Mathletics
NSW Syllabus

Scope & Sequence

Stage 3, Year 6

Mathletics

Scope & Sequence Yearly overview

NSW Stage 3 Year 6

Mathletics

Learning sequence	Term one	Term two	Term three	Term four
LS 1	**Number and Algebra** **Big idea:** The number system extends infinitely to very large and very small numbers **Number and patterns** • Review numbers to billions • Identify factors and multiples • Patterns • Algebra	**Number and Algebra** **Big idea:** The number system extends infinitely to very large and very small numbers **Integers** • Identify and place negative whole numbers on a number line • Use the term integer • Interpret integers in everyday contexts • Recognise the relationship between negative numbers and subtraction	**Number and Algebra** **Big idea:** The number system extends infinitely to very large and very small numbers **Connecting fractions, decimals, and percentages** • Recognise 100% is whole amount • Recall commonly used equivalent percentages, decimals and fractions • Represent common percentages as fractions and decimals	**Number and Algebra** **Big idea:** The number system extends infinitely to very large and very small numbers **Number review** Review: • Term 1, Learning Sequence 1 • Term 2, Learning Sequence 1 • Term 3, Learning Sequence 1
LS 2	**Number and Algebra** **Big idea:** Addition and subtraction problems can be solved by using a variety of strategies **Addition and subtraction** • Compare, evaluate, communicate and justify strategies • Solve multistep word problems • Add and subtract decimals to 3 places	**Number and Algebra** **Big idea:** Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations **Multiplication and division** • Use efficient strategies to multiply • Multiply and divide decimals by powers of 10 • Apply inverse operations • Apply order of operations (brackets)	**Measurement and Space** **Big idea:** Understanding relationships between the roperties of 2D shapes helps visualise and organise spaces in the world **2D shape and area** • Find area of composite shapes • Transform parallelograms to find area • Use relationships with parallelograms to find the area of triangles	**Number and Algebra** **Big idea:** Fractions represent multiple ideas and can be represented in different ways **Fractions problems** • Review fractions • Add and subtract fractions with same or related denominators • Calculate fractions of quantities • Solve word problems involving fractions
LS 3	**Measurement and Space** **Big idea:** What needs to be measured determines the unit of measurement **Time** • Calculate elapsed time • Add and subtract time using bridging • Round to nearest minute or hour • Represent time intervals as decimals • Solve problems involving duration	**Number and Algebra** **Measurement and Space** **Big idea:** Visual representations help to understand aspects of the world (chance and position) **Position** • Plot and label points in 4 quadrants • Identify and record coordinates in 4 quadrants • Describe coordinate translations and reflections	**Number and Algebra** **Measurement and Space** **Big idea:** Multiplicative thinking involves flexible use of multiplication and division concepts, strategies, and representations **Linking multiplication to volume** • Describe dimensions of a rectangular prisms: length, width and height • Use multiplicative structure to find volumes using cm^3 and m^3	**Statistics and Probability** **Big idea:** Questions can be asked and answered by collecting and interpreting data **Chance** • Create random generators • Use fractions, decimals and percentages to assign expected probabilities • Distinguish between frequency and probability • Compare expected and observed probabilities and frequencies • Use sampling to determine the likely make up of a large collection • Record outcomes and display data
LS 4	**Number and Algebra** **Big idea:** Fractions represent multiple ideas and can be represented in different ways **Fractions** • Compare, order and represent fractions with related denominators • Create and record equivalent fractions • Build wholes from fractional parts	**Measurement and Space** **Big idea:** What needs to be measured determines the unit of measurement **3D objects and volume** • Create skeletal models of prisms and pyramids • Construct 3D models of prisms and pyramids • Construct, estimate and use cubic metres to measure larger volumes	**Number and Algebra** **Measurement and Space** **Big idea:** What needs to be measured determines the unit of measurement **Length and mass** • Interpret and record lengths using decimals • Convert m and km • Investigate and compare perimeters • Convert between g and kg, kg and t • Solve problems with different units of mass	**Number and Algebra** **Big idea:** Multiplicative thinking involves flexible use of multiplication and division concepts, strategies, and representations **Multiplication and division problems** • Solve word problems involving multiplication and division • Use multiplication and division to solve problems involving money and budgeting
LS 5	**Statistics and Probability** **Big idea:** Questions can be asked and answered by collecting and interpreting data **Data** • Interpret side-by-side column graphs • Interpret timelines using scales • Interpret and compare distributions: range and mode • Identify sources of bias and misleading representations in media data displays	**Measurement and Space** **Number and Algebra** **Big idea:** Angles are the primary structural component of many shapes **Angles** • Recognise angles: right, angles on a straight line and angles at a point • Investigate properties of angles: perpendicular lines, adjacent angles and angles at a point	**Number and Algebra** **Big idea:** Addition and subtraction problems can be solved by using a variety of strategies **Addition and subtraction problems** • Add and subtract decimals • Solve word problems involving addition and subtraction • Use addition and subtraction to solve problems involving money and budgeting • Determine percentage discounts	**Measurement and Space** **Big idea:** Shapes encountered in daily life can be classified by their attributes **Shape transformations** • Describe transformations of 2D shapes • Dissect and rearrange shapes

