

# Mathletics

## South Australia (Australian Curriculum v9)

### Scope & Sequence



Year 5

Mathletics

|        | Term one  | Term two   | Term three  | Term four  |
|--------|---|--|---|--|
| Unit 1 | <b>Number</b>   | <b>Number</b>  | <b>Number</b>   | <b>Number Algebra</b>  |
|        | <b>Whole number and decimals</b> <ul style="list-style-type: none"> <li>Place value to thousandths</li> <li>Partitioning</li> <li>Compare &amp; order</li> <li>Whole number review</li> </ul>   | <b>Fractions</b> <ul style="list-style-type: none"> <li>Compare and order</li> <li>Mixed numbers &amp; improper fractions</li> <li>Equivalent fractions</li> <li>Add &amp; Subtract fractions: Same or related denominators</li> </ul> | <b>Fractions, decimals, and percentages</b> <ul style="list-style-type: none"> <li>Connect fraction, decimal and percentage equivalents</li> <li>Represent remainders as fractions and decimals</li> <li>Problem solving</li> </ul> | <b>Number and operations review</b> <ul style="list-style-type: none"> <li>Review earlier content</li> </ul>   |
| Unit 2 | <b>Number</b>   | <b>Number Algebra</b>  | <b>Number</b>   | <b>Statistics</b>  |
|        | <b>Addition and subtraction: Mental</b> <ul style="list-style-type: none"> <li>Round to estimate</li> <li>Problem solving</li> <li>Strategy review</li> </ul>   | <b>Multiplication and division: Mental strategies</b> <ul style="list-style-type: none"> <li>Efficient mental strategies</li> <li>Factorising</li> <li>Problem solving</li> </ul>  | <b>Multiplication and division: Written strategies</b> <ul style="list-style-type: none"> <li>Multiplication algorithm</li> <li>Contracted division</li> <li>Problem solving</li> </ul>   | <b>Data: Investigation and evaluation</b> <ul style="list-style-type: none"> <li>Misleading diagrams</li> <li>Evaluate statements about displays</li> <li>Interpret data displays</li> <li>Mode</li> </ul>                         |
| Unit 3 | <b>Number Algebra</b>   | <b>Number Algebra</b>  | <b>Probability Statistics</b>   | <b>Measurement</b>   |
|        | <b>Factors, multiples and patterns</b> <ul style="list-style-type: none"> <li>Factors, Multiples</li> <li>Common multiples</li> <li>Divisibility tests</li> <li>Patterns with factors &amp; multiples</li> </ul>  | <b>Algebra</b> <ul style="list-style-type: none"> <li>Create and use algorithms</li> <li>Inverse operations</li> <li>Fact families</li> <li>Find unknown values</li> </ul>   | <b>Chance and data</b> <ul style="list-style-type: none"> <li>List outcomes</li> <li>Conduct chance experiments</li> <li>Record results</li> <li>Compare outcomes</li> <li>Estimate likelihoods</li> </ul>                          | <b>Time and position</b> <ul style="list-style-type: none"> <li>Read and represent 12- &amp; 24-hour time</li> <li>Convert times</li> <li>Use timetables</li> <li>Grid coordinate systems</li> <li>Directional language</li> </ul> |
| Unit 4 | <b>Measurement Number</b>   | <b>Measurement</b>   | <b>Space</b>  | <b>Measurement</b>   |
|        | <b>Length, area and perimeter</b> <ul style="list-style-type: none"> <li>Kilometres, metres, centimetres &amp; millimetres</li> <li>Compare &amp; order lengths</li> <li>Estimate lengths</li> <li>Calculate perimeter</li> <li>Calculate area</li> </ul> | <b>Addition and subtraction: Written</b> <ul style="list-style-type: none"> <li>Written strategies</li> </ul>  | <b>Angles and 2D shapes</b> <ul style="list-style-type: none"> <li>Measure angles</li> <li>Estimate angles</li> <li>Classify angles</li> <li>Translations, reflections &amp; rotations</li> <li>Symmetry</li> </ul>                 | <b>Measurement applications</b> <ul style="list-style-type: none"> <li>Choose appropriate units</li> <li>Use measurement in everyday situations</li> <li>Problem solving</li> <li>Area and perimeter applications</li> </ul>       |
| Unit 5 | <b>Statistics</b>   | <b>Space</b>   | <b>Measurement Number</b>   | <b>Space</b>   |
|        | <b>Data: Representation and interpretation</b> <ul style="list-style-type: none"> <li>Collect data</li> <li>Validate data</li> <li>Represent data</li> </ul>  | <b>2D space and 3D objects</b> <ul style="list-style-type: none"> <li>Connect 2D shapes with 3D objects</li> <li>Connect &amp; create nets</li> <li>Sketch 3D objects</li> </ul>   | <b>Capacity and mass</b> <ul style="list-style-type: none"> <li>Kilolitres, litres &amp; millilitres</li> <li>Tonnes, kilograms &amp; grams</li> <li>Compare &amp; order</li> <li>Estimate</li> <li>Problem solving</li> </ul>      | <b>Space review</b> <ul style="list-style-type: none"> <li>Review transformations</li> <li>Tessellation patterns</li> <li>Review Cartesian plane</li> </ul>  |

