

# Mathletics

## South Australia (Australian Curriculum v9)

### Scope & Sequence



Year 6

Mathletics

	Term one	Term two	Term three	Term four
Unit 1	<b>Number Space</b> <b>Integers and number properties</b> <ul style="list-style-type: none"> <li>Integers on a number line</li> <li>Integers on the cartesian plane</li> </ul>	<b>Number Algebra</b> <b>Patterns and algebra</b> <ul style="list-style-type: none"> <li>Generate number patterns</li> <li>Find unknown values</li> <li>Create and use algorithms</li> </ul>	<b>Number</b> <b>Operations, including money</b> <ul style="list-style-type: none"> <li>Order of operations</li> <li>Mixed operations</li> <li>Add &amp; subtract decimals: Problem solving</li> <li>Multiply &amp; divide decimals: Problem solving</li> <li>Budgeting</li> </ul>	<b>Number Algebra</b> <b>Number and operations review</b> <p>Review earlier content</p>
	<b>Number</b> <b>Addition and subtraction</b> <ul style="list-style-type: none"> <li>Add and subtract decimals</li> <li>Mental, written and digital strategies</li> <li>Problem solving</li> </ul>	<b>Number</b> <b>Fractions, decimals and percentages</b> <ul style="list-style-type: none"> <li>Find a fraction, decimal or percentage of a quantity</li> <li>Percentage discounts</li> <li>Round and estimate</li> <li>Problem solving</li> </ul>	<b>Measurement</b> <b>Angles</b> <ul style="list-style-type: none"> <li>Angles within shapes</li> <li>Angles on a straight line</li> <li>Angles at a point</li> <li>Vertically opposite angles</li> <li>Determine unknown angles</li> </ul>	<b>Space</b> <b>3D objects</b> <ul style="list-style-type: none"> <li>Observe and draw shapes</li> <li>Compare cross-sections</li> <li>Right prisms</li> <li>Connect objects to their nets</li> </ul>
Unit 2	<b>Number</b> <b>Multiplication and division: Whole numbers</b> <ul style="list-style-type: none"> <li>Prime, composite &amp; square numbers</li> <li>Multiply &amp; divide whole numbers</li> <li>Mental &amp; written strategies</li> </ul>	<b>Number Algebra</b> <b>Multiplication and division: Decimals</b> <ul style="list-style-type: none"> <li>Multiply &amp; divide decimals</li> <li>Powers of 10</li> <li>Estimating</li> </ul>	<b>Measurement</b> <b>Capacity and mass</b> <ul style="list-style-type: none"> <li>Convert measurements</li> <li>Decimal representations</li> <li>Problem solving</li> </ul>	<b>Number Space</b> <b>Cartesian plane and 2D shapes</b> <ul style="list-style-type: none"> <li>Locate points on Cartesian plane</li> <li>Identify scales</li> <li>Draw lines and polygons</li> <li>Positional data</li> </ul>
	<b>Number</b> <b>Fractions</b> <ul style="list-style-type: none"> <li>Compare, order &amp; represent common fractions</li> <li>Equivalent fractions</li> <li>Add and subtract fractions</li> </ul>	<b>Space</b> <b>2D shapes</b> <ul style="list-style-type: none"> <li>Properties of 2D shapes</li> <li>Classification</li> <li>Symmetry</li> <li>Transformations</li> <li>Tessellations</li> </ul>	<b>Measurement</b> <b>Time</b> <ul style="list-style-type: none"> <li>Interpret and use timetables and itineraries</li> <li>Duration of events</li> </ul>	<b>Statistics</b> <b>Data: Interpretation</b> <ul style="list-style-type: none"> <li>Statistically informed arguments</li> <li>Plan and conduct statistical investigations</li> <li>Compare distributions</li> </ul>
Unit 3	<b>Statistics</b> <b>Data: Representation</b> <ul style="list-style-type: none"> <li>Collect data</li> <li>Validate data</li> <li>Represent data</li> <li>Compare data sets</li> <li>Data visualisations</li> </ul>	<b>Measurement</b> <b>Length, perimeter and area</b> <ul style="list-style-type: none"> <li>Convert units of length</li> <li>Decimal representations of length</li> <li>Area formula</li> <li>Perimeter and area connections</li> <li>Problem solving</li> </ul>	<b>Probability Statistics</b> <b>Chance and data</b> <ul style="list-style-type: none"> <li>Represent probabilities numerically</li> <li>Estimate and assign probabilities</li> <li>List outcomes</li> <li>Conduct chance experiments</li> <li>Run simulations</li> <li>Record results</li> <li>Compare observations with expected results</li> </ul>	<b>Measurement</b> <b>Measurement review and applications</b> <ul style="list-style-type: none"> <li>Choose appropriate units</li> <li>Use measurement in everyday situations</li> </ul>
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Unit 5	<b>Statistics</b> <b>Data: Representation</b> <ul style="list-style-type: none"> <li>Collect data</li> <li>Validate data</li> <li>Represent data</li> <li>Compare data sets</li> <li>Data visualisations</li> </ul>	<b>Measurement</b> <b>Length, perimeter and area</b> <ul style="list-style-type: none"> <li>Convert units of length</li> <li>Decimal representations of length</li> <li>Area formula</li> <li>Perimeter and area connections</li> <li>Problem solving</li> </ul>	<b>Probability Statistics</b> <b>Chance and data</b> <ul style="list-style-type: none"> <li>Represent probabilities numerically</li> <li>Estimate and assign probabilities</li> <li>List outcomes</li> <li>Conduct chance experiments</li> <li>Run simulations</li> <li>Record results</li> <li>Compare observations with expected results</li> </ul>	<b>Measurement</b> <b>Measurement review and applications</b> <ul style="list-style-type: none"> <li>Choose appropriate units</li> <li>Use measurement in everyday situations</li> </ul>
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Strand	Outcomes and content descriptions	Located
<b>Number</b>	<b>AC9M6N01</b> recognise situations, including financial contexts, that use integers; locate and represent integers on a number line and as coordinates on the Cartesian plane	T1 U1 T2 U1 T4 U3
	<b>AC9M6N02</b> identify and describe the properties of prime, composite and square numbers and use these properties to solve problems and simplify calculations	T1 U3 T2 U1
	<b>AC9M6N03</b> apply knowledge of equivalence to compare, order and represent common fractions including halves, thirds and quarters on the same number line and justify their order	T1 U4 T2 U2
	<b>AC9M6N04</b> apply knowledge of place value to add and subtract decimals, using digital tools where appropriate; use estimation and rounding to check the reasonableness of answers	T1 U2 T2 U2 T4 U1
	<b>AC9M6N05</b> solve problems involving addition and subtraction of fractions using knowledge of equivalent fractions	T1 U4 T2 U2 T4 U1
	<b>AC9M6N06</b> multiply and divide decimals by multiples of powers of 10 without a calculator, applying knowledge of place value and proficiency with multiplication facts; using estimation and rounding to check the reasonableness of answers	T2 U3 T4 U1
	<b>AC9M6N07</b> solve problems that require finding a familiar fraction, decimal or percentage of a quantity, including percentage discounts, choosing efficient calculation strategies and using digital tools where appropriate	T1 U4 T2 U2
	<b>AC9M6N08</b> approximate numerical solutions to problems involving rational numbers and percentages, including financial contexts, using appropriate estimation strategies	T2 U2, U3
	<b>AC9M6N09</b> use mathematical modelling to solve practical problems, involving rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and efficient calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the choices made	T1 U2, U3, U4 T2 U1, U2, U3 T3 U1 T4 U1
<b>Algebra</b>	<b>AC9M6A01</b> recognise and use rules that generate visually growing patterns and number patterns involving rational numbers	T2 U1
	<b>AC9M6A02</b> find unknown values in numerical equations involving brackets and combinations of arithmetic operations, using the properties of numbers and operations	T2 U1 T3 U1
	<b>AC9M6A03</b> create and use algorithms involving a sequence of steps and decisions that use rules to generate sets of numbers; identify, interpret and explain emerging patterns	T2 U1

