**Instruction:** List the title of the unit of work in the first column and then tick the check box of the content description/s addressed by it, which can be done electronically. Once completed, fill out the ‘Assessments’ table. If you need help completing the template view the curriculum mapping instructions document.

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|  | **Number and Algebra Strand** | | | | | | | | | | | | | | |
|  | **Sub-strand** | **Number and place value** | | | | **Real numbers** | | | | | | | | **Money and financial mathematics** | |  |
|  | **Content Descriptions** | Use index notation with numbers to establish the index laws with positive integral indices and the zero index [(VCMNA272)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA272) | | Carry out the four operations with rational numbers and integers, using efficient mental and written strategies and appropriate digital technologies and make estimates for these computations [(VCMNA273)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA273) | | Investigate terminating and recurring decimals  [(VCMNA274)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA274) | | Investigate the concept of irrational numbers, including π  [(VCMNA275)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA275) | | Solve problems involving the use of percentages, including percentage increases and decreases and percentage error, with and without digital technologies  [(VCMNA276)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA276) | | Solve a range of problems involving rates and ratios, including distance-time problems for travel at a constant speed, with and without digital technologies  [(VCMNA277)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA277) | | Solve problems involving profit and loss, with and without digital technologies  [(VCMNA278)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA278) | |
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|  | **Sub-strand** | **Patterns and algebra** | | | | | | | | **Linear and non-linear relationships** | | | | | |
|  | **Content Descriptions** | Extend and apply the distributive law to the expansion of algebraic expressions  [(VCMNA279)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA279) | | Factorise algebraic expressions by identifying numerical factors  [(VCMNA280)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA280) | | Simplify algebraic expressions involving the four operations  [(VCMNA281)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA281) | | Use algorithms and related testing procedures to identify and correct errors  [(VCMNA282)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA282) | | Plot linear relationships on the Cartesian plane with and without the use of digital technologies  [(VCMNA283)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA283) | | Solve linear equations using algebraic and graphical techniques. Verify solutions by substitution  [(VCMNA284)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA284) | | Plot graphs of non-linear real life data with and without the use of digital technologies, and interpret and analyse these graphs [(VCMNA285)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMNA285) | |
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| **Level 7 Achievement Standard** | **Level 8 Achievement Standard**  Separated by line. Number in brackets, E.g. (3), is used as an identifier in various parts of the template. | **Level 9 Achievement Standard** |
| Number and Algebra   * Students use efficient mental and written strategies to make estimates and carry out the four operations with integers, and apply the index laws to whole numbers. * They identify and describe rational and irrational numbers in context. * Students estimate answers and solve everyday problems involving profit and loss rates, ratios and percentages, with and without the use of digital technology. * They simplify a variety of algebraic expressions and connect expansion and factorisation of linear expressions. * Students solve linear equations and graph linear relationships on the Cartesian plane. | **Number and Algebra**   * Students use efficient mental and written strategies to make estimates and carry out the four operations with integers, and apply the index laws to whole numbers. (1) * They identify and describe rational and irrational numbers in context. (2) * Students estimate answers and solve everyday problems involving profit and loss rates, ratios and percentages, with and without the use of digital technology. (3) * They simplify a variety of algebraic expressions and connect expansion and factorisation of linear expressions. (4) * Students solve linear equations and graph linear relationships on the Cartesian plane. (5) | **Number and Algebra**   * Students apply the index laws using integer indices to variables and numbers, express numbers in scientific notation, solve problems involving very small and very large numbers, and check the order of magnitude of calculations. * They solve problems involving simple interest. * Students use the distributive law to expand algebraic expressions, including binomial expressions, and simplify a range of algebraic expressions. * They find the distance between two points on the Cartesian plane and the gradient and midpoint of a line segment using a range of strategies including the use of digital technology. * Students sketch and draw linear and non-linear relations, solve simple related equations and explain the relationship between the graphical and symbolic forms, with and without the use of digital technology. |

*See next page for Measurement and Geometry and Statistics and Probability Strands and Assessments section*