Scope & Sequence Outcome map

NSW Stage 3 Year 6

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Outcomes	Focus	Content	Located
MA3-RN-01 applies an understanding of place value and the role of zero to represent the properties of numbers	**Represent numbers B**	Whole numbers: Locate and represent integers on a number line	Term 1 LS 5 Term 2 LS 1 Term 4 LS 1
MA3-RN-03 determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values		Decimals and percentages: Make connections between benchmark fractions, decimals and percentages	Term 3 LS 1, 4 Term 4 LS 1
		Decimals and percentages: Determine percentage discounts of 10%, 25% and 50%	Term 3 LS 5 Term 4 LS 1
MA3-AR-01 selects and applies appropriate strategies to solve addition and subtraction problems	**Additive relations B**	Choose and use efficient strategies to solve addition and subtraction problems	Term 1 LS 2 Term 2 LS 1 Term 3 LS 5 Term 4 LS 1
		Applies known strategies to add and subtract decimals	Term 1 LS 2 Term 2 LS 1 Term 3 LS 5 Term 4 LS 1
MA3-MR-01 selects and applies appropriate strategies to solve multiplication and division problems	**Multiplicative relations B**	Select and apply strategies to solve problems involving multiplication and division with whole numbers	Term 2 LS 2 Term 3 LS 1, 2, 3 Term 4 LS 4
		Multiply and divide decimals by powers of 10	Term 2 LS 2 Term 3 LS 1 Term 4 LS 4
MA3-MR-02 constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations		Use equivalent number sentences involving multiplication and division to find unknown quantities	Term 2 LS 2 Term 3 LS 1 Term 4 LS 4
		Represent and describe number patterns formed by multiples	Term 1 LS 1 Term 2 LS 2 Term 3 LS 1 Term 4 LS 4
		Explore the use of brackets and the order of operations to write number sentences	Term 2 LS 2 Term 4 LS 4
MA3-RQF-01 compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10	**Representing quantity fractions B**	Recognise that a fraction can represent a division	Term 1 LS 4 Term 2 LS 5 Term 4 LS 2
		Compare common fractions with related denominators	Term 1 LS 4 Term 2 LS 5 Term 4 LS 2
		Build up to the whole from a given fractional part	Term 1 LS 4 Term 2 LS 5 Term 4 LS 2
		Use equivalence to add and subtract fractional quantities	Term 1 LS 4 Term 2 LS 5 Term 4 LS 2
MA3-RQF-02 determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ of measures and quantities		Find fractional quantities of whole numbers (halves, quarters, fifths and tenths)	Term 1 LS 4 Term 4 LS 2
MA3-GM-01 locates and describes points on a coordinate plane	**Geometric measure B**	Position: Use the 4 quadrants of the coordinate plane	Term 2 LS 3

