

**Year Level: 7**

**Subject: Mathematics**

<b>Week</b>	<b>Unit</b>	<b>Learning Focus</b>	<b>Victorian Curriculum</b>
Term 1 1-3	Shapes, Transformations and Cartesian Planes	Drawing 2D shapes and 3D objects.  Symmetry of 2D shapes and 3D objects.  Describing transformations.	Draw different views of prisms and solids formed from combinations of prisms. (VCMMG260)  Describe translations, reflections in an axis, and rotations of multiples of $90^\circ$ on the Cartesian plane using coordinates. Identify line and rotational symmetries. (VCMMG261)  Given coordinates, plot points on the Cartesian plane, and find coordinates for a given point. (VCMNA255)
4-7	Number – factors, multiples, indices, fractions (+,-)	Finding factors and multiples.  Understanding index notation and solving problems with indices.  Understanding square roots.  Understanding equivalent fractions.  Adding and subtracting fractions.	Investigate index notation and represent whole numbers as products of powers of prime number. (VCMNA238)  Investigate and use square roots of perfect square numbers. (VCMNA239)  Apply the associate, commutative and distributive laws to aid mental and written computation and make estimates for these computations. (VCMNA240)  Compare fractions using equivalence. Locate and represent positive and negative fractions and mixed numbers on a number line. (VCMNA242)  Solve problems involving addition and subtraction of fractions, including those with unrelated denominators. (VCMNA243)
8-10	Algebra	Determine patterns and rules from a sequence.  Apply and determine rules/formulae.  Substitute numbers into formulae.  Determine a formula from a worded questions.  Define term, expression, equation, coefficient, variable and constant.  Simplify expressions. Expand expressions in brackets.	Introduce the concept of variables as a way of representing numbers using letters. (VCMNA251)  Create algebraic expressions and evaluate them by substituting a given value for each variable. (VCMNA252)  Extend and apply the laws and properties of arithmetic to algebraic terms and expressions. (VCMNA253)
Term 2 1- 4	Probability	Construct sample spaces for single step experiments.	Construct sample spaces for single-step experiments with equally likely outcomes. (VCMSP266)

		Assign probabilities for outcomes of events.	Assign probabilities to the outcomes of events and determine probabilities for events. (VCMSP267)
5 - 7	Fractions – multiplying and dividing	Multiply and divide fractions.  Convert between fractions and decimals and compare values.  Convert worded questions into fraction and decimal calculations.	Multiply and divide fractions and decimals using efficient written strategies and digital technologies. (VCMNA244)  Express one quantity as a fraction of another, with and without the use of digital technologies. (VCMNA245)
8-9	Positive and negative numbers	Integers on the number line and number plane.  Adding, subtracting, multiplying and dividing of integers.	Compare, order, add and subtract integers. (VCMNA241)
10	Rates and Ratios	Connecting fractions and percentages to ratios.  Using ratios to solve problems.	Recognise and solve problems involving simple ratios. (VCMNA249)
Term 3 1-4	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.	Round decimals to a specified number of decimal places. (VCMNA246)  Connect fractions, decimals and percentages and carry out simple conversions. (VCMNA247)  Find percentages of quantities and express one quantity as a percentage of another, with and without digital technologies. (VCMNA248)  Recognise and solve problems involving simple ratios. (VCMNA249)
5-7	Financial Mathematics	Calculating items costs per unit, gm, kg.	Investigate and calculate ‘best buys’, with and without digital technologies. (VCMNA250)
8-10	Measurement and 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.	Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem solving. (VCMMG258)  Calculate volumes of rectangular prisms. (VCMMG259)  Identify corresponding, alternate and co-interior angles when two straight lines are crossed by a transversal. (VCMMG264)  Investigate conditions for two lines to be parallel and solve simple numerical problems using reasoning. (VCMMG265)  Demonstrate that the angle sum of a triangle is $180^\circ$ and use this to find the angle sum of a quadrilateral. (VCMMG263)

		<p>Properties of triangles and quadrilaterals.</p> <p>Parallel and perpendicular lines.</p>	<p>Classify triangles according to their side and angle properties and describe quadrilaterals. (VCMMG262)</p>
<p>Term 4 1-5</p>	<p>Linear and Non linear relationships</p>	<p>Determine patterns and rules from a sequence.</p> <p>Apply and determine rules/formulae.</p> <p>Substitute numbers into formulae.</p> <p>Determine a formula from a worded question.</p>	<p>Solve simple linear equations. (VCMNA256)</p> <p>Investigate, interpret and analyse graphs from real life data, including consideration of domain and range. (VCMNA257)</p>
<p>6-9</p>	<p>Statistics</p>	<p>Classifying data.</p> <p>Displaying data in tables.</p> <p>Measures of centre.</p> <p>Measures of spread.</p> <p>Representing data graphically.</p>	<p>Identify and investigate issues involving numerical data collected from primary and secondary sources. (VCMSP268)</p> <p>Construct and compare a range of data displays including stem-and-leaf plots and dot plots. (VCMSP269)</p> <p>Calculate mean, median, mode and range for sets of data. Interpret these statistics in the context of data. (VCMSP270)</p> <p>Describe and interpret data displays using median, mean and range. (VCMSP271)</p>