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<b>Measurement</b>	<b>AC9M6M01</b> convert between common metric units of length, mass and capacity; choose and use decimal representations of metric measurements relevant to the context of a problem	T2 U5 T3 U3 T4 U5
	<b>AC9M6M02</b> establish the formula for the area of a rectangle and use it to solve practical problems	T2 U5 T4 U5
	<b>AC9M6M03</b> interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys	T3 U4 T4 U5
	<b>AC9M6M04</b> identify the relationships between angles on a straight line, angles at a point and vertically opposite angles; use these to determine unknown angles, communicating reasoning	T3 U2
<b>Space</b>	<b>AC9M6SP01</b> compare the parallel cross-sections of objects and recognise their relationships to right prisms	T4 U2
	<b>AC9M6SP02</b> locate points in the 4 quadrants of a Cartesian plane; describe changes to the coordinates when a point is moved to a different position in the plane	T1 U1 T2 U4 T4 U3
	<b>AC9M6SP03</b> recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometric software where appropriate	T2 U4
<b>Statistics</b>	<b>AC9M6ST01</b> interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape	T1 U5 T3 U5 T4 U4
	<b>AC9M6ST02</b> identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions	T1 U5 T4 U4
	<b>AC9M6ST03</b> plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation	T3 U5
<b>Probability</b>	<b>AC9M6P01</b> recognise that probabilities lie on numerical scales of 0 – 1 or 0% – 100% and use estimation to assign probabilities that events occur in a given context, using common fractions, percentages and decimals	T3 U5
	<b>AC9M6P02</b> conduct repeated chance experiments and run simulations with an increasing number of trials using digital tools; compare observations with expected results and discuss the effect on variation of increasing the number of trials	T3 U5