| Strand  | Outcomes and content descriptions   | Located                              |
|---------|---|--------------------------------------|
| Number  | <b>AC9M5N01</b><br>interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line  | T1 U1<br>T3 U1, U5                   |
|         | <b>AC9M5N02</b><br>express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another  | T1 U3<br>T2 U2<br>T3 U2<br>T4 U1     |
|         | <b>AC9M5N03</b><br>compare and order fractions with the same and related denominators including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line   | T2 U1<br>T3 U1                       |
|         | <b>AC9M5N04</b><br>recognise that 100% represents the complete whole and use percentages to describe, represent and compare relative size; connect familiar percentages to their decimal and fraction equivalents   | T3 U1                                |
|         | <b>AC9M5N05</b><br>solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies   | T2 U1<br>T4 U1                       |
|         | <b>AC9M5N06</b><br>solve problems involving multiplication of larger numbers by one- or two-digit numbers, choosing efficient calculation strategies and using digital tools where appropriate; check the reasonableness of answers   | T2 U2<br>T3 U2<br>T4 U1              |
|         | <b>AC9M5N07</b><br>solve problems involving division, choosing efficient strategies and using digital tools where appropriate; interpret any remainder according to the context and express results as a whole number, decimal or fraction  | T2 U2<br>T3 U1, U2<br>T4 U1          |
|         | <b>AC9M5N08</b><br>check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context  | T1 U2, U4<br>T2 U2                   |
|         | <b>AC9M5N09</b><br>use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems, choosing operations and efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation | T1 U2<br>T2 U2, U4<br>T3 U2<br>T4 U1 |
|         | <b>AC9M5N010</b><br>create and use algorithms involving a sequence of steps and decisions and digital tools to experiment with factors, multiples and divisibility; identify, interpret and describe emerging patterns  | T1 U3<br>T2 U3                       |
| Algebra | <b>AC9M5A01</b><br>recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts  | T1 U3<br>T2 U3                       |
|         | <b>AC9M5A02</b><br>find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations  | T1 U3<br>T2 U3                       |

| Strand      | Outcomes and content descriptions   | Located                 |
|-------------|---|-------------------------|
| Measurement | <b>AC9M5M01</b><br>choose appropriate metric units when measuring the length, mass and capacity of objects; use smaller units or a combination of units to obtain a more accurate measure   | T1 U4<br>T3 U5<br>T4 U4 |
|             | <b>AC9M5M02</b><br>solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units   | T1 U4<br>T4 U4          |
|             | <b>AC9M5M03</b><br>compare 12- and 24-hour time systems and solve practical problems involving the conversion between them  | T4 U3, U4               |
|             | <b>AC9M5M04</b><br>estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names  | T3 U4                   |
| Space       | <b>AC9M5SP01</b><br>connect objects to their nets and build objects from their nets using spatial and geometric reasoning   | T2 U5                   |
|             | <b>AC9M5SP02</b><br>construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement   | T4 U3, U5               |
|             | <b>AC9M5SP03</b><br>describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate; recognise what changes and what remains the same, and identify any symmetries   | T3 U4<br>T4 U5          |
| Statistics  | <b>AC9M5ST01</b><br>acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables to address a question of interest or purpose using software including spreadsheets; discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data | T1 U5<br>T3 U3<br>T4 U2 |
|             | <b>AC9M5ST02</b><br>interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made  | T1 U5<br>T4 U2          |
|             | <b>AC9M5ST03</b><br>plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation   | T1 U5<br>T3 U3          |
| Probability | <b>AC9M5P01</b><br>list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely   | T3 U3                   |
|             | <b>AC9M5P02</b><br>conduct repeated chance experiments including those with and without equally likely outcomes, observe and record the results ; use frequency to compare outcomes and estimate their likelihoods  | T3 U3                   |

