Math 8 Course Outline
Teacher: Ms. Richmond

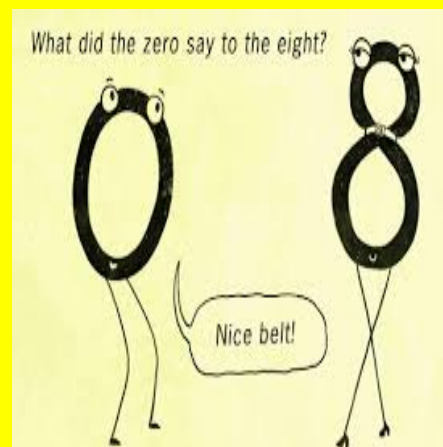**Textbook**: **Math Links 8** – *McGraw-Hill Ryerson*

The **main goals of mathematics** education are to prepare students to:

- solve problems
- communicate and reason mathematically
- make connections between mathematics and its real world applications
- become mathematically literate
- appreciate and value mathematics
- make informed decisions as contributors to society

Below you will find an outline of all the outcomes that will be covered throughout the Grade 8 Mathematics course this year. This year, instead of focusing on each unit until it is completed in its entirety, we will focus on one outcome each week, cycling through outcomes in each unit. In this way, students will see the same outcomes multiple times as we build on them throughout the year.

Course Work: 80%
Final Exam: 20%

What did the zero say to the eight?

Nice belt!

Unit	Subsections	Topics
Numbers	● Review of Number Concepts	☐ Factors & Multiples ☐ Prime & Composite Numbers ☐ Greatest Common Factor (GCF) ☐ Least Common Multiple (LCM) ☐ Order of Operations (BEDMAS)
	● Integers	☐ Review of Integers (+/-/x/÷)
	● Rational Numbers	☐ Fractions (+/-/x/÷), mixed fractions ☐ Ratio and Rate ☐ Decimals ☐ Percents ☐ Rational versus Irrational Numbers
	● Exponents	☐ Perfect Squares ☐ Square Roots ☐ Approximate square roots
Patterns	● Equations	☐ Definitions and terms ☐ Two-variable equations (equations with adding, subtracting, multiplying and

		dividing in them, and equations with fractions in them.)
	● Graphing	☐ Table of Values ☐ Graphing Rules ☐ Graphing 2-variable equations
Shape and Space	● Review of Metric & Standard	☐ KHDUdcm for Conversions ☐ Conversion data tables
	● Pythagorean Theorem	☐ $C^2 = A^2 + B^2$
	● Geometry	☐ Nets ☐ Views ☐ Polygon congruence ☐ Review of Area of different shapes ☐ Surface Area ☐ Volume
Statistics	● Data Collections	☐ Circle graphs ☐ Line graphs ☐ Bar graphs ☐ Pictographs
	● Probability	☐ Probability as percent, decimal, fraction ☐ Independent events ☐ Probability rules

You will Need:

- A calculator – *with exponent and integer (+/-) functions*
- Pencil
- Paper
- Textbook
- Coil Notebook - 5 subject

Assessment:

- ❖ **Formative Assessment** (*Assessment for Learning*) – These types of assessments are to guide teaching and learning, and will not be used in the calculation of the final course mark
  - ➢ bell work
  - ➢ practice sheets
  - ➢ self corrections
  - ➢ group assignments
  - ➢ project conferences with teacher

➢ vocabulary work included/embedded in lesson structures
➢ self-assessments using learning outcomes

❖ **Formative Assessment** (*Assessment as Learning*) – These types of assessments are also to guide teaching and learning, and will also not be used in the calculation of the final course mark
    ➢ diagnostic assessments
    ➢ practice quizzes
    ➢ practice tests as individuals or with group
    ➢ self-assessment

❖ **Summative Assessment** (*Assessment of Learning*) – These are the assessments for which the marks will be recorded and used to calculate the final course mark. The weight of each of these types of assessments on the final mark is indicated below:
   ➢ weekly/bi-weekly mini check-ins 10%
    ➢ outcome exams (4) - 40%
    ➢ projects (3) - 30%
    ➢ final exam - 20%

Topic	Rationale
Numbers	Numbers unit is the backbone of all math learning. Students focus towards mastery of the concepts of fractions as they are the basis of decimals, division, and later on equations and geometry and statistics.
Patterns	Teaching patterns and graphing usually occurs quickly. Gaining an understanding of the link between patterns, graphing, and equations is essential for math understandings in later courses.
Shape and Space	Measurement is a hands-on unit and involves a lot of manipulatives and interactive. Students usually enjoy this unit and the study of Pythagorean Theorem.
Statistics	Graphing reinforces previous learning with patterns. Probability is linked to previous learning with fractions and this provides a good review of topics covered in the beginning of the year.

Expectations:

1. Be in class on time with all necessary materials : ready to work

2. Students are expected to complete work on time. Homework is due at the beginning of the class, on the assigned date. Homework assignments should be copied from the board into your agenda.

3. Absences. When absent it is the students responsibility to catch up on work or tests missed.   Check with the teacher. If you know you are going to be absent, work can be given ahead of time. Tests and quizzes that are missed are usually made up at lunch or after school.

4. Binders are to be kept neat, organized and dated. **Students are expected to show their work in answering questions.**

5. Assignments are to be handed in on time. All assignments must be completed.

6. If you are having any difficulty with the course please arrange a time for extra help. Do not let yourself slip behind. Help is available, please ask before it is time for the final at the end of the year.
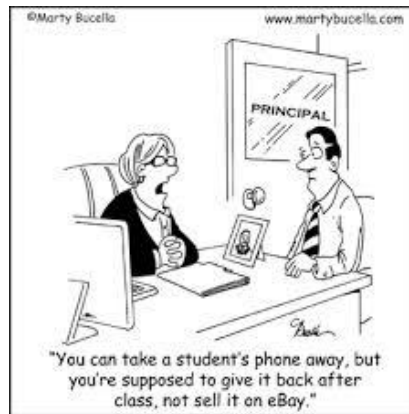
Cell Phone Policy: There is a time and place for the use of cell phone technology in class. The teacher will inform the student when that time is. Cell phones will be parked during class time, with the exception of times that it is required to enhance learning as dictated by the teacher. It is not to be used in replacement of a calculator or a source of music. Thank-you for your support in this area!