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<b>Unit 1</b> Number Space Place value review  <b>Integers and number properties</b>  Integers on a number line Integers on the cartesian plane	<b>AC9M6N01</b> recognise situations, including financial contexts, that use integers ...  <b>AC9M6SP02</b> locate points in the 4 quadrants of a Cartesian plane ...	<b>Y6 Operations</b> • Place value and rounding review  <b>Y6 Integers</b> • Integers on the number Line • Integers on the cartesian Plane • Compare and order integers • Integers in context	<b>Introducing Integers</b> • Integers on a Number Line • Ordering Integers (Number Line) • Comparing Integers (<, =, >) • What's the Temperature (Celsius)?	<b>Understand integers</b> • Recognising situations that use integers • Locating & representing integers on a number line • Introducing the Cartesian plane  <b>Points on the Cartesian plane</b> • Locating points on the Cartesian plane  <b>Prime, composite &amp; square numbers</b> • Introducing prime & composite numbers • Introducing square numbers		<b>(Y7-H) Directed Numbers</b> • Plotting on number lines (p 1) • Opposite directions- negative numbers (p 2) • Extending the number line (p 3)  <b>(Y7-H) Directed Numbers (AC Ready)</b> • How does it work? (pp 1-13)
<b>Unit 2</b> Number  <b>Addition and subtraction</b>  Add and subtract decimals Mental, written and digital strategies Problem solving	<b>AC9M6N04</b> apply knowledge of place value to add and subtract decimals, using digital tools ...  <b>AC9M6N09</b> use mathematical modelling to solve practical problems ...	<b>Y6 Operations</b> • Addition and subtraction  <b>Y6 Decimals</b> • Decimals and place value • Rounding decimals • Decimals and the number Line • Compare and order decimals • Add decimals • Subtract decimals • Addition strategies with decimals • Subtraction strategies with decimals	<b>Add/subtract decimal and fractions</b> • Decimal Complements • Adding Decimals • Subtract Decimals 1 • Estimate Decimal Sums 1 • Estimate Decimal Differences 1 • Estimate Decimal Sums 2 • Estimate Decimal Differences 2	<b>Add/sub decimals - mental strategies</b> • Adding decimals using mental strategies • Subtracting decimals using mental strategies  <b>Add/sub decimals - estimating</b> • Estimating sums & differences of decimals  <b>Add/sub decimals - written method</b> • Adding decimals using written method • Subtracting decimals using written method  <b>Add/sub decimals - digital technologies</b> • Adding decimals using digital technologies • Subtracting decimals using digital technologies	<b>Number &amp; Algebra: Addition &amp; Subtraction</b> LEVEL 5-7 • Club money jar (DOK 3) • Square number puzzle (DOK 3) • Ropes and mazes (DOK 4)	<b>(Y6-G) Addition and Subtraction</b> • Written methods (pp 20-28)
<b>Unit 3</b> Number  <b>Multiplication and division: Whole numbers</b>  Prime, composite & square numbers Multiply & divide whole numbers Mental & written strategies	<b>AC9M6N02</b> identify and describe the properties of prime, composite and square numbers ...  <b>AC9M6N09</b> use mathematical modelling to solve practical problems, involving rational numbers and percentages ...	<b>Y6 Operations</b> • Multiplication • Division • Estimation • Using the four operations	<b>Multiples, factors, primes &amp; composites</b> • Prime or Composite? • Multiples • Multiples of • Highest Common Factor • Lowest Common Multiple		<b>Number &amp; Algebra: Multiplication &amp; Division</b> LEVEL 5-7 • True or false? (DOK 2)  LEVEL 6-8 • Many ants make light work (DOK 2) • Orbiting lowest common multiples (DOK 2)	<b>(Y7-H) Special Numbers, Factors and Multiples</b> • Odd, even, prime and composite numbers (p 1) • Square numbers (p 3)  <b>(Y6-G) Multiplication and Division</b> • Mental multiplication strategies (pp 1-6) • Mental division strategies (pp 7-12) • Written methods (pp 13-18) • Puzzles and investigations (pp 19-24)






Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<p><b>Unit 4</b> Number</p> <hr/> <p><b>Fractions</b></p> <p>Compare, order &amp; represent common fractions Equivalent fractions Add and subtract fractions</p>	<p><b>AC9M6N03</b> apply knowledge of equivalence to compare, order and represent common fractions ...</p> <p><b>AC9M6N05</b> solve problems involving addition and subtraction of fractions ...</p> <p><b>AC9M6N07</b> solve problems that require finding a familiar fraction, decimal or percentage of a quantity ...</p> <p><b>AC9M6N09</b> use mathematical modelling to solve practical problems ...</p>	<p><b>Y6 Fractions</b></p> <ul style="list-style-type: none"> <li>• Represent fractions</li> <li>• Types of fractions</li> <li>• Compare and order fractions with like denominators</li> <li>• Equivalent fractions</li> <li>• Simplifying fractions</li> <li>• Compare and order fractions</li> <li>• Add and subtract fractions</li> <li>• Add related fractions</li> <li>• Subtract related fractions</li> <li>• Problem-solving with fractions</li> </ul>	<p><b>Equivalent fractions</b></p> <ul style="list-style-type: none"> <li>• Equivalent Fraction Wall 1</li> <li>• Equivalent Fraction Wall 2</li> <li>• Shading Equivalent Fractions</li> <li>• Identifying Fractions on a Number Line</li> <li>• Mixed and Improper Fractions on a Number Line</li> <li>• Equivalent Fractions</li> <li>• Comparing Fractions 1</li> <li>• Compare Fractions 1a</li> <li>• Compare Fractions 1b</li> </ul> <p><b>Add/subtract decimal and fractions</b></p> <ul style="list-style-type: none"> <li>• Add Subtract Fractions 1</li> <li>• Common Denominator</li> <li>• Add: Common Denominator</li> <li>• Subtract: Common Denominator</li> <li>• One Take Fraction</li> <li>• Add Like Mixed Numbers</li> <li>• Subtract Like Mixed Numbers</li> </ul>	<p><b>Compare &amp; order common fractions</b></p> <ul style="list-style-type: none"> <li>• Recognise, compare &amp; represent common fractions</li> <li>• Comparing common fractions on a number line</li> </ul> <p><b>Add &amp; subtract proper fractions</b></p> <ul style="list-style-type: none"> <li>• Adding fractions with related denominators</li> <li>• Subtracting fractions with related denominators</li> <li>• Add &amp; subtract fractions - related denominators</li> </ul> <p><b>Add &amp; subtract mixed numerals</b></p> <ul style="list-style-type: none"> <li>• Adding fractions &amp; mixed numerals</li> <li>• Subtracting fractions &amp; mixed numerals</li> </ul>	<p><b>Number &amp; Algebra: Fractions</b> LEVEL 3–5</p> <ul style="list-style-type: none"> <li>• Running a fraction of the race (DOK 2)</li> </ul> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>• It's a piece of pie! (DOK 2)</li> <li>• A yarn about simple fractions (DOK 2)</li> </ul>	<p><b>(Y6-G) Fractions, Decimals and Percentages</b></p> <ul style="list-style-type: none"> <li>• Fractions (pp 1–11)</li> <li>• Calculating (pp 28–30)</li> </ul>
<p><b>Unit 5</b> Statistics</p> <hr/> <p><b>Data: Representation</b></p> <p>Collect data Validate data Represent data Compare data sets Data visualisations</p>	<p><b>AC9M6ST01</b> interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools ...</p> <p><b>AC9M6ST02</b> identify statistically informed arguments presented in traditional and digital media ...</p>			<p><b>Interpret, compare &amp; describe data sets</b></p> <ul style="list-style-type: none"> <li>• Two-way tables</li> <li>• Side-by-side column graphs</li> <li>• Comparing &amp; selecting bivariate data displays</li> </ul>	<p><b>Statistics &amp; Data:</b> LEVEL 5–7</p> <ul style="list-style-type: none"> <li>• World rankings (DOK 4)</li> <li>• Lake Scaley fish (DOK 3)</li> </ul>	<p><b>(Y6-G) Data Representation</b></p> <ul style="list-style-type: none"> <li>• Types of graphs 1 (pp 1–6)</li> <li>• Types of graphs 2 (pp 10–11)</li> <li>• Collecting and analysing data (pp 20–21)</li> </ul>




Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<b>Unit 1</b> Number Algebra  <b>Patterns and algebra</b>  Generate number patterns Find unknown values Create and use algorithms	<b>AC9M6N01</b> recognise situations, including financial contexts, that use integers ...  <b>AC9M6N02</b> identify and describe the properties of prime, composite and square ...  <b>AC9M6N09</b> use mathematical modelling to solve practical problems ...  <b>AC9M6A01</b> recognise and use rules that generate visually growing patterns ...  <b>AC9M6A02</b> find unknown values in numerical equations involving brackets ...  <b>AC9M6A03</b> create and use algorithms involving a sequence of steps and decisions ...	Coming soon	<b>Algebra patterns equations &amp; rules</b> <ul style="list-style-type: none"> <li>Increasing Patterns</li> <li>Describing Patterns</li> <li>Find the Pattern Rule</li> <li>Table of Values</li> <li>Pattern Rules and Tables</li> <li>Number Sequences Up to 1 Million</li> <li>Writing Algebraic Expressions</li> <li>Missing Numbers: Variables</li> <li>Simple Substitution</li> </ul>	<b>Recognise &amp; use rules for patterns</b> <ul style="list-style-type: none"> <li>Continuing &amp; creating number sequences</li> </ul> <b>Design flowcharts to solve problems</b> <ul style="list-style-type: none"> <li>Designing flowcharts to solve problems</li> </ul> <b>Use rules &amp; algorithms</b> <ul style="list-style-type: none"> <li>Manipulating numbers using a given rule</li> <li>Creating algorithms for sets</li> </ul>	<b>Number &amp; Algebra: Equations &amp; Expressions</b> LEVEL 4–6 <ul style="list-style-type: none"> <li>Writing &amp; interpreting (DOK 3)</li> <li>Solving unknowns (DOK 3)</li> <li>Pattern rules (DOK 3)</li> <li>Fraction and decimal addition patterns (DOK 2)</li> <li>Island hopper (DOK 4)</li> </ul> LEVEL 5–7 <ul style="list-style-type: none"> <li>Keep it balanced (DOK 3)</li> </ul>	<b>(Y6-G) Patterns and Algebra</b> <ul style="list-style-type: none"> <li>Patterns and functions (pp 1–17)</li> <li>Algebraic thinking (pp 18–25)</li> <li>Solving equations (pp 26–33)</li> <li>Properties of arithmetic (pp 36–41)</li> </ul>
<b>Unit 2</b> Number  <b>Fractions, decimals and percentages</b>  Find a fraction, decimal or percentage of a quantity Percentage discounts Round and estimate Problem solving	<b>AC9M6N03</b> apply knowledge of equivalence to compare, order and represent common fractions ...  <b>AC9M6N04</b> apply knowledge of place value to add and subtract decimals ...  <b>AC9M6N05</b> solve problems involving addition and subtraction of fractions ...  <b>AC9M6N07</b> solve problems that require finding a familiar fraction ...  <b>AC9M6N08</b> approximate numerical solutions to problems involving rational numbers ...  <b>AC9M6N09</b> use mathematical modelling to solve practical problems ...	<b>Y6 Fractions</b> <ul style="list-style-type: none"> <li>Find a fraction of an amount</li> <li>Problem-solving fractions of amounts</li> </ul> <b>Y6 Percentages</b> <ul style="list-style-type: none"> <li>Percentages</li> <li>Fractions, decimals, percentages</li> <li>Percentages to fractions</li> <li>Fractions to percentages</li> <li>Percentages to decimals</li> <li>Decimals to percentages</li> <li>Decimals to fractions</li> <li>Fractions to decimals</li> <li>Expressing as a percentage</li> <li>Percentages of an amount</li> <li>Discounts</li> <li>Sale price</li> </ul>	<b>Fractions, decimals &amp; percentages</b> <ul style="list-style-type: none"> <li>Fraction Wall Labelling 2</li> <li>Fractions to Decimals</li> <li>Decimals to Fractions 1</li> <li>Percentage to Fraction</li> <li>Decimals to percentages</li> <li>Common Fractions as Percentages (AU)</li> <li>Fractions to Percentages (Non-Calculator)</li> <li>Percents and Decimals</li> <li>Match Decimals and Percentages</li> <li>Calculating Percentages (Mental)</li> <li>Money Problems: Four Operations</li> <li>Time Conversions: Simple Fractions</li> <li>Time Conversions: Simple Decimals</li> <li>Fraction Word Problems</li> <li>Percentage Word Problems</li> <li>Model Fractions to Multiply</li> <li>Estimate Products with Fractions</li> </ul>	<b>Find a fraction of a quantity</b> <ul style="list-style-type: none"> <li>Finding a fraction of a quantity</li> </ul> <b>Calculate percentages</b> <ul style="list-style-type: none"> <li>Calculating percentages</li> </ul> <b>Rational numbers &amp; percentages</b> <ul style="list-style-type: none"> <li>Estimating solutions</li> </ul> <b>Solve practical percentage problems</b> <ul style="list-style-type: none"> <li>Solving practical percentage problems</li> </ul>	<b>Number &amp; Algebra: Fractions</b> LEVEL 4–6 <ul style="list-style-type: none"> <li>The case of the missing superhero capes (DOK 2)</li> <li>Thunder Radio competition winners (DOK 2)</li> </ul> <b>Number &amp; Algebra: Percentages</b> LEVEL 5–7 <ul style="list-style-type: none"> <li>Simply equal (DOK 2)</li> </ul> <b>Number &amp; Algebra: Money</b> LEVEL 5–7 <ul style="list-style-type: none"> <li>Discount that car (DOK 4)</li> </ul>	<b>(Y6-G) Fractions, Decimals and Percentages</b> <ul style="list-style-type: none"> <li>Topic 2 – Decimal fractions (pp 12–20)</li> <li>Fractions of an amount (pp 21–27)</li> </ul>