| Strand & Topic  | Outcomes   | New Courses   | Activities (Courses)   | Skill Quests   | Challenges   | Ebooks  |
|---|--|---|--|--|--|---|
| <b>Unit 1</b><br>Number<br><hr/> <b>Whole number and decimals</b><br><hr/> Place value to thousandths<br>Partitioning<br>Compare & order<br>Whole number review                                 | <b>AC9M5N01</b><br>interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line   | <b>Y5 Decimals</b> <ul style="list-style-type: none"> <li>Tenths</li> <li>Hundredths</li> <li>Thousandths</li> <li>Decimals on the number line</li> <li>Order and compare decimals</li> </ul> <b>Y5 Rounding and Estimation</b> <ul style="list-style-type: none"> <li>Place Value</li> <li>Comparing and ordering whole numbers</li> </ul>   | <b>REVIEW Whole Numbers &amp; Place Value</b> <ul style="list-style-type: none"> <li>Place Value to Millions</li> <li>Numbers from Words to Digits 1</li> <li>Numbers from Words to Digits 2</li> <li>Greater Than or Less Than?</li> <li>Partition and Rename</li> <li>3/Understanding Place Value 3 (CAN)</li> <li>Expanded Notation</li> <li>Decimals from Words to Digits 1</li> <li>Decimals on the Number Line</li> <li>Decimal Place Value</li> <li>Nearest Whole Number</li> </ul> | <b>Understand decimals to thousandths</b> <ul style="list-style-type: none"> <li>Introducing decimal thousandths</li> <li>Partitioning decimals of any size</li> <li>Comparing &amp; ordering decimals</li> <li>Interpreting zeros at end of decimals</li> <li>Decimal &amp; fraction equivalences</li> <li>Connecting decimals to the metric system</li> </ul>  | <b>Number &amp; Algebra: Decimals</b><br>LEVEL 4–6 <ul style="list-style-type: none"> <li>Code cracker (DOK 2)</li> </ul>  | <b>(Y6-G) Fractions, Decimals and Percentages</b> <ul style="list-style-type: none"> <li>Decimal fractions (pp 12–20)</li> </ul>  |
| <b>Unit 2</b><br>Number<br><hr/> <b>Addition and subtraction: Mental</b><br><hr/> Round to estimate<br>Problem solving<br>Strategy review   | <b>AC9M5N08</b><br>check and explain the reasonableness of solutions to problems ...<br><br><b>AC9M5N09</b><br>use mathematical modelling to solve practical problems involving additive and multiplicative situations ...   | <b>Y5 Addition and Subtraction</b> <ul style="list-style-type: none"> <li>Addition strategies</li> <li>Subtraction strategies</li> </ul> <b>Y5 Rounding and Estimation</b> <ul style="list-style-type: none"> <li>Rounding</li> <li>Estimation</li> </ul>   | <b>Rounding &amp; estimating</b> <ul style="list-style-type: none"> <li>Rounding Numbers 1</li> <li>Estimate Sums</li> <li>Estimate Differences</li> </ul> <b>REVIEW Whole Numbers &amp; Place Value</b> <ul style="list-style-type: none"> <li>Rounding Numbers</li> </ul> <b>Rounding &amp; estimating</b> <ul style="list-style-type: none"> <li>Estimate Decimal Sums 2</li> </ul>   | <b>Estimation &amp; rounding</b> <ul style="list-style-type: none"> <li>Rounding to estimate addition &amp; subtraction</li> </ul> <b>Add &amp; subtract practical problems</b> <ul style="list-style-type: none"> <li>Addition &amp; subtraction word problems</li> <li>Expressing word problems as equations add/sub</li> <li>Solving add &amp; subtract money problems</li> </ul>   | <b>Number &amp; Algebra: Decimals</b><br>LEVEL 5–7 <ul style="list-style-type: none"> <li>Posting parcels (DOK 2)</li> </ul> <b>Number &amp; Algebra: Addition &amp; Subtraction</b><br>LEVEL 3–5 <ul style="list-style-type: none"> <li>Solve the zig-zag logic fog (DOK 3)</li> <li>Mental strategies (DOK 3)</li> </ul> LEVEL 4–6 <ul style="list-style-type: none"> <li>Totally magic grid (DOK 2)</li> </ul> LEVEL 5–7 <ul style="list-style-type: none"> <li>Add-venn-turous adding (DOK 2)</li> </ul>   | <b>(Y6-G) Addition and Subtraction</b> <ul style="list-style-type: none"> <li>Mental strategies (pp 1–10)</li> <li>Applying strategies (pp 11–19)</li> </ul>                          |
| <b>Unit 3</b><br>Number<br>Algebra<br><hr/> <b>Factors, multiples and patterns</b><br><hr/> Factors<br>Multiples<br>Common multiples<br>Divisibility tests<br>Patterns with factors & multiples | <b>AC9M5N02</b><br>express natural numbers as products of their factors ...<br><br><b>AC9M5N010</b><br>create and use algorithms involving a sequence of steps and decisions ...<br><br><b>AC9M5A01</b><br>recognise and explain the connection between multiplication and division ...<br><br><b>AC9M5A02</b><br>find unknown values in numerical equations involving multiplication and division ... | <b>Y5 Number properties</b> <ul style="list-style-type: none"> <li>Divisibility tests for 2, 3, 5 and 10</li> <li>Divisibility tests for 4, 6, 8 and 9</li> <li>Multiples</li> <li>Factors</li> </ul> <b>Y5 Patterns and equivalence - coming soon</b> <ul style="list-style-type: none"> <li>Complete the pattern</li> <li>Patterns from words</li> <li>Problem-solving with patterns</li> </ul> | <b>Factors &amp; Multiples</b> <ul style="list-style-type: none"> <li>Multiples</li> <li>Lowest Common Multiple</li> <li>Factors</li> <li>Highest Common Factor</li> <li>Find the Factor</li> <li>Divisibility Tests (2, 5, 10)</li> <li>Divisibility Tests (3, 4, 9)</li> <li>Tests of Divisibility 1</li> </ul>  | <b>Multiples &amp; factors</b> <ul style="list-style-type: none"> <li>Finding multiples</li> <li>Finding factors</li> <li>Solving problems using factors &amp; multiples</li> </ul> <b>Divisibility tests</b> <ul style="list-style-type: none"> <li>Divisibility tests for 2, 5 &amp; 10</li> <li>Divisibility tests for 3, 4, 6, 8 &amp; 9</li> </ul> <b>Create &amp; use algorithms</b> <ul style="list-style-type: none"> <li>Factors &amp; multiples</li> </ul> | <b>Number &amp; Algebra: Multiplication &amp; Division</b><br>LEVEL 3–5 <ul style="list-style-type: none"> <li>The greatest triangle! (DOK 2)</li> </ul> LEVEL 4–6 <ul style="list-style-type: none"> <li>Peculiar patterns with multiples (DOK 2)</li> <li>Multiple muffins (DOK 2)</li> <li>Supermarket stock dilemma (DOK 2)</li> <li>Training in sync (DOK 2)</li> <li>Factor in our clues (DOK 2)</li> <li>Tricky factors (DOK 2)</li> <li>Multiple relationships (DOK 2)</li> <li>Factor finding (DOK 2)</li> <li>Fear fact-ors (DOK 2)</li> </ul> <b>Number &amp; Algebra: Addition &amp; Subtraction</b><br>LEVEL 3–5 <ul style="list-style-type: none"> <li>Scores for a ball game (DOK 3)</li> </ul> LEVEL 4–6 <ul style="list-style-type: none"> <li>Multiple patterns (DOK 3)</li> </ul> | <b>(Y5-F) Multiplication and Division</b> <ul style="list-style-type: none"> <li>Mental multiplication strategies (pp 9–10)</li> <li>Mental division strategies (pp 18–19)</li> </ul> |




