MTH 1W – Course Outcomes

	Outcome #1 Working with Numbers	Outcome #2 Algebraic Expressions and Equations
Emerging Understanding	☐ I can evaluate simple expressions involving integers and order of operations. ☐ I understand and can use unit fractions to determine other fractional amounts.	☐ I can create simple expressions and generalize relationships expressed in words, numbers, and visual representations in various contexts. ☐ I can substitute values into an expression and solve ☐ I can solve one step equations and simple two step equations.
Approaching Standard	☐ I can determine an unknown between and within simple ratios. ☐ I can move between fractions, decimals and percents.	☐ I can simplify algebraic expressions by applying properties of operations of numbers (collecting like terms). ☐ I can solve simple two step equations with context.
Reached Standard	☐ I can make comparisons using unit rates and proportional reasoning. ☐ I can solve problems which include operations with positive and negative fractions and mixed fractions.	☐ I can solve difficult two step equations with context and verify the solution ☐ I can simplify algebraic expressions by applying properties of operations of numbers (distributive property).
Exceeded Standard	☐ I can solve problems involving rates, percentages, and proportions in various contexts.	☐ I can create and solve equations using the distributive property, with variables on both sides, and unit fractions, and verify their solutions.
Extending Understanding	☐ I can consistently solve multistep problems involving proportional reasoning in various contexts.	☐ I can solve multi-step equations (with and without fractions, distributive property, variables on both sides) and verify their solutions.

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	Outcome #3 Powers	Outcome #4 Measurement
Emerging Understanding	☐ I can write powers with positive exponents in expanded form and evaluate them. ☐ I can express numbers in scientific notation by comparing size and sign.	☐ I can determine Perimeter/Circumference and area of composite shapes. ☐ I can use side-length relationships for a right triangle to solve for an unknown side.
Approaching Standard	☐ I can use the multiplication and division exponent laws to simplify numeric and algebraic expressions.	☐ I can solve for the area and perimeter of composite shapes that involve right triangle relationships. ☐ I can calculate the volume of prisms and cylinders.
Reached Standard	☐ I can use the nested exponent law to simplify numeric and algebraic expressions. ☐ I can write powers with negative exponents in expanded form and evaluate them. ☐ I can use the exponent laws to simplify expressions in scientific notation by multiplying and dividing (leaving answer in SN).	☐ I can apply the relationship between the volume of prisms and pyramids and between the volume of cylinders and cones. ☐ I can show how changing one or more dimensions of a two-dimensional shape and three-dimension object affects perimeter/circumference, area, surface area, and/or volume (using technology when appropriate).
Exceeded Standard	☐ I can answer questions using a combination of all of the exponent laws. ☐ I can utilize the exponent laws to simplify numeric and algebraic expressions (including those involving scientific notation).	☐ I can solve multi-step problems to determine the perimeter and area of composite shapes and the volume of three-dimensional objects including pyramids and cones in various units of measure.
Extending Understanding	☐ I have a thorough understanding of exponent laws and scientific notation.	☐ I can consistently solve a variety of measurement problems involving different units.

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	Outcome #5 Relationships	Outcome #6 Lines
Emerging Understanding	☐ I can distinguish between linear and non-linear relations given: ☐ a visual representation ☐ a table of values ☐ a graph	☐ I can graph a line using technology. ☐ I can graph a line using a table of values.
Approaching Standard	☐ I can identify initial values and rate of change for linear relations given: ☐ a visual representation ☐ a table of values ☐ a graph	☐ For linear relations given one representation (table, graph, equation, description) I can move to the other representations where the rate of change and initial value are integers.
Reached Standard	☐ I can create a table of values given an equation representing linear and non-linear relationships and make a graph.	☐ For linear relations given one representation (table, graph, equation, description) I can move to the other representations where the rate of change and initial value are rational numbers.
Exceeded Standard	☐ I can graph an inequality.	☐ I can solve problems involving a variety of linear relations including moving between the table, graph, description, and equation.
Extending Understanding	☐ I have a thorough understanding of linear and non-linear relationships.	☐ I have a thorough understanding of linear relationships.

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	Outcome #7 Financial Literacy	Outcome #8 Data
Emerging Understanding	☐ I can identify income and expenses for the purpose of a budget. ☐ I can identify if a financial graph is appreciating or depreciating. ☐ I can balance a budget.	☐ I can display single variable data in various ways (ie. bar graphs, histograms, dot plots) ☐ I can perform single data variable calculations. ☐ measures of central tendency (ie. mean, median, mode, range) ☐ measures of spread (ie. quartiles, Q1, Q2, Q3, IQR)
Approaching Standard	☐ I can identify the growth of simple interest and compound interest (compounded annually) using tables and graphs. ☐ I can identify the effects of simple interest vs compound interest. ☐ I can modify a budget to reflect a certain change. ☐ I can answer related questions to associated financial graphs of appreciation and depreciation.	☐ I can use and compare box plots. ☐ I can construct scatter plots with technology, identify correlations (ie. strong/weak, positive/negative), and make predictions when appropriate (ie. graphically). ☐ I can identify the information needed to answer a question of interest requiring the collection of data.
Reached Standard	☐ I can identify the growth of simple Interest and compound interest (compounded annually) using equations. ☐ I can modify budgets displayed in various ways to reflect specific changes.	☐ I can analyze a variety of single and two variable data sets. ☐ I can perform linear regression using technology and interpret the correlation coefficient and then make predictions when appropriate. (ie. interpolation, extrapolation) ☐ I can pose a question of interest, create a plan to collect the necessary data and carry out the plan effectively.
Exceeded Standard	☐ I can compare the effects of changing each of the following: different interest rates, lengths of borrowing time, and amount of down payment have on the amount of interest using appropriate tools.	☐ I can test different regression models using technology and can use the line or curve of best fit to interpret and make predictions. ☐ I can display and analyse data I collected in order to explore an original question of interest.
Extending Understanding	☐ I have thorough knowledge and skills needed to make informed financial decisions involving budget modifications and interest calculations.	☐ I can thoroughly report how a model can be used to answer a question of interest which requires the planning and analysing of data, how well the model fits the context, potential limitations of the model, and what predictions can be made based on the model.

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	Outcome #9 **Coding**
Emerging Understanding	☐ I can select and apply appropriate tools, with major errors, omissions, or mis-sequencing. ☐ I can transfer ideas to code, making limited connections . ☐ I can make some reasonable statements but misinterpret a critical element of a given code.
Approaching Standard	☐ I can select and apply appropriate tools, with minor errors, omissions or mis-sequencing. ☐ I can transfer ideas to code, making simple connections. ☐ I can make some reasonable statements but misinterpret part of a given code.
Reached Standard	☐ I can select and apply appropriate tools, accurately, and logically sequenced. ☐ I can transfer ideas to code, making appropriate connections. ☐ I can interpret a given code correctly and make reasonable statements.
Exceeded Standard	☐ I can select and apply the most appropriate tools, accurately, logically and efficiently sequenced. ☐ I can transfer ideas to code, making unique, original or insightful connections. ☐ I can interpret a given code correctly, and make insightful statements.
Extending Understanding	☐ I can consistently select and apply the most appropriate tools, accurately, logically and efficiently sequenced. ☐ I have a thorough understanding of applying coding skills to represent and solve mathematical concepts and problems