

**Course:** Foundations of Mathematics 11

**Teacher Name:** Ken Pickthall

**Contact information:** kpickthall@sd44.ca



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### **Course Description:**

Using various forms of mathematical reasoning the Foundations of Mathematics 11 course covers the topic of angle relationships by looking at similar shapes and proportional relationships. The course also looks at applications of statistics and scale models. Systems of Linear Equations and Quadratic Functions can be used to optimize extreme values. We will also look at financial literacy with compound interest, investment and loans. Students will develop, demonstrate and apply mathematical understanding through inquiry and problem solving.

*Refer to the New Curriculum on the MOE site*

*<https://curriculum.gov.bc.ca/curriculum/mathematics/11/foundations-of-mathematics>*

### **Summer Learning Beliefs:**

Summer Learning provides an engaging learning environment where all students can challenge themselves academically and fulfill their learning goals. To ensure this, students will:

- abide by the student Code of Conduct
- adhere to the Academic Honesty Policy
- adhere to the *Summer Learning* Student Engagement policy
- respect themselves and others
- attend every class and be punctual
- inquire, think, and participate to the best of their ability
- access technology in class when instructed to do so and for learning purposes only
- challenge themselves and have fun learning

*All Summer Learning policies can be accessed at:*

*<https://www.sd44.ca/school/summer/policies/Pages/default>*

**Course Syllabus:**

<b>Conceptual Understandings</b>	<b>Curricular Competencies</b>	<b>Content</b>	<b>Performance Task or Assessment</b>
Financial Literacy How does interest rate and compounding periods affect interest for income or payments?	<ul style="list-style-type: none"> <li>Use mathematical vocabulary and language to understand and solve problems in the world of finance</li> </ul>	<ul style="list-style-type: none"> <li>Compound interest</li> </ul>	Use mathematical models to analyse and explore interest. MS Forms quizzes and assignments.
Angle Relationships What characteristics make objects similar?	<ul style="list-style-type: none"> <li>Connect mathematical concepts and models with real life situations</li> </ul>	<ul style="list-style-type: none"> <li>properties, proofs, parallel lines, triangles and other polygons, angle constructions</li> </ul>	Including real-life scenarios and open-ended challenges that connect mathematics with everyday life. MS Forms quizzes and assignments.
Applications of Statistics When analyzing data, what are some of the factors that need to be considered before making inferences?	<ul style="list-style-type: none"> <li>Apply flexible and strategic approaches to solve problems in the world of statistics</li> </ul>	<ul style="list-style-type: none"> <li>measures of central tendency, standard deviation, confidence intervals, z-scores, distributions</li> </ul>	Posing a question about an observed variation, collecting and interpreting data, and answering the question. MS Forms quizzes and assignments.
Graphical analysis How can mathematics help us make decisions regarding the best course of action?	<ul style="list-style-type: none"> <li>Explore, analyze, and apply mathematical ideas using reason, technology, and other tools</li> </ul>	<ul style="list-style-type: none"> <li>linear inequalities</li> <li>quadratic functions</li> <li>systems of equations</li> <li>optimization</li> </ul>	Graphing of the solution region, slope and intercepts, intersection points of lines. MS Forms quizzes and assignments.

**Grade Boundaries:**

An “A” student will/can....

- Demonstrate and apply the curricular competencies
- Analyze the information and synthesize the correct solution
- Discern challenging patterns

- Apply the concepts and extrapolate onto contextualized situations
- Have superb command of numeracy (no computational error)
- Challenge problems in familiar and unfamiliar situations

A “B” student will/can....

- Demonstrate and sometimes apply the curricular competencies
- Analyze the information and synthesize the solution
- Identify the complex patterns within the context
- Apply the concepts and understand some details in contextualized situations
- Have good command of numeracy
- Challenge problems in familiar and is working towards unfamiliar situations

A “C” student will/can .....

- Demonstrate the curricular competencies
- Organize the information and attempt to interpret the solution
- Identify the patterns within the context
- Build on the concepts and is still working on finding the details in contextualized situations
- Solve routine two-step problems

**Resources:**

Resources
Foundations of Mathematics 11 Workbook and worksheet package handed out at curbside pickup
Access to Microsoft Teams through the internet
Notepaper and graph paper
Scientific Calculator (graphing calculator not required)