| Strand & Topic  | Outcomes   | New Courses | Activities (Courses)  | Skill Quests   | Challenges   | Ebooks   |
|---|--|-------------|---|--|--|--|
| <p><b>Unit 4</b><br/>Measurement<br/>Number</p> <p><b>Length, area and perimeter</b></p> <p>Kilometres, metres, centimetres &amp; millimetres<br/>Compare &amp; order lengths<br/>Estimate lengths<br/>Calculate perimeter<br/>Calculate area</p> | <p><b>AC9M5M01</b><br/>choose appropriate metric units when measuring the length, mass and capacity of objects ...</p> <p><b>AC9M5M02</b><br/>solve practical problems involving the perimeter and area of regular and irregular shapes ...</p> <p><b>AC9M5N08</b><br/>check and explain the reasonableness of solutions to problems ...</p>   |             | <p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>Kilometre Conversions</li> <li>Metres and Kilometres</li> <li>Perimeter: Squares and Rectangles</li> <li>Area of Shapes</li> <li>Biggest Shape/Bigger or smaller shape</li> <li>Equal Areas</li> <li>Area: Squares and Rectangles</li> </ul> <p><b>Fractions decimals &amp; percentages</b></p> <ul style="list-style-type: none"> <li>Centimetres and Metres</li> </ul> | <p><b>Choose appropriate metric units</b></p> <ul style="list-style-type: none"> <li>Introducing kilometres</li> <li>Comparing &amp; ordering units of length</li> <li>Selecting appropriate units - length</li> </ul> <p><b>Perimeter &amp; area - practical problems</b></p> <ul style="list-style-type: none"> <li>Calculating perimeter practical problems</li> <li>Calculating area practical problems</li> </ul> | <p><b>Measurement: Length</b><br/>LEVEL 3–5</p> <ul style="list-style-type: none"> <li>Divide and measure with rods (DOK 2)</li> </ul> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Lengthy thinking (DOK 2)</li> </ul> <p><b>Measurement: Area</b><br/>LEVEL 3–5</p> <ul style="list-style-type: none"> <li>Make a puppy play area (DOK 2)</li> <li>Farmer's fences (DOK 3)</li> </ul> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Shade a shape (DOK 3)</li> <li>Five and ten, squares and units (DOK 3)</li> </ul> | <p>(Y5-F) <b>Length, Perimeter and Area</b></p> <ul style="list-style-type: none"> <li>Units of length (pp 1–8)</li> <li>Travelling far (pp 9–16)</li> <li>Perimeter (pp 17–24)</li> <li>Area (pp 25–32)</li> </ul>                                |
| <p><b>Unit 5</b><br/>Statistics</p> <p><b>Data: Representation &amp; interpretation</b></p> <p>Collect data<br/>Validate data<br/>Represent data</p>  | <p><b>AC9M5ST01</b><br/>acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables to address a question of interest or purpose using software including spreadsheets ...</p> <p><b>AC9M5ST02</b><br/>interpret line graphs representing change over time ...</p> <p><b>AC9M5ST03</b><br/>plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data ...</p> |             | <p><b>Statistics</b></p> <ul style="list-style-type: none"> <li>Line Graphs: Interpretation</li> <li>Travel Graphs</li> <li>Stem and Leaf Plots: -Concept</li> <li>Dot Plots</li> <li>Divided Bar Graphs</li> <li>Tally Charts</li> <li>Sector Graphs</li> </ul>  | <p><b>Acquire, validate &amp; represent data</b></p> <ul style="list-style-type: none"> <li>Conducting surveys or statistical investigations</li> </ul>  | <p><b>Statistics &amp; Data</b><br/>LEVEL 5–7</p> <ul style="list-style-type: none"> <li>New director (DOK 3)</li> </ul>   | <p>(Y5-F) <b>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 7–11)</li> <li>Types of graphs 3 (pp 12–17)</li> <li>Collecting and analysing data (pp 18–23)</li> </ul> |








