

# Math 8

## Course Outline



Welcome to math 8!

Success is not the absence of failure; it's the persistence through failure.

Aisha Tyler

For the best success in math 8 please subscribe to the following:

- Keep a positive growth mindset
- Attend class and be on time.
- Ask questions when you are unsure
- Be productive with your class time (leave your devices in your bag)
- Be respectful to the learning environment
- Get enough sleep each night
- Eat breakfast in the morning and lunch at lunch break
- Enjoy your time at Panorama Ridge Secondary

**Core Competencies:** The Core Competencies are sets of intellectual, personal, and social and emotional proficiencies that all students need in order to engage in deep, lifelong learning. Along with literacy and numeracy foundations, they are central to British Columbia's K-12 curriculum and assessment system and directly support students in their growth as educated citizens.



**Communication** -The Communication competency encompasses the knowledge, skills, processes and dispositions we associate with interactions with others. Through their communication, students acquire, develop and transform ideas and information, and make connections with others to share their ideas, express their individuality, further their learning, and get things done. The communication competency is fundamental to finding satisfaction, purpose and joy.



**Thinking** - The Thinking competency encompasses the knowledge, skills and processes we associate with intellectual development. It is through their competency as thinkers that students take subject-specific concepts and content and transform them into a new understanding. Thinking competence includes specific thinking skills as well as habits of mind, and metacognitive awareness. These are used to process information from a variety of sources, including thoughts and feelings that arise from the subconscious and unconscious mind and from embodied



**Personal and Social** - The Personal and Social competency is the set of abilities that relate to students' identity in the world, both as individuals and as members of their community and society. Personal and social competency encompasses what students need to thrive as individuals, to understand and care about themselves and others, and to find and achieve their purposes in the world.

## Big Ideas

**Number** represents, describes, and compares the quantities of ratios, rates, and percents.

Computational **fluency** and flexibility extend to operations with fractions.

**Discrete linear relationships** can be represented in many connected ways and used to identify and make generalizations.

The relationship between surface area and volume of **3D objects** can be used to describe, measure, and compare spatial relationships.

Analyzing **data** by determining averages is one way to make sense of large data sets and enables us to compare and interpret.

## Course Topics:

Unit 0: Review of Prior Learning

Unit 1: Integers

Unit 2: Fraction Operations

Unit 3: Rates, Ratios, and Percentages

Unit 4: Pythagorean Theorem

Unit 5: Linear Relations and Equations

Unit 6: Surface Area and Volume

Unit 7: Statistics and Probability

**CURRICULAR COMPETENCIES:** The curricular competencies are integrated through classroom activities and assignments. They highlight what students are expected to do throughout the course.

### Reasoning & Analyzing

- Using logic and reasoning and logic to explore, analyze, and apply mathematical ideas.

### Understanding & Solving

- Develop, demonstrate and apply mathematical understanding through play, inquiry, and problem solving.

### Communicating & Representing

- Communicate mathematical thinking in many ways.

### Connecting & Reflecting

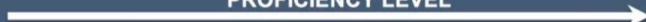
- Connect mathematical concepts to each other and to other personal interests.

**CONTENT COMPETENCIES:** The content competencies are what students are expected to know by the end of the course.

- Perfect squares and cubes
- Square and cube roots
- Proportional reasoning (rates, ratios and percentages)
- Discrete linear relations
- Two-step equations
- Surface area and volume
- Pythagorean Relationship
- Theoretical probability
- Financial literacy

### Assessment

Your grade will be determined using the course specific standards and the proficiency scale.

PROFICIENCY LEVEL 			
Emerging	Developing	Proficient	Extending
<i>•The student is beginning to demonstrate basic knowledge in relation to the learning standards</i> <i>•Works with ongoing support</i>	<i>•The student demonstrates some knowledge in relation to the learning standards</i> <i>•Works with some support</i>	<i>•The student demonstrates good knowledge in relation to the learning standards</i> <i>•Works independently</i>	<i>•The student demonstrates knowledge beyond the learning standards</i> <i>•Works independently and can support the learning of others</i>
<i>"I am just getting started." "I learn best with help."</i>	<i>"I get some of it." "I am beginning to do more and more on my own."</i>	<i>"I get it." "I can do it on my own."</i>	<i>"I get it and go beyond what is expected of me." "I can teach it to a friend."</i>

To successfully pass the course your achievement must *surpass* an *Emerging* level.

## Required Materials:

3 Ring Binder

3 hole punched lined paper

3 hole punched graphing paper

Binder dividers for each unit (8 total)

Pencil, eraser, blue or black pen, red pen, ruler, highlighters.

Scientific Calculator