

Grade 9 Applied Course Overview

Mathematical Processes

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8
Measurement <ul style="list-style-type: none"> Perimeter and area of composite shapes Pythagorean theorem Volume of 3-D figures (developing formulas) Number Sense and Algebra <ul style="list-style-type: none"> Simplifying numerical expressions Exponents 	Measurement <ul style="list-style-type: none"> Optimization of measurements of rectangles Linear Relations <ul style="list-style-type: none"> Scatter plots Lines of best fit Number Sense and Algebra <ul style="list-style-type: none"> Substituting into and solving equations 	Linear Relations <ul style="list-style-type: none"> Investigating data (linear and nonlinear) Lines and curves of best fit First differences Number Sense and Algebra <ul style="list-style-type: none"> Simplifying numerical expressions 	Number Sense and Algebra <ul style="list-style-type: none"> Ratio, rate, proportion Percents, decimals 	Linear Relations <ul style="list-style-type: none"> Constant rate of change Initial value Direct and partial variation Number Sense and Algebra <ul style="list-style-type: none"> Using fractions and decimals 	Linear Relations <ul style="list-style-type: none"> Determining values Story graphs Comparing models Changing the graph Points of intersection Number Sense and Algebra <ul style="list-style-type: none"> Solving equations 	Linear Relations <ul style="list-style-type: none"> Connection and application of algebraic models Number Sense and Algebra <ul style="list-style-type: none"> Simplifying algebraic expressions 	Measurement <ul style="list-style-type: none"> Plane geometry concepts Number Sense and Algebra <ul style="list-style-type: none"> Solving equations in context <p>*This unit could stand alone and can be placed anywhere within the course.</p>

Mathematical Processes

- Problem Solving
- Reasoning and Proving
- Reflecting
- Selecting Tools and Computational Strategies
- Connecting
- Representing
- Communicating

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Unit #	Unit Name	Overall Expectations Students will:	Approximate Number of Days
1	Measurement 2D and 3D	<ul style="list-style-type: none"> • solve problems involving the measurements of two-dimensional shapes and the volumes of three-dimensional figures (MGV.02) • simplify numerical and polynomial expressions in one variable, and solve simple first-degree equations (NAV.02) 	9
2	Measurement Optimization	<ul style="list-style-type: none"> • determine, through investigation, the optimal values of various measurements of rectangles (MGV.01) • apply data-management techniques to investigate relationships between two variables (LRV.01) • determine the characteristics of linear relations (LRV.02) • simplify numerical and polynomial expressions in one variable, and solve simple first-degree equations (NAV.02) 	9
3	Exploring Relationships	<ul style="list-style-type: none"> • apply data-management techniques to investigate relationships between two variables (LRV.01) • determine the characteristics of linear relations (LRV.02) • connect various representations of a linear relation, and solve problems using the representations (LRV.04) 	10
4	Proportional Relationships	<ul style="list-style-type: none"> • solve problems involving proportional reasoning (NAV.01) • apply data-management techniques to investigate relationships between two variables (LRV.01) • determine the characteristics of linear relations (LRV.02) 	10

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Unit #	Unit Name	Overall Expectations Students will:	Approximate Number of Days
5	Modelling Linear Relationships	<ul style="list-style-type: none"> • demonstrate an understanding of constant rate of change and its connection to linear relations (LRV.03) • connect various representations of a linear relation, and solve problems using the representations (LRV.04) 	11
6	Solving Equations	<ul style="list-style-type: none"> • simplify numerical and polynomial expressions in one variable, and solve first degree equations (NAV.02) • demonstrate an understanding of constant rate of change and its connection to linear relations (LRV.03) • connect various representations of a linear relation, and solve problems using the representations (LRV.04) 	10
7	Algebraic Models	<ul style="list-style-type: none"> • simplify numerical and polynomial expressions in one variable, and solve simple first-degree equations (NAV.02) • determine the characteristics of linear relations (LRV.02) • demonstrate an understanding of constant rate of change and its connection to linear relations (LRV.03) • connect various representations of a linear relation, and solve problems using the representations (LRV.04) 	10
8	Geometry	<ul style="list-style-type: none"> • determine, through investigation facilitated by dynamic geometry software, geometric properties and relationships involving two-dimensional shapes, and apply the results to solving problems (MGV.03) • simplify numerical and polynomial expressions in one variable, and solve simple first-degree equations (NAV.02) • connect various representations of a linear relation, and solve problems using the representations (LRV.04) 	10