| Strand & Topic  | Outcomes   | New Courses   | Activities (Courses)   | Skill Quests   | Challenges   | Ebooks  |
|---|--|---|--|--|--|---|
| <p><b>Unit 1</b><br/>Number</p> <hr/> <p><b>Fractions</b></p> <p>Compare and order Mixed numbers &amp; improper fractions<br/>Equivalent fractions<br/>Add &amp; Subtract fractions: Same or related denominators</p> | <p><b>AC9M5N03</b><br/>compare and order fractions with the same and related denominators ...</p> <p><b>AC9M5N05</b><br/>solve problems involving addition and subtraction of fractions with the same or related denominators ...</p>  | <p><b>Y5 Fractions</b></p> <ul style="list-style-type: none"> <li>Fractions</li> <li>Equivalence</li> <li>Compare and order fractions</li> <li>Improper fractions and mixed numbers</li> <li>Add fractions</li> <li>Subtract fractions</li> <li>Problem solving with fractions</li> </ul>   | <p><b>Compare &amp; order fractions</b></p> <ul style="list-style-type: none"> <li>Shading Equivalent Fractions</li> <li>Equivalent Fraction Wall 1</li> <li>Equivalent Fractions on a Number Line 1</li> <li>Equivalent Fractions</li> <li>Compare Fractions 1a</li> <li>Compare Fractions 1b</li> <li>Identifying Fractions Beyond 1</li> <li>Improper to Mixed</li> <li>Mixed to Improper</li> <li>Converting Mixed and Improper</li> <li>Identifying Fractions on a Number Line</li> <li>Mixed and Improper fractions on a number Line</li> </ul> <p><b>Add &amp; Subtract related fractions</b></p> <ul style="list-style-type: none"> <li>Add: Common Denominator</li> <li>Subtract: Common Denominator</li> <li>Common Denominator</li> <li>Add Like Mixed Numbers</li> <li>Subtract Like Mixed Numbers</li> </ul>                                  | <p><b>Compare &amp; order fractions</b></p> <ul style="list-style-type: none"> <li>Comparing &amp; ordering fractions</li> <li>Comparing &amp; ordering fractions &amp; mixed numbers</li> <li>Using common factors to simplify proper fractions</li> </ul> <p><b>Add &amp; subtract fractions</b></p> <ul style="list-style-type: none"> <li>Add &amp; subtract proper fractions - same denominator</li> <li>Add &amp; subtract mixed numerals - same denominator</li> <li>Add &amp; subtract fractions - related denominators</li> <li>Add &amp; subtract mixed num - related denominators</li> </ul>  | <p><b>Number &amp; Algebra: Fractions</b><br/>LEVEL 3–5</p> <ul style="list-style-type: none"> <li>Which is closer to 1? (DOK 2)</li> <li>What fraction is that? (DOK 2)</li> <li>Drinking equivalent fractions (DOK 3)</li> </ul> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Fractions in uneven partitioned shapes (DOK 2)</li> <li>Fractional relay races (DOK 2)</li> </ul> | <p>(Y5-F) <b>Fractions, Decimals and Percentages</b></p> <ul style="list-style-type: none"> <li>Types of fractions (pp 9–16)</li> <li>Calculating (pp 26–29)</li> </ul> |
| <p><b>Unit 2</b><br/>Number<br/>Algebra</p> <hr/> <p><b>Multiplication and division: Mental strategies</b></p> <p>Efficient mental strategies<br/>Factorising<br/>Problem solving</p>                                 | <p><b>AC9M5N02</b><br/>express natural numbers as products of their factors ...</p> <p><b>AC9M5N06</b><br/>solve problems involving multiplication of larger numbers by one- or two-digit numbers ...</p> <p><b>AC9M5N07</b><br/>solve problems involving division ...</p> <p><b>AC9M5N08</b><br/>check and explain the reasonableness of solutions to problems ...</p> <p><b>AC9M5N09</b><br/>use mathematical modelling to solve practical problems involving additive and multiplicative situations ...</p> | <p><b>Y5 Multiplication and Division</b></p> <ul style="list-style-type: none"> <li>Multiplication strategies</li> <li>Multiples and powers of <math>10 \times</math></li> <li>Multiples and powers of <math>10 \div</math></li> <li>Division strategies</li> </ul> <p><b>Y5 Rounding and Estimation</b></p> <ul style="list-style-type: none"> <li>Rounding</li> <li>Estimation</li> </ul> | <p><b>More Multiplication &amp; division</b></p> <ul style="list-style-type: none"> <li>Multiply Multiples of 10</li> <li>Multiply More Multiples of 10</li> <li>Multiply 2 Digits Area Model</li> <li>Grid Methods 1</li> <li>Double and Halve to Multiply</li> <li>Mental Methods Multiplication 1</li> <li>Dividing by 10, 100, 1000</li> <li>Division Facts 1</li> <li>Remainders by Arrays</li> <li>Mental Methods Division 1</li> <li>Mental Methods Division</li> </ul> <p><b>Solve problems</b></p> <ul style="list-style-type: none"> <li>Bar model <math>\times \div</math></li> <li>Problems: Times and Divide</li> </ul> <p><b>Rounding &amp; estimating</b></p> <ul style="list-style-type: none"> <li>Estimate Products</li> <li>Estimate Quotients</li> <li>Estimation: Multiply and Divide</li> <li>Estimate Decimal Operations</li> </ul> | <p><b>Strategies to multiply by 1- or 2-digits</b></p> <ul style="list-style-type: none"> <li>Multiplication using multiples of 10</li> <li>Multiplying: rounding, compensating &amp; partitioning</li> <li>Multiplying: doubling, halving &amp; thirding</li> <li>Multiplying using the split method</li> <li>Multiplying using an area model</li> <li>Multiplying by factorising</li> </ul> <p><b>Division strategies incl. remainders</b></p> <ul style="list-style-type: none"> <li>Dividing by a 1-digit number using partitioning</li> <li>Dividing by a 2-digit number using partitioning</li> <li>Dividing by a 1-digit number using factorising</li> <li>Dividing by a 2-digit number using factorising</li> </ul> <p><b>Estimation &amp; rounding</b></p> <ul style="list-style-type: none"> <li>Rounding to estimate multiplication &amp; division</li> <li>Estimating with money</li> </ul> <p><b>Multiply &amp; divide practical problems</b></p> <ul style="list-style-type: none"> <li>Multiplication &amp; division word problems</li> <li>Expressing word problems as equations mult/div</li> <li>Solving multi-step mult/div word problems</li> <li>Solving mult &amp; div money problems</li> </ul> | <p>(Y5-F) <b>Multiplication and Division</b></p> <ul style="list-style-type: none"> <li>Mental multiplication strategies (pp 1–10)</li> <li>Mental division strategies (pp 11–19)</li> </ul>   |   |