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<b>Unit 3</b> Number  <b>Multiplication and division: Decimals</b>  Multiply & divide decimals Powers of 10 Estimate	<b>AC9M6N06</b> multiply and divide decimals by multiples of powers of 10 without a calculator ...  <b>AC9M6N08</b> approximate numerical solutions to problems involving rational numbers and percentages ...  <b>AC9M6N09</b> use mathematical modelling to solve practical problems ...	<b>Y6 Decimals</b> <ul style="list-style-type: none"> <li>Multiply decimals by powers of 10</li> <li>Multiply decimals by whole numbers</li> <li>Divide decimals by powers of 10</li> <li>Divide decimals by whole numbers</li> </ul>	<b>Fractions, decimals &amp; percentages</b> <ul style="list-style-type: none"> <li>Multiply Decimals: 10, 100, 1000</li> <li>Divide Decimals: 10, 100, 1000</li> <li>Estimate Decimal Operations</li> </ul>	<b>Multiply/divide decimals by powers of 10</b> <ul style="list-style-type: none"> <li>Multiplying decimals by powers of 10</li> <li>Dividing decimals by powers of 10</li> <li>Using estimation</li> </ul>		<b>Y6-G Fractions, Decimals and Percentages</b> <ul style="list-style-type: none"> <li>Calculating (pp 37–38)</li> </ul>
<b>Unit 4</b> Space  <b>2D shapes</b>  Properties of 2D shapes Classification Symmetry Transformations Tessellations	<b>AC9M6SP02</b> locate points in the 4 quadrants of a Cartesian plane ...  <b>AC9M6SP03</b> recognise and use combinations of transformations to create tessellations and other geometric patterns ...			<b>Use combinations of transformations</b> <ul style="list-style-type: none"> <li>Recognising tessellations</li> <li>Identifying a sequence of 2 transformations</li> </ul>	<b>Geometry: 2D Shapes</b> LEVEL 4–6 <ul style="list-style-type: none"> <li>Tricky triangles</li> <li>Relating 2D shapes</li> </ul>	<b>Y6-G Geometry</b> <ul style="list-style-type: none"> <li>2D shapes (pp 7–15)</li> <li>Transformation, tessellation and symmetry (pp 16–24)</li> </ul>
<b>Unit 5</b> Measurement  <b>Length, perimeter and area</b>  Convert units of length Decimal representations of length Area formula Perimeter and area connections Problem solving	<b>AC9M6M01</b> convert between common metric units of length, mass and capacity ...  <b>AC9M6M02</b> establish the formula for the area of a rectangle and use it to solve practical problems		<b>Converting metric units</b> <ul style="list-style-type: none"> <li>Centimetres and Metres</li> <li>Metres and Kilometres</li> </ul> <b>Area and angle</b> <ul style="list-style-type: none"> <li>Area: Squares and Rectangles</li> </ul>	<b>Convert metric units of measurement</b> <ul style="list-style-type: none"> <li>Converting metric units of length</li> </ul> <b>Use formula for area of a rectangle</b> <ul style="list-style-type: none"> <li>Using a formula to calculate area of a rectangle</li> </ul>	<b>Measurement: Length</b> LEVEL 3–5 <ul style="list-style-type: none"> <li>Area and perimeter challenge (DOK 3)</li> <li>Perimeter problems (DOK 3)</li> </ul> LEVEL 4–6 <ul style="list-style-type: none"> <li>Card crafting calculation (DOK 2)</li> </ul> <b>Measurement: Area</b> LEVEL 4–6 <ul style="list-style-type: none"> <li>Finding formulas (DOK 3)</li> <li>Ryan's rectangle (DOK 3)</li> </ul>	<b>Y6-G Length, Perimeter and Area</b> <ul style="list-style-type: none"> <li>Units of length (pp 1–7)</li> <li>Perimeter (pp 8–15)</li> <li>Area (pp 16–25)</li> </ul>

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<b>Unit 1</b> Number Algebra  <b>Operations, including money</b>  Order of operations Mixed operations Add & subtract decimals: Problem solving Multiply & divide decimals: Problem solving Budgeting	<b>AC9M6N09</b> use mathematical modelling to solve practical problems ...  <b>AC9M6A02</b> find unknown values in numerical equations involving brackets ...	<b>Y6 Operations</b> • Order of operations	<b>Algebra patterns equations &amp; rules</b> • Order of Operations 1 (BIDMAS) • Solve Equations: Add, Subtract 1 • Solve Equations: Multiply, Divide 1	<b>Understand order of operations</b> • Order of operations with no grouping symbols • Order of operations using grouping symbols • Order of operations practical situations		<b>(Y6-G) Patterns and Algebra</b> • Properties of arithmetic (pp 34–35)
<b>Unit 2</b> Measurement  <b>Angles</b>  Angles within shapes Angles on a straight line Angles at a point Vertically opposite angles Determine unknown angles	<b>AC9M6M04</b> identify the relationships between angles on a straight line, angles at a point and vertically opposite angles; use these to determine unknown angles, communicating reasoning		<b>Area and angle</b> • Measuring Angles • Estimating Angles • Angle Sum of a Triangle • Quadrilaterals: Angle Sum with Equations • Exterior Angles of a Triangle • Angles of revolution: Unknown Values • Vertically Opposite Angles: Unknown Values	<b>Understand angle properties</b> • Understanding adjacent angles • Exploring vertically opposite angles • Calculating angles that total 360 • Investigating supplementary & complementary angles	<b>Geometry: Angles</b> LEVEL 4–6 • Angles and quadrilaterals (DOK 3)  LEVEL 5–7 • What's your angle? (DOK 3) • Comparing vertical and adjacent (DOK 3) • Adjacent angles (DOK 4)  <b>Geometry: 2D Shapes</b> LEVEL 4–6 • Trying triangles (DOK 2) • Square split (DOK 3)	<b>(Y6-G) Geometry</b> • Lines and angles (pp 1–6)
<b>Unit 3</b> Measurement  <b>Capacity and mass</b>  Convert measurements Decimal representations Problem solving	<b>AC9M6M01</b> convert between common metric units of length, mass and capacity; choose and use decimal representations of metric measurements relevant to the context of a problem		<b>Converting metric units</b> • Grams and Kilograms 1 • Grams and Kilograms • Grams and Milligrams • Converting Units of Mass • Millilitres and Litres • Converting Volume	<b>Connect decimals to the metric system</b> • Decimal notation & the metric system • Decimal representation in capacity • Decimal representation in mass  <b>Convert metric units of measurement</b> • Converting metric units of capacity • Converting metric units of mass	<b>Measurement: Volume &amp; Capacity</b> LEVEL 4–6 • By the bucket (DOK 3)  <b>Measurement: Mass</b> LEVEL 5–7 • Planets in balance (DOK 3)	<b>(Y6-G) Volume, Capacity and Mass</b> • Volume and capacity (pp 1–2, 8) • Mass (pp 9–16)