Outcomes	Focus	Content	Located
MA3-GM-02 selects and uses the appropriate unit and device to measure lengths and distances including perimeters	**Geometric measure B**	Length: Connect decimal representations to the metric system	Term 3 LS 4
		Length: Convert between common metric units of length	Term 3 LS 4
		Length: Solve problems involving the comparison of lengths using appropriate units	Term 3 LS 4
MA3-GM-03 measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point		Angles: Investigate angles on a straight line and angles at a point	Term 2 LS 5
		Angles: Investigate the relationships formed by the intersection of straight lines	Term 2 LS 5
MA3-2DS-01 investigates and classifies two-dimensional shapes, including triangles and quadrilaterals based on their properties	**Two-dimensional spatial structure B**	2D shapes: Dissect two-dimensional shapes and rearrange them using translations, reflections and rotations	Term 3 LS 2 Term 4 LS 5
MA3-2DS-03 combines, splits and rearranges shapes to determine the area of parallelograms and triangles		Area: Find the area of composite figures	Term 3 LS 2
		Area: Calculate the area of a parallelogram using subdivision and rearrangement	Term 3 LS 2
		Area: Determine the area of a triangle	Term 3 LS 2
MA3-3DS-01 visualises, sketches and constructs three-dimensional objects, including prisms and pyramids, making connections to two-dimensional representations	**Three-dimensional spatial structure B**	3D objects: Construct prisms and pyramids	Term 2 LS 4
MA3-3DS-02 selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities		Volume: Use cubic metres for measurement of volume	Term 3 LS 3
		Volume: Recognise the multiplicative structure for finding volume	Term 3 LS 3
		Volume: Find the volumes of rectangular prisms in cubic centimetres and cubic metres	Term 3 LS 3
MA3-NSM-01 selects and uses the appropriate unit and device to measure the masses of objects	**Non-spatial measure B**	Mass: Convert between common metric units of mass	Term 3 LS 4
MA3-NSM-02 measures and compares duration, using 12- and 24-hour time and am and pm notation		Time: Solve problems involving duration, using 12- and 24-hour time	Term 1 LS 3
MA3-DATA-02 interprets data displays, including timelines and line graphs	**Data B**	Interpret and compare a range of data displays	Term 1 LS 5 Term 4 LS 3
		Interpret data presented in digital media and elsewhere	Term 1 LS 5 Term 4 LS 3
MA3-CHAN-01 conducts chance experiments and quantifies the probability	**Chance B**	Compare observed frequencies of outcomes with expected results	Term 4 LS 3
		Create random generators and describe probabilities using fractions	Term 4 LS 3
		Conduct chance experiments with both small and large numbers of trials	Term 4 LS 3

Scope & Sequence Term 1

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 1 **Big idea** The number system extends infinitely to very large and very small numbers **Topic** Number and patterns	**MA3-MR-02** constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations **MA3-RN-01** applies an understanding of place value and the role of zero to represent the properties of numbers **MA3-RN-02** Compares and orders decimals up to 3 decimal places	**Multiplicative relations B** **Represent numbers B**	• Represent and describe number patterns formed by multiples • Whole numbers: Recognise, represent and order numbers in the millions • Whole numbers: Apply place value to partition, regroup and rename numbers to 1 billion	**Y6 Decimals** • Decimals and place value • Rounding decimals • Decimals and the number line • Compare and order decimals **Y6 Operations** • Place value and rounding review	**Review earlier content**	**Represent numbers of any size** • Representing & ordering numbers of any size **Compare & order decimals** • Comparing & ordering decimals up to thousandths	**Number & Algebra, Decimals 4-6** • Code cracker DOK 2 **Number & Algebra, Multiplication & Division 4-6** • Reasoning with numbers DOK 2	Y6-F **Multiplication and Division** • Mental multiplication strategies p 1 Y7-G **Whole Numbers** • Place value pp 2–5 Y6-F **Patterns and Algebra** • Patterns and functions pp 1–17 • Algebraic thinking pp 18–25 • Solving equations pp 26–33
LS 2 **Big idea** Addition and subtraction problems can be solved by using a variety of strategies **Topic** Addition and subtraction	**MA3-AR-01** selects and applies appropriate strategies to solve addition and subtraction problems	**Additive relations B**	• Choose and use efficient strategies to solve addition and subtraction problems • Applies known strategies to add and subtract decimals	**Y6 Decimals** • Add decimals • Subtract decimals • Addition strategies with decimals • Subtraction strategies with decimals	**Represents numbers: including decimals (B)** • Percentage of an amount using Fractions (<100%) **Additive relations: add sub strategies (B)** • Add Three 2-Digit Numbers: Regroup • Add 3-Digit Numbers • Add 3-Digit Numbers: Regroup • Adding Colossal Columns • Add Multi-Digit Numbers 1 • Bump Add and Subtract • Jump Add and Subtract • Compensation - Add • Magic Symbols 1 • Adding Decimals • Add Decimals 2 • Subtracting Colossal Columns • 3-Digit Differences • 3-Digit Differences: 1 Regrouping • 3-Digit Differences: 2 Regroupings • 3-Digit Differences with Zeros • Subtracting Decimals • Subtract Decimals 2 • Magic Symbols 2	**Solve problems with numbers of any size** • Adding & subtracting to solve problems **Add & subtract to 2 decimal places** • Adding decimals to 2 decimal places • Subtracting decimals to 2 decimal places • Adding & subtracting decimals to 2 decimal places **Calculate percentage of an amount** • Calculating a percentage of an amount using 10% • Calculating percentage discounts **Add & subtract to 3 decimal places** • Adding & subtracting a whole & a decimal • Adding decimals to 3 decimal places (models) • Adding decimals to 3 decimal places (no models) • Subtracting decimals to 3 decimal places (models) • Subtracting to 3 decimal places (no models)	**Number & Algebra, Decimals 5-7** • Pedro's project DOK 3	Y6-F **Addition and Subtraction** • Mental strategies pp 1–10 • Applying strategies pp 11–19 • Written methods pp 20–28

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 3 **Big idea** What needs to be measured determines the unit of measurement **Topic** Time	**MA3-NSM-02** measures and compares duration, using 12- and 24-hour time and am and pm notation	**Non-spatial measure B**	• Time: Solve problems involving duration, using 12- and 24-hour time		**Non-spatial measure: time (B)** • Time Mentals • Elapsed Time • Time Conversions: Simple Decimals (0.25, 0.5, 0.75) • Australian Time Zones • Time Zones • What Time Will it Be?	**Solve duration problems** • Solving problems with duration using 12 & 24 hours	**Measurement, Time 4-6** • Muesli bar time jumble DOK 2 • Time for a break? DOK 2 • Mrs Baker's cookie conundrum DOK 2 **Measurement, Time 5-7** • Find the fastest ferry DOK 2 • 24-hour travel times DOK 2	Y6-F **Time** • Telling time pp 1–8 • Calculating time pp 9–17 • Time applications pp 18–26
LS 4 **Big idea** Fractions represent multiple ideas and can be represented in different ways **Topic** Fractions	**MA3-RQF-01** compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10 **MA3-RQF-02** determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ of measures and quantities	**Representing quantity fractions B**	• Recognise that a fraction can represent a division • Compare common fractions with related denominators • Build up to the whole from a given fractional part • Use equivalence to add and subtract fractional quantities • Find fractional quantities of whole numbers (halves, quarters, fifths and tenths)	**Y6 Representing quantity fractions** • Represent fractions • Types of fractions • Compare and order fractions with like denominators • Equivalent fractions • Simplifying Fractions • Compare and order fractions • Add and subtract fractions • Add related fractions • Subtract related fractions	**Represents quantity fractions (B)** • Compare Fractions 2 • Shading Equivalent Fractions • Selecting Equivalent Fractions • The Equivalent Fraction • Equivalent Fraction Wall 1 • Equivalent Fraction Wall 2 • Equivalent Fractions on a Number Line 1 • Equivalent Fractions on a Number Line 2 • Counting with Fractions on a Number Line • What Mixed Number Is Shaded? • Fractions of a Collection 1 • Fractions of a Collection 2 • Fraction Fruit Sets 1 • Fraction Fruit Sets 2 • Fractions of a Collection	**Compare fractions: related denominators** • Recognising a fraction as division • Finding equivalent fractions & simplifying • Comparing fractions with related denominators • Building up to the whole from a fractional part	**Nmber & Algebra, Fractions 5-7** • Some fraction action DOK 2	Y6-F **Fractions, Decimals and Percentages** • Fractions pp 1–11
LS 5 **Big idea** Questions can be asked and answered by collecting and interpreting data **Topic** Data	**MA3-DATA-02** interprets data displays, including timelines and line graphs **MA3-RN-01** applies an understanding of place value and the role of zero to represent the properties of numbers	**Data B** **Represent numbers B**	• Interpret and compare a range of data displays • Interpret data presented in digital media and elsewhere • Whole numbers: Locate and represent integers on a number line		**Data (B)** • Mode • Data Extremes and Range • Reading from a Column Graph • Line Graphs: Interpretation	**Interpret data displays** • Interpreting & comparing data in various displays • Calculating & interpreting the range • Calculating & interpreting the mode • Interpreting data presented in digital media	**Statistics & data 4-6** • Arrange the range DOK 2 • Discover the digits DOK 2 • Leap to the mode DOK 2 **Statistics & data 5-7** • Lake Scaley fish DOK 3 • World rankings DOK 4	Y6-F **Data Representation** • Types of graphs 1 pp 1–6 • Types of graphs 2 pp 7–11 • Types of graphs 3 pp 12–19 • Collecting and analysing data pp 20–34 • Data investigations pp 35–39

Scope & Sequence Term 2

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 1 **Big idea** The number system extends infinitely to very large and very small numbers **Topic** Integers	**MA3-RN-01** applies an understanding of place value and the role of zero to represent the properties of numbers **MA3-AR-01** selects and applies appropriate strategies to solve addition and subtraction problems	**Represent numbers B** **Additive relations B**	• Whole numbers: Locate and represent integers on a number line • Choose and use efficient strategies to solve addition and subtraction problems • Applies known strategies to add and subtract decimal	**Y6 Integers** • Integers on the Number Line • Integers on the Cartesian Plane • Compare and order integers • Integers in Context • Adding integers	**Represents numbers: whole number (B)** • Directed Numbers	**Represent integers** • Locating & representing integers on a number line • Interpreting integers in context		(Y6-F) **Reading and Understanding Whole Numbers** • Types of numbers pp 9–10
LS 2 **Big idea** Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations **Topic** Multiplication and division	**MA3-MR-01** selects and applies appropriate strategies to solve multiplication and division problems **MA3-MR-02** constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations	**Multiplicative relations B**	• Select and apply strategies to solve problems involving multiplication and division with whole numbers • Multiply and divide decimals by powers of 10 • Use equivalent number sentences involving multiplication and division to find unknown quantities • Represent and describe number patterns formed by multiples • Explore the use of brackets and the order of operations to write number sentences	**Y6 Decimals** • Multiply decimals by powers of 10 • Divide decimals by powers of 10	**Multiplicative relations (B)** • Grid Methods 1 • Grid Methods 2 • Grid Methods 3 • Equivalent Facts: Multiply • Division Facts to Twelve • Short Division • Multiply Decimals and Powers of 10 • Estimate Quotients • Divide by Powers of 10 • Table of Values • Decreasing Patterns • Patterns – Decreasing • Order of Operations 1 (BIDMAS)/Order of Operations 1 (BEDMAS) • Identifying Errors in Applying the Order of Operations	**Multiply/divide to 4 digits by 2 digits** • Multiplying 4-digit numbers by up to 2 digits • Dividing up to 4-digit numbers by 2 digits • Selecting efficient strategies to multiply/divide • Solving multiplication & division word problems **Multiply & divide decimals** • Multiplying decimals by powers of 10 • Dividing decimals by powers of 10 **Multiplicative number sentences** • Finding unknown quantities - multiply/divide • Applying order of operations & grouping symbols	**Number & Algebra, Multiplication & Division 5-7** • Build the pyramid (DOK 2)	(Y6-F) **Multiplication and Division** • Mental multiplication strategies pp 1–6 • Mental division strategies pp 7–12 • Written methods pp 13–18
LS 3 **Big idea** Visual representations help to understand aspects of the world (chance and position) **Topic** Position	**MA3-GM-01** locates and describes points on a coordinate plane	**Geometric measure B**	• Position: Use the 4 quadrants of the coordinate plane		**Geometric measure: coordinate plane (B)** • Coordinate Graphs: 1st Quadrant • Ordered Pairs • Horizontal and Vertical Change • Transformations: Coordinate Plane	**Locate position in the four quadrants** • Using the four quadrants to locate position	**Geometry, Symmetry, Transformation & Location 3-5** • Map the way (DOK 2) • Routes on a map (DOK 3) • Program the robot (DOK 3) **Geometry, Symmetry, Transformation & Location 4-6** • A journey back in time (DOK 2) • Island towns (DOK 3) • Which way? (DOK 3)	(Y4-D) **Space, Shape and Position** • Position – grids and coordinates p 21 • Position – using a map p 22 • Position – compass directions pp 23–24 • Year 5 Series E Position • Directions – using a compass pp 13–14 • Directions – maps pp 15–16

Scope & Sequence Term 2

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 4 **Big idea** What needs to be measured determines the unit of measurement **Topic** 3D objects and volume	**MA3-3DS-01** visualises, sketches and constructs three-dimensional objects, including prisms and pyramids, making connections to two-dimensional representations	**Three-dimensional spatial structure B**	• 3D objects: Construct prisms and pyramids	Coming soon		**Calculate volume in m^3 & cm^3** • Calculating volume of cubes (m^3 & cm^3) • Calculating volume rectangular prisms (m^3 & cm^3) **Prisms and pyramids** • Connecting 3D objects with their nets	**Geometry, 3D Shape 5-7** • Prism charts DOK 2 • Prisms made of straw DOK 3	Y6-F **Geometry** • 3D shapes pp 25–32
LS 5 **Big idea** Angles are the primary structural component of many shapes **Topic** Angles	**MA3-GM-03** measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point **MA3-RQF-01** compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10	**Geometric measure B** **Representing quantity fractions B**	• Angles: Investigate angles on a straight line and angles at a point • Angles: Investigate the relationships formed by the intersection of straight lines • Recognise that a fraction can represent a division • Compare common fractions with related denominators • Build up to the whole from a given fractional part • Use equivalence to add and subtract fractional quantities	Coming soon	**Geometric measure: angle (B)** • Estimating Angles • Measuring Angles • What Type of Angle? • Classifying Angles	**Identify angle relationships** • Adjacent, complementary & supplementary angles • Exploring angle relationships	**Measurement, Angle 5-7** • What's your angle? DOK 3	Y6-F **Geometry** • Lines and angles pp 1–6

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 1 **Big idea** The number system extends infinitely to very large and very small numbers **Topic** Connecting fractions, decimals, and percentages	**MA3-RN-03** determines percentages of quantities, and finds equivalent fractions and decimals ... **MA3-MR-01** selects and applies appropriate strategies to solve multiplication and division problems **MA3-MR-02** constructs and completes number sentences involving multiplicative relations ...	**Represent numbers B** **Multiplicative relations B**	• Decimals and percentages: Make connections between benchmark fractions, decimals and percentages • Select and apply strategies to solve problems involving multiplication and division with whole numbers • Multiply and divide decimals by powers of 10 • Use equivalent number sentences involving multiplication and division to find unknown quantities • Represent and describe number patterns formed by multiples	**Y6 Percentages** • Percentages • Fractions, decimals, percentages • Percentages to fractions • Fractions to percentages • Percentages to decimals • Decimals to percentages • Decimals to fractions • Fractions to decimals • Expressing as a percentage	**Represents numbers: including decimals (B)** • Modelling Percentages • Percents and Decimals • Calculating Percentages (Mental) • Match Decimals and Percentages • Complementary Percentages	**Convert fraction, decimal & percentage** • Converting fractions, decimals & percentages		(Y5-E) **Fractions, Decimals and Percentages** • Fractions, decimals and percentages pp 17–19, 22–25 (Y6-F) **Fractions, Decimals and percentages** • Decimal fractions pp 17–20
LS 2 **Big idea** Understanding relationships between the properties of 2D shapes helps visualise and organise spaces in the world **Topic** 2D shapes and area	**MA3-2DS-01** investigates and classifies two-dimensional shapes ... **MA3-2DS-03** combines, splits and rearranges shapes to determine the area ... **MA3-MR-01** selects and applies appropriate strategies to solve multiplication and division problems	**Two-dimensional spatial structure B** **Multiplicative relations B**	• 2D shapes: Dissect two-dimensional shapes and rearrange them using translations, reflections and rotations • Area: Find the area of composite figures • Area: Calculate the area of a parallelogram using subdivision and rearrangement • Area: Determine the area of a triangle • Select and apply strategies to solve problems involving multiplication and division with whole numbers		**2D spatial structure: area (B)** • Area: Squares and Rectangles • Calculate Area of Squares and Rectangles • Converting Units of Area • Area: Parallelograms (Metric)	**Calculate area of shapes** • Calculating area of composite shapes • Calculating area of parallelograms • Calculating area of triangles	**Measurement, Area 5-7** • Can you cut it? (DOK 2) • Two line draw (DOK 2) • Calculations with patterns (DOK 2)	(Y6-F) **Geometry** • 2D shapes pp 7–15 (Y6-F) **Length, Perimeter and Area** • Area pp 16–25 (Y6) **Rich Learning Task** • Predicting Area • Wrapping a Prism
LS 3 **Big idea** Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations **Topic** Linking multiplication with volume	**MA3-3DS-02** selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities **MA3-MR-01** selects and applies appropriate strategies to solve multiplication and division problems	**Three-dimensional spatial structure B** **Multiplicative relations B**	• Volume: Use cubic metres for measurement of volume • Volume: Recognise the multiplicative structure for finding volume • Volume: Find the volumes of rectangular prisms in cubic centimetres and cubic metres • Select and apply strategies to solve problems involving multiplication and division with whole numbers		**3D spatial structure: volume (B)** • Volume of Solids and Prisms - 1cm³ blocks • Volume: Rectangular Prisms 1 • Millilitres and Litres			(Y6-F) **Volume, Capacity and Mass** • Volume and capacity pp 3–4

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 4 **Big idea** What needs to be measured determines the unit of measurement **Topic** Length and mass	**MA3-GM-02** selects and uses the appropriate unit and device to measure lengths and distances including perimeters **MA3-NSM-01** selects and uses the appropriate unit and device to measure the masses of objects **MA3-RN-03** determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values	**Geometric measure B** **Non-spatial measure B** **Represent numbers B**	• Length: Connect decimal representations to the metric system • Length: Convert between common metric units of length • Length: Solve problems involving the comparison of lengths using appropriate units • Mass: Convert between common metric units of mass • Decimals and percentages: Make connections between benchmark fractions, decimals and percentages		**Geometric measure: length application (B)** • Converting Units of Length • Metres and Kilometres • Perimeter: Triangles • Perimeter Detectives 2 • Operations with Length **Non-spatial measure: mass (B)** • Kilogram Conversions • Grams and Kilograms • Converting Units of Mass • