solving authentic real-life situations
- iii. **apply** the selected mathematical strategies successfully to reach a solution
- iv. **justify** the degree of accuracy of a solution
- v. **justify** whether a solutions makes sense in the context of the authentic real-life situation.

Achievement level	Descriptor
0	The student does not reach a standard described by any of the descriptors given below
1 – 2	The student is able to: i. identify <u>some</u> of the elements of the authentic real-life situation ii. apply mathematical strategies to find a solution to the authentic real-life situation, with <u>limited success</u>
3 – 4	The student is able to: i. identify the <u>relevant</u> elements of authentic real-life situation ii. select , with <u>some success</u> , adequate mathematical strategies to model the authentic real-life situation iii. apply the mathematical strategies <u>to reach a solution</u> to the real-life situation iv. discuss whether the solution makes sense in the context of the authentic real-life situation.
5 – 6	The student is able to: i. identify the relevant elements of authentic real-life situation ii. select adequate mathematical strategies to model the authentic real-life situation iii. apply the selected mathematical strategies to reach a <u>valid solution</u> to the real-life situation iv. explain the <u>degree of accuracy</u> of a solution v. explain whether the solution makes sense in the context of the authentic real-life situation.
7 – 8	The student is able to: i. identify the relevant elements of authentic real-life situation ii. select appropriate mathematical strategies to model the authentic real-life situation iii. apply the selected mathematical strategies to reach a <u>correct solution</u> to the real-life situation iv. justify the degree of accuracy of a solution v. justify whether the solution makes sense in the context of the authentic real-life situation.