

Welcome to Science & Math 8, a yearlong course that enables students to develop their mathematical habits of mind and better understand the natural world. This course follows the new BC Math 8 and Science 8 curricula. The course will operate as a linear, alternating day, Math/Science course but at times we will naturally blur the two facilitating the learning of one through the other. It is my hope to foster in each student the passion to grow and explore individually and a collective as they head out into the community.

**New BC Math 8 curriculum:**

<https://curriculum.gov.bc.ca/curriculum/mathematics/8>

**New BC Science 8 curriculum:**

<https://curriculum.gov.bc.ca/curriculum/science/8>

**Materials you will need every class:**

- ✓ Pencil & Eraser
- ✓ Paper
- ✓ Calculator
- ✓ Ruler
- ✓ An organized workbook, preferably a three ring binder, for handouts, notes, and practice exercises

**Big Ideas:**

**Math 8**

Number Representation	Computational Fluency	Discrete Linear Relationships	3D Object Relationships	Data Analysis
-----------------------	-----------------------	-------------------------------	-------------------------	---------------

**Science 8**

Life processes are performed at the cellular level	The behavior of matter can be explained	Energy can be transferred	Earth's geological processes can be explained
--	---	---------------------------	---

## TOPICS WE WILL STUDY:

### Mathematics:

**Rational and Irrational Numbers** – We will learn about perfect squares and cubes as well as square and cube roots. We will extend our knowledge of order of operations to fractions (+ -  $\times$   $\div$ ).

**Algebra and Linear Relations** – We will expand our algebra skills to two-step linear equations. We will look at solving linear equations graphically and algebraically.

**Triangles and 3D Geometry** – We will learn Pythagorean Theorem to solve side lengths of right angle triangles. We will learn how to calculate surface area and volume of different 3D shapes.

**Rates, Ratios and Percents** – We will develop our proportional thinking by solving problems involving rates, ratios and percents. We will apply these skills to real life problems and to everyday lives.

**Probability** – We will learn about various methods to calculate central tendencies (mean, median and mode). Students will also calculate the probability of independent events.

**Financial Literacy** – We will learn about unit price, best buys, taxes, income, and deductions.

### Science:

**Scientific Method and Lab Safety** – We will prepare to work in the lab explore how to use the scientific method.

**Biology** – We will learn what it means to be a living thing on earth. We will learn how to use a microscope and study the immune system.

**Chemistry** – We will learn about density, states of matter and the Kinetic Molecular Theory.

**Physics** – We will explore different types of electromagnetic radiation, the way light behaves, human vision and optical systems.

**Earth Sciences** – We will learn about continental drift theory, the structure of the earth and how these all affect geological processes such as earthquakes, volcanoes and mountain building.

## Expectations

- ✓ **Use of Class Time:** Students are expected to show up to every class ready to work. Effective use of class time is important in order to keep up as well as to utilize the help of myself and classmates.
- ✓ **Attendance:** Whenever possible students should inform me in advance of an upcoming absence so that we can arrange a time to meet and make a plan in order for the student to stay on top of their work. With exception of an illness documented by the office, students will be expected to catch up on their own time. Students will also be expected to get any notes missed during an absence from a classmate. Students who leave the classroom before being dismissed without previous arrangements with me will be marked as absent.
- ✓ **Late:** Students who are late are expected to come in quietly and find their seat without disrupting the class. If a student is late on a test or quiz day they will not be given extra time. Habitual tardiness will be addressed on an individual basis.
- ✓ **Missing Test or Quiz:** Students who were not present for a test or quiz must arrange a time with me to write a different version of the test or quiz.
- ✓ **Homework:** Students will generally have time to complete the majority of their work in the classroom. But any work not finished in class will be expected to be finished at home. Classroom work will be checked for completion and some assignments will be handed in for assessment.
- ✓ **Technology:** Technology can be a great tool for learning but when it becomes a distraction, it negatively impacts students. Any technology that becomes a distraction is generally placed on the whiteboard easel for the reminder of the class.
- ✓ **Seating Plan:** Students will be seated using visibly random techniques daily. This not only keeps the atmosphere in the classroom fresh but encourages students to become collaboratively dynamic citizens.
- ✓ **Extra Help:** Extra help is always available for students who require more help. Come see me to arrange a time that works for both of us.
- ✓ **Safety:** If students are not following instructions in the lab or classroom they will be excused from the room and will receive a zero for that assignment or activity.

**Respect yourself, your classmates, teachers, the classroom and materials.**