



# Math 8

## Course Outline

**Course Layout** *The course is broken down into units and organized using the Big Ideas as follows:*

### Big idea 1: Numeracy

Numeracy helps us to see patterns, communicate ideas, and solve problems.

- operations with fractions (addition, subtraction, multiplication, division, and order of operations)
- perfect squares and cubes
- square roots and Pythagorean Theorem

1          Square Roots

2          Fractions

### Big Idea 2: Number Formats:

Numbers can be represented in many forms and reflect different relationships.

- percents less than 1 and greater than 100 (decimal and fractional percents)
- rates and proportional reasoning, ratio, proportions, and percent
- numerical proportional reasoning
- financial literacy - best buys (e.g., coupons, proportions, unit price, products, and services)

3          Percents

4          Rate and Ratio

Patterns

### Big Idea 3: Patterns

Patterns allow us to see relationships and develop generalizations.

- logic and patterns to solve games and puzzles
- expressions and equations, writing and evaluating using substitution
- two-step equations with integer coefficients, constants, and solutions

5            Linear Relation

### Big Idea 4: Measurement

Geometry and measurement empower us to make meaning of the world

- surface area and volume of regular solids (right prisms, triangular prism, and cylinder)
- construction, views, and nets of 3D objects

6            Geometry

### Big Idea 5: Data Analysis

Data enable us to draw conclusions and make predictions in an unstable world.

- We can apply mathematics to inquiry questions and use it to communicate information and data
- theoretical probability with two independent events

7            Presenting Data

Final Exam

Grading Your grade for this course will be calculated as follows:

| Item             | Weight |
|------------------|--------|
| Learning Guides  | 20%    |
| Practice Quizzes | 20%    |
| Unit tests       | 40%    |
| Final Exam       | 10%    |
| Projects         | 10%    |

## Learning Guides

Before you write a unit exam, you must submit all assignments leading up to the exam. All submissions MUST be very neat and well organized. If you can't figure out a question, you should be researching, then asking for help.

It is assumed that you will do all the required assignments. Success on the exams depends upon exposure to a large variety of questions and lots of practice.

## Exam Supervision:

Quizzes can be done on your own (not supervised).

All exams are "closed book" and require supervision. If you are unable to access a local school to write your exams, you will need to find a teacher that will supervise your exams. Please have them e-mail me and I will send them the required information

## Resources:

There is NO textbook required for this course. You do need a basic scientific calculator.

## Keys to Success:

1. Set a schedule so that you are working on math either everyday or every second day. There should be no big gaps, with the hope of catching up. This is VERY important!
2. Study the Lessons and take good notes for reference when working on homework. Make sure you can do and understand the problems you are shown in the many examples given in each lesson.
3. Practice tests are used to make sure you understand the material.
4. Write your unit test after your Learning Guide has been submitted and all related quizzes are complete and well understood. Check your answers and correct your mistakes. Ask for help whenever needed.
5. Use the messenger function in your course to communicate with your teacher. Ask questions!