***IB MYP MATH YEAR 3 - MATH 8***

***TEACHER:*** S. Lawson

***Room***: E206

***DESCRIPTION OF COURSE***

Mathematics is one way of trying to understand, interpret, and describe our world. Components integral to the study of math 8 include data analysis, linear relationships and equations, ratios, fractions, integers, geometry, probability and tessellations.

Mathematics 8 focuses on improving problem solving skills and applying math concepts to real-world situation. Throughout the year students are improving their skills to effectively study, as well as improving their use of critical and independent thought when analyzing and solving problems. They are learning how to break down more complex **problems** into smaller components.

These are *possible* inquiries that may be explored throughout the year:

***COURSE UNITS***

|  |  |  |
| --- | --- | --- |
| ***Curriculum*** | ***Unit Question*** | ***Area of Interaction &*** ***how it shapes the content***  |
| Integers | What's in a number? | Health and social education. Appearances can be deceiving. |
| Fractions | Is there math in nature? | Environments. Patterns in nature go beyond beauty. |
| Understanding Percent | How do I know if I'm getting a good deal? | Health and social education. Concepts around percentages are crucial for financial planning. |
| Solving Linear Equations | What does effective communication look like in math? Why is it important? | Health and social education. We can communicate ideas with numbers. |
| Linear Relations | Can math be used to predict the future? | Environments. We can look ahead and make defensible predictions by looking backward |
| Pythagorean Relationships | Can you be sure that you are absolutely right? | Human ingenuity. What we take for granted, other people paid dearly for.  |
| Ratios, Rates and Proportional Reasoning | How do I fit into the bigger picture? | Health and social education. We can make predictions based on close observations of relationships.  |
| Surface Area | What's the difference? | Human ingenuity. Design has a financial cost. |
| Volume | How much is too much? | Human ingenuity. Shape affects environments.  |
| Representing Data | What does balance look like for me? | Health and social education. Balance in life is something to aspire to. |
| Probability. | How do we use statistics and probability to explain trends in society? | Community and Service.  |
| Tessellations | How does math affect art? | Human Ingenuity.  |

Please refer to <http://www.bced.gov.bc.ca/irp/> for a more detailed description of the Ministry of Education’s requirements.

**Class website:**<http://mrlawsonscience.weebly.com>**Textbook:** Mathlinks 8: McGraw-Hill

**Required Materials**

**•** Calculator

• Binder and lined paper (graphing paper is recommended)

• Pencil, eraser and ruler (two or three coloured pencils are recommended)

• Notebook that will stay in the classroom to use as a math journal

• Optional: personal device (smart phone, ipad, laptop)

***METHODOLOGY and ASSESSMENT***

Throughout the year, students will complete a variety of assessments.

The assessment process reveals what a student understands, knows and can do. The evaluation process indicates the quality of performance based on learner outcomes (curriculum). Assessment and evaluation provide ongoing feedback to teachers, students and parents in order to enhance student learning.

**Possible forms of assessment this year may include:**

**Mark Breakdown**

Three terms weighted equally: %

Final Exam: %

|  |  |
| --- | --- |
| **Formative** **(monitor student progress)** | **Summative (evaluate achievement of learning outcomes)** |
| Homework | Unit Tests |
| Warm up questions | Journal |
| Checkpoints (quizzes) | Reports, Projects and Presentations |
| Self, peer, and teacher reflection and evaluation providing ongoing Feedback  | Midyear and Final exams |

**Assessment Criteria**

|  |  |  |
| --- | --- | --- |
| Criterion A | Knowledge and Understanding | ★Know and understand concepts, and demonstrate skills, from the five branches of mathematics (number, algebra, statistics, and probability, geometry and trigonometry, and discrete mathematics)★Be able to understand and use a variety of mathematical forms and should have the ability to move confidently between them.  |
| Criterion B | Application and Reasoning | ★Select and use appropriate mathematical knowledge when investigating problems ★Select and apply appropriate mathematical skills and techniques when investigation problems★Recognize patterns and structures and describe them as relationships or general rules when investigating problems★Draw conclusions consistent with finding★Justify mathematical relationships when investigating problems |
| Criterion C | Communication | ★Appropriate language and symbols ★A variety of media and technologies |
| Criterion D | Reflection | ★Reflect on their methods and processes★Consider possible alternative approaches ★Evaluate the significance and reliability of their finding and the findings of others |

**Extra Help**

The Math Department publishes a schedule of when extra help is available. This schedule is posted in every math classroom and students are welcome to see any math teacher for help. If students would like to make an appointment with me specifically I am available most morning at 8am and lunch hours. Please email me or talk to me in class to find a time to meet. You are responsible for your success in this course.

**Test Make-up Time**

Please contact your teacher AS SOON as possible after (*preferably before*) you miss you test.