| Strand & Topic  | Outcomes  | New Courses   | Activities (Courses)  | Skill Quests   | Challenges   | Ebooks   |
|---|---|---|---|--|--|--|
| <b>Unit 3</b><br>Number<br>Algebra<br><hr/> <b>Algebra</b><br><hr/> Create and use algorithms<br>Inverse operations<br>Fact families<br>Find unknown values | <b>AC9M5N010</b><br>create and use algorithms involving a sequence of steps and decisions ...<br><b>AC9M5A01</b><br>recognise and explain the connection between multiplication and division as inverse operations ...<br><b>AC9M5A02</b><br>find unknown values in numerical equations involving multiplication and division ... | <b>Y5 Patterns and equivalence - coming soon</b> <ul style="list-style-type: none"> <li>Unknown values +-               <ul style="list-style-type: none"> <li>Are these equivalent? +-</li> </ul> </li> <li>Unknown values x÷               <ul style="list-style-type: none"> <li>Are these equivalent? x÷-</li> </ul> </li> <li>Problem solving using equivalence</li> </ul> | <b>Fact families Mult/Div</b> <ul style="list-style-type: none"> <li>Fact Families: Multiply and Divide</li> <li>Multiplication Turnarounds</li> <li>Missing Numbers: x and ÷ facts</li> <li>Times Tables</li> <li>Multiply 3 single-digit numbers</li> </ul> | <b>Create &amp; use algorithms</b> <ul style="list-style-type: none"> <li>Manipulating numbers using a given rule</li> <li>Designing flowcharts to solve add/sub of fractions</li> </ul> <b>Connect multiplication &amp; division</b> <ul style="list-style-type: none"> <li>Inverse relationship - multiplication &amp; division</li> </ul> <b>Find unknown values in mult &amp; div</b> <ul style="list-style-type: none"> <li>Finding unknown values - multiplication &amp; division</li> </ul> | <b>Number &amp; Algebra: Whole Number</b><br>LEVEL 4–6 <ul style="list-style-type: none"> <li>Unknown values in uneven partitioned shapes (DOK 2)</li> </ul> <b>Number &amp; Algebra: Equations &amp; Expressions</b><br>LEVEL 4–6 <ul style="list-style-type: none"> <li>Shape equations (DOK 2)</li> <li>Steps to success (DOK 3)</li> </ul> | (Y5-F) <b>Patterns and Algebra</b> <ul style="list-style-type: none"> <li>Patterns and functions (pp 1–12)</li> <li>Equations and equivalence (pp 13–20)</li> <li>Using equations (pp 21–28)</li> </ul>  |
| <b>Unit 4</b><br>Number<br><hr/> <b>Addition and subtraction: Written</b><br><hr/> Written strategies   | <b>AC9M5N09</b><br>use mathematical modelling to solve practical problems involving additive and multiplicative situations ...  | <b>Y5 Addition and Subtraction</b> <ul style="list-style-type: none"> <li>Addition</li> <li>Subtraction</li> <li>Money calculations +-               <ul style="list-style-type: none"> <li>Money calculations +-</li> </ul> </li> </ul>  | <b>Solve problems</b> <ul style="list-style-type: none"> <li>Columns that Add</li> <li>Add Two 2-Digit Numbers</li> <li>Add 3-Digit Numbers</li> <li>Columns that Subtract</li> <li>Subtract Numbers</li> </ul>   |  |  | (Y5-F) <b>Addition and Subtraction</b> <ul style="list-style-type: none"> <li>Written methods (pp 17–25)</li> </ul> (Y5-F) <b>Fractions, Decimals and Percentages</b> <ul style="list-style-type: none"> <li>Calculating (pp 30–33)</li> </ul> |
| <b>Unit 5</b><br>Space<br><hr/> <b>2D space and 3D objects</b><br><hr/> Connect 2D shapes with 3D objects<br>Connect & create nets<br>Sketch 3D objects     | <b>AC9M5SP01</b><br>connect objects to their nets and build objects from their nets using spatial and geometric reasoning   |   | <b>Space &amp; shape</b> <ul style="list-style-type: none"> <li>What Pyramid am I?</li> <li>What Prism am I?</li> <li>Prisms and Pyramids</li> </ul>  | <b>Connect objects to nets</b> <ul style="list-style-type: none"> <li>Connecting prisms &amp; pyramids with their nets</li> <li>Connecting 3D objects with their nets</li> </ul>   | <b>Geometry: 3D Shapes</b><br>LEVEL 4–6 <ul style="list-style-type: none"> <li>Notty nets (DOK 2)</li> <li>Looking at faces, edges and vertices (DOK 3)</li> </ul>   | (Y5-F) <b>Geometry</b> <ul style="list-style-type: none"> <li>3D shapes (pp 25–34)</li> </ul>  |

| Strand & Topic  | Outcomes   | New Courses   | Activities (Courses)   | Skill Quests   | Challenges  | Ebooks  |
|---|--|---|--|--|---|---|
| <b>Unit 1</b><br>Number<br><br><b>Fractions, decimals, and percentages</b><br><br>Connect fraction, decimal and percentage equivalents<br><br>Represent remainders as fractions and decimals<br><br>Problem solving | <b>AC9M5N01</b><br>interpret, compare and order numbers with more than 2 decimal places ...<br><br><b>AC9M5N03</b><br>compare and order fractions with the same and related denominators ...<br><br><b>AC9M5N04</b><br>recognise that 100% represents the complete ...<br><br><b>AC9M5N07</b><br>solve problems involving division ... | <b>Y5 Percentages</b> <ul style="list-style-type: none"> <li>Percentages</li> <li>Compare percentages</li> <li>Fractions and percentages</li> <li>Decimals, fractions and percentages</li> </ul>                                | <b>Fractions decimals &amp; percentages</b> <ul style="list-style-type: none"> <li>Modelling Percentages</li> <li>Fractions to Decimals</li> <li>Percents and Decimals</li> <li>Common Fractions as Percentages (AU)</li> <li>Decimal Order</li> <li>Comparing Decimals</li> </ul> | <b>Fractions, decimals &amp; percentages</b> <ul style="list-style-type: none"> <li>Introducing percentages</li> <li>Connecting percentages &amp; decimals</li> <li>Connecting percentages &amp; fractions</li> <li>Relationship - percentages, decimals &amp; fractions</li> </ul>  |   | <b>(YS-F) Fractions, Decimals and Percentages</b> <ul style="list-style-type: none"> <li>Fractions, decimals and percentages (pp 17–25)</li> </ul>                    |
| <b>Unit 2</b><br>Number Algebra<br><br><b>Multiplication and division: Written strategies</b><br><br>Multiplication algorithm<br><br>Contracted division<br><br>Problem solving                                     | <b>AC9M5N02</b><br>express natural numbers as products of their factors ...<br><br><b>AC9M5N06</b><br>solve problems involving multiplication of larger numbers ...<br><br><b>AC9M5N07</b><br>solve problems involving division ...<br><br><b>AC9M5N09</b><br>use mathematical modelling to solve practical problems ...               | <b>Y5 Multiplication and Division</b> <ul style="list-style-type: none"> <li>Multiply by one digit</li> <li>Multiply by two digits</li> <li>Division</li> <li>Exploring remainders</li> <li>Division with remainders</li> </ul> | <b>Solve problems</b> <ul style="list-style-type: none"> <li>Multiply: 1-Digit Number</li> <li>Multiply: 2-Digit by 1-Digit</li> <li>Divide: 1-Digit Divisor 1</li> </ul>  | <b>Strategies to multiply by 1- or 2-digits</b> <ul style="list-style-type: none"> <li>Multiplying using expanded algorithm</li> <li>Multiplying using contracted algorithm</li> <li>Multiplying using extended form of algorithm</li> </ul> <b>Division strategies incl. remainders</b> <ul style="list-style-type: none"> <li>Extended division - no remainders or zeros</li> <li>Extended division with remainders</li> <li>Extended division with &amp; without remainders</li> <li>Contracted division - no remainders or zeros</li> <li>Contracted division - no remainders</li> <li>Contracted division - with &amp; without remainders</li> <li>Dividing by 2-digit numbers - formal algorithms</li> </ul> <b>Multiply &amp; divide practical problems</b> <ul style="list-style-type: none"> <li>Multiplication &amp; division word problems</li> <li>Expressing word problems as equations mult/div</li> <li>Solving multi-step mult/div word problems</li> <li>Solving mult &amp; div money problems</li> </ul> |   | <b>(YS-F) Multiplication and Division</b> <ul style="list-style-type: none"> <li>Written methods (pp 20–28)</li> <li>Puzzles and investigations (pp 29–32)</li> </ul> |
| <b>Unit 3</b><br>Probability Statistics<br><br><b>Chance and data</b><br><br>List outcomes<br><br>Conduct chance experiments<br><br>Record results<br><br>Compare outcomes<br><br>Estimate likelihoods              | <b>AC9M5P01</b><br>list the possible outcomes of chance experiments ...<br><br><b>AC9M5P02</b><br>conduct repeated chance experiments ...<br><br><b>AC9M5ST01</b><br>acquire, validate and represent data ...<br><br><b>AC9M5ST03</b><br>plan and conduct statistical investigations ...   |   | <b>Chance &amp; Probability</b> <ul style="list-style-type: none"> <li>What are the Chances?</li> <li>Chance Gauge</li> <li>Introductory probability</li> <li>Fair Games</li> </ul>  | <b>Outcomes of chance experiments</b> <ul style="list-style-type: none"> <li>Investigating equally likely outcomes</li> <li>Exploring fair &amp; unfair chance experiments</li> </ul>  | <b>Chance &amp; Probability</b><br>LEVEL 4–6 <ul style="list-style-type: none"> <li>Ordering probabilities (DOK 3)</li> </ul> | <b>(YS-F) Chance and Probability</b> <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   |
|--|--|-------------|---|---|--|--|
| <p><b>Unit 4</b><br/>Measurement<br/>Space</p> <hr/> <p><b>Angles and 2D shape</b></p> <p>Measure angles<br/>Estimate angles<br/>Classify angles<br/>Translations, reflections &amp; rotations<br/>Symmetry</p>              | <p><b>AC9M5M04</b><br/>estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names</p> <p><b>AC9M5SP03</b><br/>describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate ...</p>  |             | <p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>Classifying Angles</li> <li>Measuring Angles</li> <li>Estimating Angles</li> </ul> <p><b>Space &amp; shape</b></p> <ul style="list-style-type: none"> <li>Flip, Slide, Turn</li> <li>Transformations</li> <li>Rotational Symmetry</li> </ul> | <p><b>Estimate, construct &amp; measure angles</b></p> <ul style="list-style-type: none"> <li>Identifying, estimating &amp; measuring angles</li> <li>Classifying &amp; constructing angles</li> </ul> <p><b>Identify &amp; describe transformations</b></p> <ul style="list-style-type: none"> <li>Identifying &amp; describing transformations</li> </ul> | <p><b>Geometry: Angles</b><br/>LEVEL 3–5</p> <ul style="list-style-type: none"> <li>Estimating angle measures (DOK 3)</li> </ul> <p>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Angle estimation (DOK 3)</li> </ul> <p><b>Geometry: Symmetry, Transformation &amp; Location</b><br/>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Tessellations (DOK 3)</li> </ul> | <p>(YS-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><br/>Measurement<br/>Number</p> <hr/> <p><b>Capacity and mass</b></p> <p>Kilolitres, litres &amp; millilitres<br/>Tonnes, kilograms &amp; grams<br/>Compare &amp; order<br/>Estimate<br/>Problem solving</p> | <p><b>AC9M5M01</b><br/>choose appropriate metric units when measuring the length, mass and capacity of objects; use smaller units or a combination of units to obtain a more accurate measure</p> <p><b>AC9M5N01</b><br/>interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line</p> |             | <p><b>Measurement</b></p> <ul style="list-style-type: none"> <li>Millilitres and Litres</li> <li>Litre Conversions</li> <li>Kilogram Conversions</li> <li>Grams and Kilograms</li> </ul>  | <p><b>Choose appropriate metric units</b></p> <ul style="list-style-type: none"> <li>Comparing &amp; ordering units of mass</li> <li>Selecting appropriate units - mass</li> <li>Selecting appropriate units - capacity</li> </ul>  | <p><b>Measurement: Volume &amp; Capacity</b><br/>LEVEL 3–5</p> <ul style="list-style-type: none"> <li>Water water everywhere (DOK 3)</li> </ul> <p><b>Measurement: Mass</b><br/>LEVEL 4–6</p> <ul style="list-style-type: none"> <li>Maze of masses (DOK 3)</li> </ul>   | <p>(YS-F) <b>Volume, Capacity and Mass</b></p> <ul style="list-style-type: none"> <li>Volume and capacity (pp 1–2)</li> <li>Mass (pp 9–16)</li> </ul>  |

| Strand & Topic  | Outcomes  | New Courses   | Activities (Courses)  | Skill Quests   | Challenges  | Ebooks   |
|---|---|---|---|--|---|--|
| <b>Unit 1</b><br>Number<br>Algebra<br><hr/> <b>Number and operations review</b>   | <b>AC9M5N02</b><br>express natural numbers ...<br><b>AC9M5N05</b><br>solve problems involving addition and subtraction ...<br><b>AC9M5N06</b><br>solve problems involving multiplication ...<br><b>AC9M5N07</b><br>solve problems involving division ...<br><b>AC9M5N09</b><br>use mathematical modelling to solve practical problems ... | <b>Y5 Addition and Subtraction</b><br><ul style="list-style-type: none"> <li>• Problem-solving with <math>+</math>–</li> </ul> <b>Y5 Multiplication and Division</b><br><ul style="list-style-type: none"> <li>• Problem solving with <math>\times</math>÷</li> </ul> | <br><b>Review earlier content</b>  | <b>All operations practical problems</b><br><ul style="list-style-type: none"> <li>• Express equations as word problems all operations</li> </ul>  | <br><b>Review earlier content</b>  | <br><b>Review earlier content</b>   |
| <b>Unit 2</b><br>Statistics<br><hr/> <b>Data: Investigation and evaluation</b><br><br>Interpreting data displays<br>Data distributions<br>Mode<br>Misleading diagrams<br>Evaluate statements about displays | <b>AC9M5ST01</b><br>acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables ...<br><b>AC9M5ST02</b><br>interpret line graphs representing change over time ...  |   | <b>Statistics</b><br><ul style="list-style-type: none"> <li>• Mode</li> <li>• Mode from Stem and Leaf Plot</li> <li>• Mode from Frequency Table</li> <li>• Grouping data and modal class</li> </ul>   | <b>Interpret line graphs</b><br><ul style="list-style-type: none"> <li>• Interpreting line graphs</li> </ul> <b>Understand data distributions</b><br><ul style="list-style-type: none"> <li>• Understanding &amp; calculating the mode</li> <li>• Introducing the shape of data distribution</li> </ul>  | <b>Statistics and Data</b><br>LEVEL 4–6<br><ul style="list-style-type: none"> <li>• Rugby modal mayhem (DOK 2)</li> <li>• Leap to the mode (DOK 2)</li> <li>• Discover the digits (DOK 2)</li> </ul>  | (YS-F) <b>Data Representation</b><br><ul style="list-style-type: none"> <li>• Data investigations (pp 24–28)</li> </ul>  |
| <b>Unit 3</b><br>Measurement<br><hr/> <b>Time and position</b><br><br>Read and represent 12- & 24-hour time<br>Convert times<br>Use timetables<br>Grid coordinate systems<br>Directional language           | <b>AC9M5M03</b><br>compare 12- and 24-hour time systems and solve practical problems involving the conversion between them<br><b>AC9M5SP02</b><br>construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement                 |   | <b>Time conversions &amp; problems</b><br><ul style="list-style-type: none"> <li>• Time Conversions: Whole Number 1</li> <li>• Time Conversions: Whole Number 2</li> <li>• Elapsed Time</li> <li>• 24 Hour Time</li> <li>• Using Timetables</li> </ul> <b>Space &amp; shape</b><br><ul style="list-style-type: none"> <li>• Map Coordinates</li> <li>• Coordinate Graphs: 1st Quadrant</li> <li>• More Directions!</li> </ul> | <b>Use 24-hour time</b><br><ul style="list-style-type: none"> <li>• Using 24-hour notation</li> <li>• Using 24-hour time in timetables</li> </ul> <b>Use coordinates in a grid system</b><br><ul style="list-style-type: none"> <li>• Working with grid referenced maps</li> <li>• Using Cartesian coordinate system - first quadrant</li> <li>• Using landmarks &amp; directional language</li> </ul> | <b>Measurement: Time</b><br>LEVEL 3–5<br><ul style="list-style-type: none"> <li>• The mysteries of time (DOK 2)</li> <li>• Puppy-sitting (DOK 3)</li> </ul> LEVEL 4–6<br><ul style="list-style-type: none"> <li>• 24-hour train time (DOK 2)</li> <li>• Ordering times (DOK 2)</li> <li>• Time to explore 4 (DOK 3)</li> </ul> <b>Geometry: Symmetry, Transformation &amp; Location</b><br>LEVEL 3–5<br><ul style="list-style-type: none"> <li>• Routes on a map (DOK 3)</li> </ul> LEVEL 4–6<br><ul style="list-style-type: none"> <li>• A journey back in time (DOK 2)</li> <li>• Which way? (DOK 3)</li> <li>• Island towns (DOK 3)</li> </ul> | (YS-F) <b>Time</b><br><ul style="list-style-type: none"> <li>• Measuring time (pp 1–8)</li> <li>• Calculating time (pp 9–14)</li> <li>• Timetables (pp 15–20)</li> </ul> |

| Strand & Topic  | Outcomes   | New Courses | Activities (Courses)   | Skill Quests  | Challenges   | Ebooks   |
|---|--|-------------|--|---|--|--|
| <b>Unit 4</b><br>Measurement<br><br><b>Measurement applications</b><br><br>Choose appropriate units<br>Use measurement in everyday situations<br>Problem solving<br>Area and perimeter applications | <b>AC9M5M01</b><br>choose appropriate metric units when measuring the length, mass and capacity of objects ...<br><br><b>AC9M5M02</b><br>solve practical problems involving the perimeter and area of regular and irregular shapes ...<br><br><b>AC9M5M03</b><br>compare 12- and 24-hour time systems and solve practical problems ... |             | <br><b>Classroom directed</b>     | <b>Choose appropriate metric units</b><br><ul style="list-style-type: none"> <li>Recognising suitable metric units - all</li> </ul> | <br><b>Classroom directed</b>     | <br><b>Classroom directed</b>     |
| <b>Unit 5</b><br>Space<br><br><b>Space review</b><br><br>Review transformations<br>Tessellation patterns<br>Review Cartesian plane  | <b>AC9M5SP02</b><br>construct a grid coordinate system ...<br><br><b>AC9M5SP03</b><br>describe and perform translations, reflections and rotations of shapes, using dynamic geometric software ...   |             | <br><b>Review earlier content</b> | <br><b>Review earlier content</b>                | <br><b>Review earlier content</b> | <br><b>Review earlier content</b> |

# Mathletics

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