



COURSE OUTLINE

SUBJECT: Mathematics 9 (<https://curriculum.gov.bc.ca/curriculum/mathematics/9>)

BIG IDEAS:

The principles and processes underlying operations with numbers apply equally to algebraic situations and can be described and analyzed.	Computational fluency and flexibility with numbers extend to operations with rational numbers.	Continuous linear relationships can be identified and represented in many connected ways to identify regularities and make generalizations.	Similar shapes have proportional relationships that can be described, measured, and compared.	Analyzing the validity, reliability, and representation of data enables us to compare and interpret.
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CURRICULAR COMPETENCIES:

Students are expected to be able to do the following:

Reasoning and analyzing

- Use logic and patterns to solve puzzles and play games
- Use reasoning and logic to explore, analyze, and apply mathematical ideas
- Estimate reasonably
- Demonstrate and apply mental math strategies
- Use tools or technology to explore and create patterns and relationships, and test conjectures
- Model mathematics in contextualized experiences

Understanding and solving

- Apply multiple strategies to solve problems in both abstract and contextualized situations
- Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving
- Visualize to explore mathematical concepts
- Engage in problem-solving experiences that are connected to place, story, cultural practices, and perspectives relevant to local First Peoples communities, the local community, and other cultures

Communicating and representing

- Use mathematical vocabulary and language to contribute to mathematical discussions
- Explain and justify mathematical ideas and decisions
- Communicate mathematical thinking in many ways
- Represent mathematical ideas in concrete, pictorial, and symbolic forms

Connecting and reflecting

- Reflect on mathematical thinking
- Connect mathematical concepts to each other and to other areas and personal interests
- Use mathematical arguments to support personal choices
- Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts

CONTENT:

Students are expected to know the following:

- operations with rational numbers (addition, subtraction, multiplication, division, and order of operations)
- exponents and exponent laws with whole-number exponents
- operations with polynomials, of degree less than or equal to 2
- two-variable linear relations, using graphing, interpolation, and extrapolation
- multi-step one-variable linear equations
- spatial proportional reasoning
- statistics in society
- financial literacy — simple budgets and transactions

RESOURCE MATERIALS:

MathLinks 9 Pathways to Success (McGraw-Hill Education)

Locally developed supplemental packages

Direct entry scientific calculator required

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 **on the day they return to school** to submit overdue assignments, schedule missed assessments, and to receive 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.