Year Level: 7		
Subject: Mathematics		

Unit	Learning Focus	Victorian Curriculum 2.0
TERM ONE		
Number: Place Value and Operations	Integers on the number line and number plane. Adding, subtracting, multiplying and dividing of integers.	compare, order and solve problems involving addition and subtraction of integers (VC2M7N08) use the 4 operations with positive rational numbers, including fractions and decimals, to solve problems using efficient mental and written calculation strategies (VC2M7N06)
Number: Factors, multiples and indices.	Finding factors and multiples. Understanding index notation and solving problems with indices. Understanding square roots.	represent natural numbers in expanded notation using powers of 10, and as products of powers of prime numbers using exponent notation (VC2M7N02) describe the relationship between perfect square numbers and square roots, and use squares of numbers and square roots of perfect square numbers to solve problems (VC2M7N01)
Shape: Shapes, Transformations and Cartesian Planes	Drawing 2D shapes and 3D objects. Symmetry of 2D shapes and 3D objects. Describing transformations.	represent three-dimensional objects in 2 dimensions; discuss and reason about the advantages and disadvantages of different representations (VC2M7SP01) describe the effect of transformations of a set of points using coordinates in the Cartesian plane, including translations, reflections in an axis, and rotations about the origin (VC2M7SP03) manipulate formulas involving several variables using digital tools, and describe the effect of systematic variation in the values of the variables VC2M7A06
TERM TWO		
Fractions	Understanding equivalent fractions. Adding and subtracting fractions. Multiply and divide fractions.	find equivalent representations of rational numbers and represent positive and negative rational numbers and mixed numbers on a number line (VC2M7N03) use the 4 operations with positive rational numbers, including fractions and decimals, to solve problems using efficient mental and written calculation strategies (VC2M7N06)

| | | recognise, represent and solve problems involving ratios (VC2M7N09)

multiply and divide fractions and decimals using efficient mental and written strategies, and digital tools (VC2M7N05) |
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| Fractions, Decimals and Percentages | Place value and comparing decimals.

Rounding decimals. Apply the operations +, -, x, ÷ to decimals.

Convert between fractions, decimals and percentages and compare values.

Convert worded questions into fraction, decimal and percentage calculations.

Convert between fractions and decimals and compare values.

Convert worded questions into fraction and decimal calculations. | round decimals to a given accuracy appropriate to the context and use appropriate rounding and estimation to check the reasonableness of computations (VC2M7N04)

find equivalent representations of rational numbers and represent positive and negative rational numbers and mixed numbers on a number line (VC2M7N03)

find percentages of quantities and express one quantity as a percentage of another, with and without digital tools (VC2M7N07) |
| Financial Mathematics | Calculating items costs per unit, gm, kg. | use mathematical modelling to solve practical problems involving rational numbers and percentages, including financial contexts such as 'best buys'; formulate problems, choosing representations and efficient calculation strategies, designing algorithms and using digital tools as appropriate; interpret and communicate solutions in terms of the situation, justifying choices made about the representation (VC2M7N10) |
| Probability | Construct sample spaces for single step experiments.

Assign probabilities for outcomes of events. | identify the sample space for single-stage experiments; assign probabilities to the possible outcomes and predict relative frequencies for related experiments. (VC2M7P01)

conduct repeated chance experiments and run simulations with a large number of trials using digital tools; compare predicted with observed results, explaining the differences and the effect of sample size on the outcomes (VC2M7P02) |
| TERM THREE | | |
| Algebra | Determine patterns and rules from a sequence.

Apply and determine rules/formulae.

Substitute numbers into formulae.

Determine a formula from a worded questions. | recognise and use variables to represent everyday formulas algebraically and substitute values into formulas to determine an unknown (VC2M7A01)

apply the associative, commutative and distributive laws to aid mental and written computation, and formulate algebraic expressions using constants, variables, operations and brackets (VC2M7A02) |

	Define term, expression, equation, coefficient, variable and constant. Simplify expressions. Expand expressions in brackets.	
Measurement & Geometry	Convert units of length. Define perimeter and calculate basis and composite shapes. Calculate areas of basic and composite shapes. Apply relevant formulae. Utilise correct units of measure. Measuring and constructing angles. Types of angles and definitions. Properties of triangles and quadrilaterals. Parallel and perpendicular lines.	establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem-solving (VC2M7M01) solve problems involving the volume of right prisms including rectangular and triangular prisms, using established formulas and appropriate units (VC2M7M02) identify corresponding, alternate and co-interior relationships between angles formed when parallel lines are crossed by a transversal; use them to solve problems and explain reasons (VC2M7M04) demonstrate that the interior angle sum of a triangle in the plane is 180° and apply this to determine the interior angle sum of other shapes and the size of unknown angles (VC2M7M05) classify triangles, quadrilaterals and other polygons according to their side and angle properties; identify and reason about relationships (VC2M7SP02)
TERM FOUR		
Linear and Non linear relationships	Determine patterns and rules from a sequence. Apply and determine rules/formulae. Substitute numbers into formulae. Determine a formula from a worded question.	solve one-variable linear equations of increasing complexity with natural number solutions; verify equation solutions by substitution (VC2M7A03) investigate, interpret and describe relationships between variables represented in graphs of functions developed from authentic data (VC2M7A04)
Statistics	Classifying data. Displaying data in tables. Measures of centre. Measures of spread. Representing data graphically.	plan and conduct statistical investigations for issues involving discrete and continuous numerical data, and data collected from primary and secondary sources; analyse and interpret distributions of data and report findings in terms of shape and summary statistics (VC2M7ST03) create different types of displays of numerical data, including dot plots and stem-and-leaf plots, using software where appropriate; describe and compare the distribution of data, commenting on the shape, centre and spread including outliers and determining the range, median, mean and mode (VC2M7ST02)
Geometry	Measuring and constructing angles.	identify corresponding, alternate and co-interior relationships between angles formed

	Types of angles and definitions. Properties of triangles and quadrilaterals. Parallel and perpendicular lines.	when parallel lines are crossed by a transversal; use them to solve problems and explain reasons (VC2M7M04) demonstrate that the interior angle sum of a triangle in the plane is 180° and apply this to determine the interior angle sum of other shapes and the size of unknown angles (VC2M7M05) classify triangles, quadrilaterals and other polygons according to their side and angle properties; identify and reason about relationships (VC2M7SP02)