



Argyle Secondary School Math Department Mathematics 8 Course Outline

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

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.

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

CURRICULAR COMPETENCIES:

Students are expected to be able to do the following:

Reasoning and modeling

- Develop thinking strategies to solve puzzles and play games
- Explore, analyze, and apply mathematical ideas using reason, technology, and other tools
- Estimate reasonably and demonstrate fluent, flexible, and strategic thinking about number
- Model with mathematics in situational contexts
- Think creatively and with curiosity and wonder when exploring problems

Understanding and solving

- Develop, demonstrate, and apply conceptual understanding of mathematical ideas through play, story, inquiry, and problem solving
- Visualize to explore and illustrate mathematical concepts and relationships
- Apply flexible and strategic approaches to solve problems
- Solve problems with persistence and a positive disposition
- Engage in problem-solving experiences connected with place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

Communicating and representing

- Explain and justify mathematical ideas and decisions in many ways
- Represent mathematical ideas in concrete, pictorial, and symbolic forms
- Use mathematical vocabulary and language to contribute to discussions in the classroom
- Take risks when offering ideas in classroom discourse

Connecting and reflecting

- Reflect on mathematical thinking
- Connect mathematical concepts with each other, with other areas, and with personal interests
- Use mistakes as opportunities to advance learning
- Incorporate First Peoples worldviews, perspectives, knowledge, and practices to make connections with mathematical concepts

CONTENT:

Students are expected to know the following:

- perfect squares and cubes
- square and cube roots
- percents less than 1 and greater than 100 (decimal and fractional percents)
- numerical proportional reasoning (rates, ratio, proportions, and percent)
- operations with fractions (addition, subtraction, multiplication, division, and order of operations)
- discrete linear relations (extended to larger numbers, limited to integers)
- expressions- writing and evaluating using substitution
- two-step equations with integer coefficients, constants, and solutions
- surface area and volume of regular solids, including triangular and other right prisms and cylinders
- Pythagorean theorem
- construction, views, and nets of 3D objects
- central tendency
- theoretical probability with two independent events
- financial literacy — best buys

RESOURCE MATERIALS:

The teacher may provide an appropriate text, as well as providing locally developed supplemental packages. **Direct Entry Scientific calculator required.**

MARKS ASSIGNMENT:

Students will be assessed on each unit through short quizzes and a larger unit assessment. Their mark will reflect their understanding of each topic at the end of each unit.

POLICIES AND PROCEDURES:

1) PREPARATION FOR CLASS

It is the student's responsibility to arrive for each class **on time** with their notebook, pencils, calculator, and textbook. Good work habits, effort, regular attendance, and completion of assignments contribute to successful achievement.

2) ABSENCES

Missing classes for any reason will have an impact on learning, assessment, and evaluation. Students absent from class, whether excused or unexcused, are solely responsible for obtaining and completing any missed assignments, work, or homework. **Your teacher is not required to make special arrangements for unexcused absences.**

- a. Students absent for illness, medical appointments, and other emergencies **must** contact their teacher **before they return to school through MS TEAM** to submit overdue assignments, schedule missed assessments, and to receive missed work. If you are absent please make sure you attend the early morning tutorial session the day you return to school to answer any questions or get extra help with missed work.
- b. Students absent for school related activities (ex. field trips, work experience, sports trips, etc.), **must** inform their teacher of this absence **well in advance** of the activity, in order to receive specific instructions on work that will be missed and the rescheduling of missed assessments.
- c. Students absent for any other reason, including family vacations, are considered **unexcused**. Any work or assessments missed for these absences may result in receiving a **zero** for that activity unless prior arrangements were agreed upon.

3) TUTORIAL TIMES

I will be available for extra help from 8:31 am to 9:10 am everyday. If students need to write a test they should message me on MS Teams at least one day before so the test will be prepared on time.