

Mathletics Northern Territory (Australian Curriculum v9)

Scope & Sequence



Year 5

Mathletics

Year 5 Australian Curriculum v8.4			Year 5 Australian Curriculum v9			New Courses: Units of Work	Activities (Courses): Topics	Skill Quests	
Strand	Content Descriptions	Code	Strand	Outcomes	Code	NEW	Australian Curriculum v9 Yr 05		
Number	recognise that the place value system can be extended beyond hundredths	ACMNA104	Number	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	AC9M5N01	Y5 Decimals Y5 Rounding and estimation	REVIEW Whole Numbers & Place Value Fractions decimals & percentages	Understand decimals to thousandths	
	compare, order and represent decimals	ACMNA105		express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another	AC9M5N02		Factors & multiples	Multiples & factors Divisibility tests	
	identify and describe factors and multiples of whole numbers and use them to solve problems	ACMNA098		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	AC9M5N03	Y5 Fractions Y6 Fractions	Compare & order fractions	Compare & order fractions	
	compare and order common unit fractions and locate and represent them on a number line	ACMNA102		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	AC9M5N04	Y5 Percentages	Fractions decimals & percentages	Fractions, decimals & percentages	
	investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator	ACMNA103		solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies	AC9M5N05	Y5 Fractions Y6 Fractions	Add & subtract related fractions	Add & subtract fractions	
	solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies	ACMNA100		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	AC9M5N06		More multiplication & division	Strategies to multiply by 1- or 2-digits	
	use efficient mental and written strategies and apply appropriate digital technologies to solve problems	ACMNA291		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	AC9M5N07		More multiplication & division	Division strategies incl. remainders	
	solve problems involving division by a one-digit number, including those that result in a remainder	ACMNA101		check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context	AC9M5N08		Rounding & estimating	Estimation & rounding	
	use efficient mental and written strategies and apply appropriate digital technologies to solve problems	ACMNA291							
	use estimation and rounding to check the reasonableness of answers to calculations	ACMNA099							

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Strand	Content Descriptions	Code	Strand	Outcomes	Code	NEW	Australian Curriculum v9 Yr 05	
Number			Number	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	AC9M5N09	Y5 Fractions Y6 Fractions Y6 Percentages	Solve problems	Add & subtract practical problems Multiply & divide practical problems All operations practical problems
				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	AC9M5N010			Create & use algorithms
	create simple financial plans REMOVED	ACMNA106						
Algebra			Algebra	recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts	AC9M5A01		Fact families Mult/Div	Connect multiplication & division
	find unknown quantities in number sentences involving multiplication and division and identify equivalent number sentences involving multiplication and division	ACMNA121		find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations	AC9M5A02		Missing Values	Find unknown values in mult & div
	describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction MOVED TO Y6	ACMNA107						
Measurement	choose appropriate units of measurement for length, area, volume, capacity and mass	ACMMG108	Measurement	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	AC9M5M01		Measurement	Choose appropriate metric units
	calculate perimeter and area of rectangles using familiar metric units	ACMMG109		solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units	AC9M5M02			Perimeter & area - practical problems
	compare 12- and 24-hour time systems and convert between them	ACMMG110		compare 12- and 24-hour time systems and solve practical problems involving the conversion between them	AC9M5M03		Time conversions & problems	Use 24-hour time
	estimate, measure and compare angles using degrees. Construct angles using a protractor	ACMMG112		estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names	AC9M5M04		Measurement	Estimate, construct & measure angles

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Geometry	connect three-dimensional objects with their nets and other two-dimensional representations	ACMMG111	Space	connect objects to their nets and build objects from their nets using spatial and geometric reasoning	AC9M5SP01		Space & shape	Connect objects to nets
	use a grid reference system to describe locations. Describe routes using landmarks and directional language	ACMMG113		construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement	AC9M5SP02			Use coordinates in a grid system
	describe translations, reflections and rotations of two-dimensional shapes. Identify line and rotational symmetries	ACMMG114		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	AC9M5SP03			Identify & describe transformations
	apply the enlargement transformation to familiar two-dimensional shapes and explore the properties of the resulting image compared with the original REMOVED	ACMMG115						
Statistics	construct displays, including column graphs, dot plots and tables, appropriate for data type, with and without the use of digital technologies	ACMSP119	Statistics	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	AC9M5ST01		Statistics	Acquire, validate & represent data Understand data distributions
	describe and interpret different data sets in context	ACMSP120		interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made NEW	AC9M5ST02			Interpret line graphs
	pose questions and collect categorical or numerical data by observation or survey	ACMSP118		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	AC9M5ST03			
	describe and interpret different data sets in context	ACMSP120						
Probability	list outcomes of chance experiments involving equally likely outcomes and represent probabilities of those outcomes using fractions	ACMSP116	Probability	list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely	AC9M5P01		Chance & Probability	Outcomes of chance experiments
				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 NEW	AC9M5P02			
	recognise that probabilities range from 0 to 1 MOVED TO Y6	ACMSP117						

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

Strand	Outcomes and content descriptions	Located
Number	AC9M5N01 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 T3 U1, U5
	AC9M5N02 express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another	T1 U3 T2 U2 T3 U2 T4 U1
	AC9M5N03 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 T3 U1
	AC9M5N04 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
	AC9M5N05 solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies	T2 U1 T4 U1
	AC9M5N06 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 T3 U2 T4 U1
	AC9M5N07 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 T3 U1, U2 T4 U1
	AC9M5N08 check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context	T1 U2, U4 T2 U2
	AC9M5N09 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 T2 U2, U4 T3 U2 T4 U1
	AC9M5N010 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 T2 U3
Algebra	AC9M5A01 recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts	T1 U3 T2 U3
	AC9M5A02 find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations	T1 U3 T2 U3

Strand	Outcomes and content descriptions	Located
Measurement	AC9M5M01 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 T3 U5 T4 U4
	AC9M5M02 solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units	T1 U4 T4 U4
	AC9M5M03 compare 12- and 24-hour time systems and solve practical problems involving the conversion between them	T4 U3, U4
	AC9M5M04 estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names	T3 U4
Space	AC9M5SP01 connect objects to their nets and build objects from their nets using spatial and geometric reasoning	T2 U5
	AC9M5SP02 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
	AC9M5SP03 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 T4 U5
Statistics	AC9M5ST01 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 T3 U3 T4 U2
	AC9M5ST02 interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made	T1 U5 T4 U2
	AC9M5ST03 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 T3 U3
Probability	AC9M5P01 list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely	T3 U3
	AC9M5P02 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
Unit 1 Number <hr/> Whole number and decimals <hr/> Place value to thousandths Partitioning Compare & order Whole number review	AC9M5N01 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	Y5 Decimals <ul style="list-style-type: none"> Tenths Hundredths Thousandths Decimals on the number line Order and compare decimals Y5 Rounding and Estimation <ul style="list-style-type: none"> Place Value Comparing and ordering whole numbers 	REVIEW Whole Numbers & Place Value <ul style="list-style-type: none"> Place Value to Millions Numbers from Words to Digits 1 Numbers from Words to Digits 2 Greater Than or Less Than? Partition and Rename 3/Understanding Place Value 3 (CAN) Expanded Notation Decimals from Words to Digits 1 Decimals on the Number Line Decimal Place Value Nearest Whole Number 	Understand decimals to thousandths <ul style="list-style-type: none"> Introducing decimal thousandths Partitioning decimals of any size Comparing & ordering decimals Interpreting zeros at end of decimals Decimal & fraction equivalences Connecting decimals to the metric system 	Number & Algebra: Decimals LEVEL 4–6 <ul style="list-style-type: none"> Code cracker (DOK 2) 	(Y6-G) Fractions, Decimals and Percentages <ul style="list-style-type: none"> Decimal fractions (pp 12–20)
Unit 2 Number <hr/> Addition and subtraction: Mental <hr/> Round to estimate Problem solving Strategy review	AC9M5N08 check and explain the reasonableness of solutions to problems ... AC9M5N09 use mathematical modelling to solve practical problems involving additive and multiplicative situations ...	Y5 Addition and Subtraction <ul style="list-style-type: none"> Addition strategies Subtraction strategies Y5 Rounding and Estimation <ul style="list-style-type: none"> Rounding Estimation 	Rounding & estimating <ul style="list-style-type: none"> Rounding Numbers 1 Estimate Sums Estimate Differences REVIEW Whole Numbers & Place Value <ul style="list-style-type: none"> Rounding Numbers Rounding & estimating <ul style="list-style-type: none"> Estimate Decimal Sums 2 	Estimation & rounding <ul style="list-style-type: none"> Rounding to estimate addition & subtraction Add & subtract practical problems <ul style="list-style-type: none"> Addition & subtraction word problems Expressing word problems as equations add/sub Solving add & subtract money problems 	Number & Algebra: Decimals LEVEL 5–7 <ul style="list-style-type: none"> Posting parcels (DOK 2) Number & Algebra: Addition & Subtraction LEVEL 3–5 <ul style="list-style-type: none"> Solve the zig-zog logic fog (DOK 3) Mental strategies (DOK 3) LEVEL 4–6 <ul style="list-style-type: none"> Totally magic grid (DOK 2) LEVEL 5–7 <ul style="list-style-type: none"> Add-venn-turous adding (DOK 2) 	(Y6-G) Addition and Subtraction <ul style="list-style-type: none"> Mental strategies (pp 1–10) Applying strategies (pp 11–19)
Unit 3 Number Algebra <hr/> Factors, multiples and patterns <hr/> Factors Multiples Common multiples Divisibility tests Patterns with factors & multiples	AC9M5N02 express natural numbers as products of their factors ... AC9M5N010 create and use algorithms involving a sequence of steps and decisions ... AC9M5A01 recognise and explain the connection between multiplication and division ... AC9M5A02 find unknown values in numerical equations involving multiplication and division ...	Y5 Number properties <ul style="list-style-type: none"> Divisibility tests for 2, 3, 5 and 10 Divisibility tests for 4, 6, 8 and 9 Multiples Factors Y5 Patterns and equivalence - coming soon <ul style="list-style-type: none"> Complete the pattern Patterns from words Problem-solving with patterns 	Factors & Multiples <ul style="list-style-type: none"> Multiples Lowest Common Multiple Factors Highest Common Factor Find the Factor Divisibility Tests (2, 5, 10) Divisibility Tests (3, 4, 9) Tests of Divisibility 1 	Multiples & factors <ul style="list-style-type: none"> Finding multiples Finding factors Solving problems using factors & multiples Divisibility tests <ul style="list-style-type: none"> Divisibility tests for 2, 5 & 10 Divisibility tests for 3, 4, 6, 8 & 9 Create & use algorithms <ul style="list-style-type: none"> Factors & multiples 	Number & Algebra: Multiplication & Division LEVEL 3–5 <ul style="list-style-type: none"> The greatest triangle! (DOK 2) LEVEL 4–6 <ul style="list-style-type: none"> Peculiar patterns with multiples (DOK 2) Multiple muffins (DOK 2) Supermarket stock dilemma (DOK 2) Training in sync (DOK 2) Factor in our clues (DOK 2) Tricky factors (DOK 2) Multiple relationships (DOK 2) Factor finding (DOK 2) Fear fact-ors (DOK 2) Number & Algebra: Addition & Subtraction LEVEL 3–5 <ul style="list-style-type: none"> Scores for a ball game (DOK 3) LEVEL 4–6 <ul style="list-style-type: none"> Multiple patterns (DOK 3) 	(Y5-F) Multiplication and Division <ul style="list-style-type: none"> Mental multiplication strategies (pp 9–10) Mental division strategies (pp 18–19)




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








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

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

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
<p>Unit 1 Number</p> <p>Fractions, decimals, and percentages</p> <p>Connect fraction, decimal and percentage equivalents</p> <p>Represent remainders as fractions and decimals</p> <p>Problem solving</p>	<p>AC9M5N01 interpret, compare and order numbers with more than 2 decimal places ...</p> <p>AC9M5N03 compare and order fractions with the same and related denominators ...</p> <p>AC9M5N04 recognise that 100% represents the complete ...</p> <p>AC9M5N07 solve problems involving division ...</p>	<p>Y5 Percentages</p> <ul style="list-style-type: none"> Percentages Compare percentages Fractions and percentages Decimals, fractions and percentages 	<p>Fractions decimals & percentages</p> <ul style="list-style-type: none"> Modelling Percentages Fractions to Decimals Percents and Decimals Common Fractions as Percentages (AU) Decimal Order Comparing Decimals 	<p>Fractions, decimals & percentages</p> <ul style="list-style-type: none"> Introducing percentages Connecting percentages & decimals Connecting percentages & fractions Relationship - percentages, decimals & fractions 		<p>(Y5-F) Fractions, Decimals and Percentages</p> <ul style="list-style-type: none"> Fractions, decimals and percentages (pp 17–25)
<p>Unit 2 Number Algebra</p> <p>Multiplication and division: Written strategies</p> <p>Multiplication algorithm</p> <p>Contracted division</p> <p>Problem solving</p>	<p>AC9M5N02 express natural numbers as products of their factors ...</p> <p>AC9M5N06 solve problems involving multiplication of larger numbers ...</p> <p>AC9M5N07 solve problems involving division ...</p> <p>AC9M5N09 use mathematical modelling to solve practical problems ...</p>	<p>Y5 Multiplication and Division</p> <ul style="list-style-type: none"> Multiply by one digit Multiply by two digits Division Exploring remainders Division with remainders 	<p>Solve problems</p> <ul style="list-style-type: none"> Multiply: 1-Digit Number Multiply: 2-Digit by 1-Digit Divide: 1-Digit Divisor 1 	<p>Strategies to multiply by 1- or 2-digits</p> <ul style="list-style-type: none"> Multiplying using expanded algorithm Multiplying using contracted algorithm Multiplying using extended form of algorithm <p>Division strategies incl. remainders</p> <ul style="list-style-type: none"> Extended division - no remainders or zeros Extended division with remainders Extended division with & without remainders Contracted division - no remainders or zeros Contracted division - no remainders Contracted division - with & without remainders Dividing by 2-digit numbers - formal algorithms <p>Multiply & divide practical problems</p> <ul style="list-style-type: none"> Multiplication & division word problems Expressing word problems as equations mult/div Solving multi-step mult/div word problems Solving mult & div money problems 		<p>(Y5-F) Multiplication and Division</p> <ul style="list-style-type: none"> Written methods (pp 20–28) Puzzles and investigations (pp 29–32)
<p>Unit 3 Probability Statistics</p> <p>Chance and data</p> <p>List outcomes</p> <p>Conduct chance experiments</p> <p>Record results</p> <p>Compare outcomes</p> <p>Estimate likelihoods</p>	<p>AC9M5P01 list the possible outcomes of chance experiments ...</p> <p>AC9M5P02 conduct repeated chance experiments ...</p> <p>AC9M5ST01 acquire, validate and represent data ...</p> <p>AC9M5ST03 plan and conduct statistical investigations ...</p>		<p>Chance & Probability</p> <ul style="list-style-type: none"> What are the Chances? Chance Gauge Introductory probability Fair Games 	<p>Outcomes of chance experiments</p> <ul style="list-style-type: none"> Investigating equally likely outcomes Exploring fair & unfair chance experiments 	<p>Chance & Probability LEVEL 4–6</p> <ul style="list-style-type: none"> Ordering probabilities (DOK 3) 	<p>(Y5-F) Chance and Probability</p> <ul style="list-style-type: none"> Chance and Probability (pp 1–10)

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<p>Unit 4 Measurement Space</p> <hr/> <p>Angles and 2D shape</p> <p>Measure angles Estimate angles Classify angles Translations, reflections & rotations Symmetry</p>	<p>AC9M5M04 estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names</p> <p>AC9M5SP03 describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate ...</p>		<p>Measurement</p> <ul style="list-style-type: none"> Classifying Angles Measuring Angles Estimating Angles <p>Space & shape</p> <ul style="list-style-type: none"> Flip, Slide, Turn Transformations Rotational Symmetry 	<p>Estimate, construct & measure angles</p> <ul style="list-style-type: none"> Identifying, estimating & measuring angles Classifying & constructing angles <p>Identify & describe transformations</p> <ul style="list-style-type: none"> Identifying & describing transformations 	<p>Geometry: Angles LEVEL 3–5</p> <ul style="list-style-type: none"> Estimating angle measures (DOK 3) <p>LEVEL 4–6</p> <ul style="list-style-type: none"> Angle estimation (DOK 3) <p>Geometry: Symmetry, Transformation & Location LEVEL 4–6</p> <ul style="list-style-type: none"> Tessellations (DOK 3) 	<p>(YS-F) Geometry</p> <ul style="list-style-type: none"> Lines and angles (pp 1–6) 2D shapes (pp 7–15) Transformation, tessellation and symmetry (pp 16–24)
<p>Unit 5 Measurement Number</p> <hr/> <p>Capacity and mass</p> <p>Kilolitres, litres & millilitres Tonnes, kilograms & grams Compare & order Estimate Problem solving</p>	<p>AC9M5M01 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>AC9M5N01 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>Measurement</p> <ul style="list-style-type: none"> Millilitres and Litres Litre Conversions Kilogram Conversions Grams and Kilograms 	<p>Choose appropriate metric units</p> <ul style="list-style-type: none"> Comparing & ordering units of mass Selecting appropriate units - mass Selecting appropriate units - capacity 	<p>Measurement: Volume & Capacity LEVEL 3–5</p> <ul style="list-style-type: none"> Water water everywhere (DOK 3) <p>Measurement: Mass LEVEL 4–6</p> <ul style="list-style-type: none"> Maze of masses (DOK 3) 	<p>(YS-F) Volume, Capacity and Mass</p> <ul style="list-style-type: none"> Volume and capacity (pp 1–2) Mass (pp 9–16)

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

Strand & Topic	Outcomes	New Courses	Activities (Courses)	Skill Quests	Challenges	Ebooks
Unit 4 Measurement Measurement applications Choose appropriate units Use measurement in everyday situations Problem solving Area and perimeter applications	AC9M5M01 choose appropriate metric units when measuring the length, mass and capacity of objects ... AC9M5M02 solve practical problems involving the perimeter and area of regular and irregular shapes ... AC9M5M03 compare 12- and 24-hour time systems and solve practical problems ...		 Classroom directed	Choose appropriate metric units • Recognising suitable metric units - all	 Classroom directed	 Classroom directed
Unit 5 Space Space review Review transformations Tessellation patterns Review Cartesian plane	AC9M5SP02 construct a grid coordinate system ... AC9M5SP03 describe and perform translations, reflections and rotations of shapes, using dynamic geometric software ...		 Review earlier content	 Review earlier content	 Review earlier content	 Review earlier content

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