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|  | **Measurement and Geometry Strand** | | | | | | | | | | | | | | | | |
|  | **Sub-strand** | **Using units of measurement** | | | | | | | | | | **Geometric reasoning** | | | | | |
|  | **Content Descriptions** | Choose appropriate units of measurement for area and volume and convert from one unit to another  [(VCMMG286)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG286) | | Find perimeters and areas of parallelograms, trapeziums, rhombuses and kites  [(VCMMG287)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG287) | | Investigate the relationship between features of circles such as circumference, area, radius and diameter. Use formulas to solve problems involving determining radius, diameter, circumference and area from each other [(VCMMG288)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG288) | | Develop the formulas for volumes of rectangular and triangular prisms and prisms in general. Use formulas to solve problems involving volume  [(VCMMG289)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG289) | | Solve problems involving duration, including using 12- and 24-hour time within a single time zone  [(VCMMG290)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG290) | | Define congruence of plane shapes using transformations and use transformations of congruent shapes to produce regular patterns in the plane including tessellations with and without the use of digital technology  [(VCMMG291)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG291) | | Develop the conditions for congruence of triangles  [(VCMMG292)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG292) | | Establish properties of quadrilaterals using congruent triangles and angle properties, and solve related numerical problems using reasoning  [(VCMMG293)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMMG293) | |
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|  | **Statistics and Probability Strand** | | | | | | | | | | | | | | |
|  | **Sub-strand** | **Chance** | | | | | | **Data representation and interpretation** | | | | | | | |
|  | **Content Descriptions** | Identify complementary events and use the sum of probabilities to solve problems  [(VCMSP294)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP294) | | Describe events using language of 'at least', exclusive 'or' (A or B but not both), inclusive 'or' (A or B or both) and 'and'  [(VCMSP295)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP295) | | Represent events in two-way tables and Venn diagrams and solve related problems [(VCMSP296)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP296) | | Distinguish between a population and a sample and investigate techniques for collecting data, including census, sampling and observation [(VCMSP297)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP297) | | Explore the practicalities and implications of obtaining data through sampling using a variety of investigative processes  [(VCMSP298)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP298) | | Explore the variation of means and proportions of random samples drawn from the same population  [(VCMSP299)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP299) | | Investigate the effect of individual data values including outliers, on the range, mean and median  [(VCMSP300)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCMSP300) | |
| **Unit** | **Semester/Year** | CD | Achievement  standard # | CD | Achievement  standard # | CD | Achievement  standard # | CD | Achievement  standard # | CD | Achievement  standard # | CD | Achievement  standard # | CD | Achievement  standard # |
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| **Level 7 Achievement Standard** | **Level 8 Achievement Standard**  Separated by line. Number in brackets, E.g. (3), is used as an identifier in various parts of the template. | **Level 9 Achievement Standard** |
| **Measurement and Geometry**   * Students use formulas for the area and perimeter of rectangles. * They classify triangles and quadrilaterals and represent transformations of these shapes on the Cartesian plane, with and without the use of digital technology. * Students name the types of angles formed by transversals crossing parallel lines and solve simple numerical problems involving these lines and angles. * They describe different views of three-dimensional objects, and use models, sketches and digital technology to represent these views. * Students calculate volumes of rectangular prisms.   **Statistics and Probability**   * Students identify issues involving the collection of discrete and continuous data from primary and secondary sources. * They construct stem-and-leaf plots and dot-plots. * Students identify or calculate mean, mode, median and range for data sets, using digital technology for larger data sets. * They describe the relationship between the median and mean in data displays. * Students determine the sample space for simple experiments with equally likely outcomes, and assign probabilities outcomes. | **Measurement and Geometry**   * Students convert between units of measurement for area and for volume.(6) * They find the perimeter and area of parallelograms, rhombuses and kites. (7) * Students name the features of circles, calculate circumference and area, and solve problems relating to the volume of prisms. (8) * They make sense of time duration in real applications, including the use of 24-hour time. (9) * Students identify conditions for the congruence of triangles and deduce the properties of quadrilaterals. (10) * They use tools, including digital technology, to construct congruent shapes. (11)   **Statistics and Probability**   * Students explain issues related to the collection of sample data and discuss the effect of outliers on means and medians of the data. (12) * They use various approaches, including the use of digital technology, to generate simple random samples from a population. (13) * Students model situations with Venn diagrams and two-way tables and explain the use of 'not', 'and' and 'or'. (14) * Students choose appropriate language to describe events and experiments. (15) * They determine complementary events and calculate the sum of probabilities. (16) | **Measurement and Geometry**   * Students solve measurement problems involving perimeter and area of composite shapes, surface area and volume of rectangular prisms and cylinders, with and without the use of digital technology. * They relate three-dimensional objects to two-dimensional representations. * Students explain similarity of triangles, interpret ratios and scale factors in similar figures, and apply Pythagoras's theorem and trigonometry to solve problems involving angles and lengths in right-angled triangles.   **Statistics and Probability**   * Students compare techniques for collecting data from primary and secondary sources, and identify questions and issues involving different data types. * They construct histograms and back-to-back stem-and-leaf plots with and without the use of digital technology. * Students identify mean and median in skewed, symmetric and bi-modal displays and use these to describe and interpret the distribution of the data. * They calculate relative frequencies to estimate probabilities. * Students list outcomes for two-step experiments and assign probabilities for those outcomes and related events. |

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| **Assessments** | | |  |  | | |
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