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<p><b>Unit 4</b> Measurement</p> <p><b>Time</b></p> <p>Interpret and use timetables and itineraries</p> <p>Duration of events</p>	<p><b>AC9M6M03</b> interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys</p>		<p><b>Time conversions &amp; problems</b></p> <ul style="list-style-type: none"> <li>Time Conversions: Simple Fractions</li> <li>Time Conversions: Simple Decimals</li> <li>Time Mentals</li> <li>Elapsed Time</li> <li>24 Hour Time</li> <li>Using Timetables</li> </ul>	<p><b>Interpret &amp; use timetables</b></p> <ul style="list-style-type: none"> <li>Interpreting &amp; using timetables</li> </ul>	<p><b>Measurement: Time</b></p> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Muesli bar time jumble (DOK 2)</li> <li>Time for a break? (DOK 2)</li> <li>Mrs Baker's cookie conundrum (DOK 2)</li> </ul> <p>LEVEL 5–7</p> <ul style="list-style-type: none"> <li>Find the fastest ferry (DOK 2)</li> <li>24-hour travel times (DOK 2)</li> <li>Circus timetable (DOK 3)</li> </ul>	<p>(Y5-F) <b>Geometry</b></p> <ul style="list-style-type: none"> <li>Lines and angles (pp 1–6)</li> <li>2D shapes (pp 7–15)</li> <li>Transformation, tessellation and symmetry (pp 16–24)</li> </ul>
<p><b>Unit 5</b> Probability Statistics</p> <p><b>Chance and data</b></p> <p>Represent probabilities numerically</p> <p>Estimate and assign probabilities</p> <p>List outcomes</p> <p>Conduct chance experiments</p> <p>Run simulations</p> <p>Record results</p> <p>Compare observations with expected results</p>	<p><b>AC9M6P01</b> recognise that probabilities lie on numerical scales of 0 – 1 or 0% – 100% ...</p> <p><b>AC9M6P02</b> conduct repeated chance experiments and run simulations with an increasing number of trials using digital tools ...</p> <p><b>AC9M6ST01</b> interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables ...</p> <p><b>AC9M6ST03</b> plan and conduct statistical investigations by posing and refining questions ...</p>		<p><b>Probability</b></p> <ul style="list-style-type: none"> <li>Simple Probability</li> <li>Probability Scale</li> <li>Complementary Events</li> <li>Dice and Coins</li> </ul> <p><b>Conduct chance experiments</b></p> <ul style="list-style-type: none"> <li>Conducting chance experiments</li> </ul>	<p><b>Assign probabilities</b></p> <ul style="list-style-type: none"> <li>Probability as a fraction, decimal or percent</li> <li>Probabilities from 0 to 1</li> </ul>	<p><b>Chance &amp; Probability</b></p> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>What are the chances? (DOK 3)</li> </ul>	<p>(Y6-G) <b>Chance and Probability</b></p> <ul style="list-style-type: none"> <li>Chance and probability (pp 1–10)</li> </ul>

