



BitMaths

Victorian Curriculum v2
Alignment Guide
Levels 7–8

BitMaths was specifically written for the Australian Curriculum Version 8.4. This comprehensive junior secondary numeracy program still largely aligns with the requirements of the Victorian Curriculum Version 2.

Use this Version 2 Alignment Guide to see how the strands are covered for Years 7–8. The table includes the content descriptions matched against the relevant BitMaths module for each year level. Where applicable, we have also identified where you may need to use content from a different year level of the BitMaths program, or supplement with your own material.

Level 7 Curriculum Alignment		
Strand	Content Description	Module/s
Number	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)	NA704 Square and Cube Numbers
	Represent natural numbers in expanded notation using powers of 10, and as products of powers of prime numbers using exponent notation (VC2M7N02)	This description is partially covered in: NA703 Prime Factorisation NA702 Index Notation To cover this description fully, you will need to supplement with your own material to represent natural numbers in expanded notation using place value and powers of 10.
	Find equivalent representations of rational numbers and represent positive and negative rational numbers and mixed numbers on a number line (VC2M7N03)	NA707 Equivalent Fractions NA712 Converting Between Fractions, Decimals and Percentages
	Round decimals to a given accuracy appropriate to the context and use appropriate rounding and estimation to check the reasonableness of computations (VC2M7N04)	NA711 Rounding Decimals In addition, students will have opportunities throughout BitMaths to use appropriate rounding and estimation to check the reasonableness of computations.
	Multiply and divide fractions and decimals using efficient mental and written strategies, and digital tools (VC2M7N05)	NA709 Multiplying and Dividing Fractions and Decimals
	Use the 4 operations with positive rational numbers, including fractions and decimals, to solve problems using efficient mental and written calculation strategies (VC2M7N06)	NA701 The Four Operations NA705 Laws of Arithmetic NA708 Adding and Subtracting Fractions NA709 Multiplying and Dividing Fractions and Decimals NA712 Converting Between Fractions, Decimals and Percentages NA713 Finding Percentages
	Find percentages of quantities and express one quantity as a percentage of another, with and without digital tools (VC2M7N07)	NA713 Finding Percentages
	Compare, order and solve problems involving addition and subtraction of integers (VC2M7N08)	NA706 Adding and Subtracting Integers
	Recognise, represent and solve problems involving ratios (VC2M7N09)	NA714 Ratios
	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)	NA706 Adding and Subtracting Integers NA713 Finding Percentages NA715 Discounts NA719 Design and Implement Mathematical Algorithms There are additional opportunities to cover this description in Year 8 Module NA808 Profit and Loss.
Algebra	Recognise and use variables to represent everyday formulas algebraically and substitute values into formulas to determine an unknown (VC2M7A01)	NA716 Variables in Algebra NA717 Substitution in Algebra
	Apply the associative, commutative and distributive laws to aid mental and written computation, and formulate algebraic expressions using constants, variables, operations and brackets (VC2M7A02)	NA716 Variables in Algebra NA718 Applying Laws of Arithmetic to Algebra NA721 Solving Simple Linear Equations NA705 Laws of Arithmetic

Level 7 Curriculum Alignment		
Strand	Content Description	Module/s
	Solve one-variable linear equations of increasing complexity with natural number solutions; verify equation solutions by substitution (VC2M7A03)	NA721 Solving Simple Linear Equations
	Investigate, interpret and describe relationships between variables represented in graphs of functions developed from authentic data (VC2M7A04)	NA722 Travel Graphs
	Generate tables of values from visually changing patterns or the rule of a function; describe and plot these relationships on the Cartesian plane (VC2M7A05)	This description is partially covered in: NA717 Substitution in Algebra NA720 The Cartesian Plane To cover this description fully, you could use the teaching and learning resources from Year 8 Module NA813 Linear Relationships.
	Manipulate formulas involving several variables using digital tools, and describe the effect of systematic variation in the values of the variables (VC2M7A06)	There are no Year 7 BitMaths modules that directly align to this description. To cover this description, you could use the teaching and learning resources from Year 8 Modules NA813 Linear Relationships and NA815 Graphs of Non-Linear Real Life Data, as well as supplement with your own material to further manipulate formulas involving several variables and describe the effect of systematic variation in the values of the variables.
Measurement	Establish the formulas for areas of rectangles, triangles and parallelograms and use these in problem-solving (VC2M7M01)	MG701 Formulas for Areas
	Solve problems involving the volume of right prisms including rectangular and triangular prisms, using established formulas and appropriate units (VC2M7M02)	This description is partially covered in: MG702 Calculating the Volume of Rectangular Prisms To cover this description fully, you could use the teaching and learning resources from Year 8 Module MG806 Volume of Prisms to solve problems involving the volume of other right prisms including triangular prisms.
	Describe the relationship between π and the circumference, radius and diameter of a circle (VC2M7M03)	There are no Year 7 BitMaths modules that directly align to this description. To cover this description fully, you could use the teaching and learning resources from Year 8 Module MG804 Circumference of Circles.
	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)	MG708 Defining and Identifying Angles MG709 Investigating Parallel Lines
	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)	MG706 Classifying Triangles and Quadrilaterals MG707 Angle Sums of Triangles and Quadrilaterals
	Use mathematical modelling to solve practical problems involving ratios of lengths, areas and volumes; formulate problems, interpret and communicate solutions in terms of the situation, justifying choices made about the representation (VC2M7M06)	NA714 Ratios NA710 Expressing Quantities as Fractions MG701 Formulas for Areas MG702 Calculating the Volume of Rectangular Prisms
Space	Represent three-dimensional objects in 2 dimensions; discuss and reason about the advantages and disadvantages of different representations (VC2M7SP01)	This description is partially covered in: MG703 Views of Prisms and Solids To cover this descriptor fully, you will need to supplement with your own material to investigate nets of three-dimensional objects.

Level 7 Curriculum Alignment		
Strand	Content Description	Module/s
	Classify triangles, quadrilaterals and other polygons according to their side and angle properties; identify and reason about relationships (VC2M7SP02)	MG706 Classifying Triangles and Quadrilaterals
	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)	MG704 Reflections and Translations MG705 Rotations
	Design algorithms involving a sequence of steps and decisions that will sort and classify sets of shapes according to their attributes, and describe how the algorithms work (VC2M7SP04)	This description is partially covered in: MG706 Classifying Triangles and Quadrilaterals To cover this description fully, you will need to supplement with your own activities to design algorithms to sort and classify sets of shapes according to their attributes.
Probability	Identify the sample space for single-stage experiments; assign probabilities to the possible outcomes and predict relative frequencies for related experiments (VC2M7P01)	SP701 Sample Spaces SP702 Assigning Probabilities
	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 outcome (VC2M7P02)	This description is partially covered in: SP702 Assigning Probabilities To cover this description fully, you will need to supplement with your own activities to conduct chance experiments and compare predicted with observed results.
Statistics	Acquire data sets for discrete and continuous numerical variables and calculate the range, median, mean and mode; make and justify decisions about which measures of central tendency provide useful insights into the nature of the distribution of data (VC2M7ST01)	SP705 Calculating Mean, Median, Mode and Range There are additional opportunities to cover this description in Year 8 Module SP807 Effect of Individual Data Values.
	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)	This description is partially covered in: SP704 Data Displays SP706 Interpreting Data Displays To cover this description fully, you could use the teaching and learning resources from Year 8 Module SP807 The Effect of Individual Data Values.
	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)	This description is partially covered in: SP703 Primary and Secondary Data To cover this description fully, you will need to supplement with your own statistical investigations in order to collect and analyse data and report findings in terms of shape and summary statistics.

Level 8 Curriculum Alignment		
Strand	Content Description	Module/s
Number	Recognise irrational numbers in applied contexts, including π and numbers that develop from the square root of positive real numbers that are not perfect squares, and recognise that irrational numbers cannot develop from the division of integer values by natural numbers (VC2M8N01)	This description is partially covered in: NA804 Rational and Irrational Numbers To cover this description fully, you will need to supplement with your own material to demonstrate that irrational numbers cannot develop from the division of integer values by natural numbers.
	Establish and apply the exponent laws with integer exponents and the zero exponent, using exponent notation with numbers (VC2M8N02)	NA801 Index Laws
	Convert between fractions and terminating or recurring decimals, using digital tools as appropriate (VC2M8N03)	NA803 Terminating and Recurring Decimals
	Use the 4 operations with integers and with rational numbers, choosing and using efficient mental and written strategies, and digital tools where appropriate, and making estimates for these computations (VC2M8N04)	This description is partially covered in: NA802 Operations with Integers and Fractions To cover this description fully, you will need to supplement with your own material to demonstrate making estimates for computations.
	Solve problems involving the use of percentages, including percentage increases and decreases and percentage error, with and without digital tools (VC2M8N05)	NA805 Using Percentages NA806 GST NA808 Profit and Loss
	Use mathematical modelling to solve practical problems involving rational numbers and percentages, including financial contexts involving profit and loss; formulate problems, choosing efficient mental and written calculation strategies and using digital tools where appropriate; interpret and communicate solutions in terms of the context, reviewing the appropriateness of the model (VC2M8N06)	NA805 Using Percentages NA806 GST NA808 Profit and Loss
Algebra	Create, expand, factorise, rearrange and simplify linear expressions, applying the associative, commutative, identity, distributive and inverse properties (VC2M8A01)	NA809 Expanding Algebraic Expressions NA810 Factorising Algebraic Expressions NA811 Simplifying Algebraic Expressions
	Graph linear relations on the Cartesian plane using digital tools where appropriate; solve linear equations and one-variable inequalities using graphical and algebraic techniques; verify solutions by substitution (VC2M8A02)	This description is partially covered in: NA813 Linear Relationships NA814 Solving Linear Equations To cover this description fully, you will need to supplement with your own material to solve one-variable inequalities using graphical and algebraic techniques.
	Use mathematical modelling to solve applied problems involving linear relations, including financial contexts involving profit and loss; formulate problems with linear functions, and choose a representation; interpret and communicate solutions in terms of the context, and review the appropriateness of the model (VC2M8A03)	This description is partially covered in: NA813 Linear Relationships NA814 Solving Linear Equations To cover this description fully, you need to supplement with your own materials to solve applied problems involving linear relations including profit and loss contexts.
	Use algorithms and related testing procedures to identify and correct errors (VC2M8A04)	NA812 Using Algorithms to Identify and Correct Errors
	Experiment with linear functions and relations using digital tools, making and testing conjectures and generalising emerging patterns (VC2M8A05)	This description is partially covered in: NA813 Linear Relationships To cover this description fully, you will need to supplement with your own activities to test conjectures and generalise emerging patterns.
Measurement	Solve problems involving the area and perimeter of irregular and composite shapes using appropriate units (VC2M8M01)	This description is partially covered in: MG802 Perimeter of Quadrilaterals MG803 Area of Quadrilaterals To cover this description fully, you could use the teaching and learning resources from Year 7 Module MG701 Formulas for Areas.

Level 8 Curriculum Alignment		
Strand	Content Description	Module/s
	Solve problems involving the volume and capacity of right prisms using appropriate units (VC2M8M02)	MG801 Units of Area and Volume MG806 Volume of Prisms
	Solve problems involving the circumference and area of a circle using formulas and appropriate units (VC2M8M03)	MG804 Circumference of Circles MG805 Area of Circles
	Solve problems involving time and duration, including using 12- and 24-hour time across multiple time zones (VC2M8M04)	MG807 Solving Time Problems MG808 International Time
	Recognise and use rates to solve problems involving the comparison of 2 related quantities of different units of measure (VC2M8M05)	NA807 Ratios and Rates
	Use Pythagoras' theorem to solve problems involving the side lengths of right-angled triangles (VC2M8M06)	There are no Year 8 BitMaths modules that directly align to this description. To cover this description, you will need to supplement with your own material.
	Use mathematical modelling to solve practical problems involving ratios and rates, including distance-time problems for travel at a constant speed and financial contexts; formulate problems; interpret and communicate solutions in terms of the situation, reviewing the appropriateness of the model (VC2M8M07)	NA807 Ratios and Rates NA815 Graphs of Non-linear Real Life Data
Space	Identify the conditions for congruence and similarity of triangles and explain the conditions for other sets of common shapes to be congruent or similar, including those formed by transformations (VC2M8SP01)	This description is partially covered in: MG809 Congruence MG810 Congruence of Triangles MG811 Congruence of Quadrilaterals To cover this description fully, you will need to supplement with your own material to identify the conditions for similarity of triangles and explain the conditions for other sets of common shapes to be similar, including those formed by transformations.
	Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related problems explaining reasoning (VC2M8SP02)	MG811 Congruence of Quadrilaterals
	Describe in different ways the position and location of three-dimensional objects in 3 dimensions, including using a three-dimensional Cartesian coordinate system with the use of dynamic geometry software or other digital tools (VC2M8SP03)	There are no Year 8 BitMaths modules that directly align to this description. This description is partially covered in Year 7 Module MG703 Views of Prisms and Solids. To cover this description fully, you will need to supplement with your own material.
	Design and test algorithms involving a sequence of steps and decisions that identify congruency or similarity of shapes, and describe how the algorithm works (VC2M8SP04)	This description is partially covered in: MG809 Congruence MG810 Congruence of Triangles MG811 Congruence of Quadrilaterals To cover this description fully, you will need to supplement with your own activities to design, create and test algorithms involving a sequence of steps and decisions that identify congruency or similarity of shapes.
Probability	Recognise that complementary events have a combined probability of one; use this relationship to calculate probabilities in applied contexts (VC2M8P01)	SP801 Complementary Events
	Determine all possible outcome combinations for 2 events, using two-way tables, tree diagrams and Venn diagrams, and use these to determine probabilities of specific events in practical situations (VC2M8P02)	This description is partially covered in: SP802 Probability Events SP803 Venn Diagrams and Two-way Tables To cover this description fully, you will need to supplement with your own material to determine all possible outcome combinations for 2 events using tree diagrams, and use these to determine probabilities of specific outcomes in practical situations.

Level 8 Curriculum Alignment		
Strand	Content Description	Module/s
	Conduct repeated chance experiments and simulations, using digital tools to determine probabilities for compound events, and describe results (VC2M8P03)	<p>This description is partially covered in:</p> <p>SP802 Probability Events</p> <p>To cover this description fully, you will need to supplement with your own activities to conduct repeated chance experiments and simulations, using digital tools to determine probabilities for compound events, and describe results.</p>
Statistics	Distinguish between a population and a sample, and investigate techniques for data collection including census, sampling, experiment and observation, and explain the practicalities and implications of obtaining data through these techniques (VC2M8ST01)	<p>SP804 Census and Sampling</p> <p>SP805 Data and Sampling</p> <p>SP806 Variation in Data</p>
	Analyse and report on the distribution of data from primary and secondary sources using random and non-random sampling techniques (VC2M8ST02)	SP805 Data and Sampling
	Compare variations in distributions and proportions obtained from random samples of the same size drawn from a population and recognise the effect of sample size on this variation (VC2M8ST03)	<p>SP806 Variation in Data</p> <p>SP807 The Effect of Individual Data Values</p>
	Plan and conduct statistical investigations involving samples of a population; use ethical and fair methods to make inferences about the population and report findings, acknowledging uncertainty (VC2M8ST04)	<p>This description is partially covered in:</p> <p>SP805 Data and Sampling</p> <p>To cover this description fully, you will need to supplement with your own statistical investigations involving samples of a population, using ethical and fair methods to make inferences about the population and reporting findings, acknowledging uncertainty.</p>