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<b>Unit 1</b> Number Algebra  <b>Number and operations review</b>	<b>AC9M6N04</b> apply knowledge of place value to add and subtract decimals ...  <b>AC9M6N05</b> solve problems involving addition and subtraction of fractions ...  <b>AC9M6N06</b> multiply and divide decimals by multiples of powers of 10 ...  <b>AC9M6N09</b> solve problems involving division ...	 <b>Review earlier content</b>	 <b>Review earlier content</b>	 <b>Review earlier content</b>	 <b>Review earlier content</b>	 <b>Review earlier content</b>
<b>Unit 2</b> Space  <b>3D objects</b>  Observe and draw shapes Compare cross-sections Right prisms Connecting objects to their nets	<b>AC9M6SP01</b> compare the parallel cross-sections of objects and recognise their relationships to right prisms				<b>Geometry: 3D Shapes</b> LEVEL 4–6 • Pyramids and prisms (DOK 3)  LEVEL 5–7 • Prisms made of straw (DOK 3)	(Y6-G) <b>Geometry</b> • 3D shapes (pp 25–32)
<b>Unit 3</b> Space Number  <b>Cartesian plane and 2D shape</b>  Locate points on Cartesian plane Identify scales Draw lines and polygons Positional data	<b>AC9M6SP02</b> locate points in the 4 quadrants of a Cartesian plane ...  <b>AC9M6N01</b> recognise situations, including financial contexts, that use integers ...		<b>Shape and space</b> <ul style="list-style-type: none"> <li>• Ordered Pairs</li> <li>• Number Plane</li> <li>• Graphing from a Table of Values</li> <li>• Reading Values from a Line</li> <li>• Transformations: Coordinate Plane</li> <li>• Rotations: Coordinate Plane</li> </ul>		<b>Geometry: Symmetry, Transformation &amp; Location</b> LEVEL 5–7 • Calculating coordinates (DOK 2)	(Y6-G) <b>Position</b> <ul style="list-style-type: none"> <li>• Spatial orientation (pp 1–5)</li> <li>• Coordinates (pp 6–12)</li> <li>• Maps and scale (pp 13–16)</li> </ul> (Y7-H) <b>The Number Plane</b> <ul style="list-style-type: none"> <li>• How does it work? (pp 1–8)</li> <li>• What else can you do? (pp 19–29)</li> </ul>

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<p><b>Unit 4</b> Statistics</p> <p><b>Data: Interpretation</b></p> <p>Statistically informed arguments Plan and conduct statistical investigations Compare distributions</p>	<p><b>AC9M6ST01</b> interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables ...</p> <p><b>AC9M6ST02</b> identify statistically informed arguments presented in traditional and digital media ...</p>		<p><b>Mode &amp; range</b></p> <ul style="list-style-type: none"> <li>Mode</li> <li>Mode from Stem and Leaf Plot</li> <li>Mode from Frequency Table</li> <li>Data Extremes and Range</li> <li>Stem and Leaf Plots with Range</li> <li>Double Stem and Leaf Plots</li> <li>Line Graphs: Interpretation</li> </ul>	<p><b>Interpret, compare &amp; describe data sets</b></p> <ul style="list-style-type: none"> <li>Describing &amp; interpreting data sets</li> </ul> <p><b>Compare mode, range &amp; shape</b></p> <ul style="list-style-type: none"> <li>Understanding mode, range &amp; shape of distributions</li> <li>Comparing modes in sets of data</li> </ul> <p><b>Interpret &amp; evaluate secondary data</b></p> <ul style="list-style-type: none"> <li>Interpreting &amp; evaluating secondary data</li> </ul>	<p><b>Statistics &amp; Data:</b></p> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Family ages (DOK 2)</li> <li>Dartboard scores (DOK 2)</li> <li>Messing with the median (DOK 2)</li> <li>Arrange the range (DOK 2)</li> </ul> <p>LEVEL 5–7</p> <ul style="list-style-type: none"> <li>Spot the mistake! (DOK 3)</li> <li>Missing dot plots (DOK 2)</li> <li>Box plot detective (DOK 2)</li> <li>Show your cards (DOK 3)</li> <li>A slice of the pie (DOK 3)</li> <li>Icy stalactite pie (DOK 3)</li> <li>Lake Scaley fish (DOK 3)</li> </ul>	<p><b>Y6-G Data Representation</b></p> <ul style="list-style-type: none"> <li>Types of graphs 2 (pp 7–9)</li> <li>Types of graphs 3 (pp 12–19)</li> <li>Collecting and analysing data (pp 22–34)</li> <li>Data investigations (pp 35–39)</li> </ul>
<p><b>Unit 5</b> Measurement</p> <p><b>Measurement review and applications</b></p> <p>Choose appropriate units Use measurement in everyday situations</p>	<p><b>AC9M6M01</b> convert between common metric units of length, mass and capacity ...</p> <p><b>AC9M6M02</b> establish the formula for the area of a rectangle and use it to solve practical problems</p> <p><b>AC9M6M03</b> interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys</p>		<p></p> <p>Review earlier content</p>	<p></p> <p>Review earlier content</p>	<p><b>Measurement: Length</b></p> <p>LEVEL 5–7</p> <ul style="list-style-type: none"> <li>Jumpy and Bouncy (DOK 4)</li> <li>Platinum wire earrings (DOK 3)</li> </ul>	<p></p> <p>Review earlier content</p>

# Mathletics

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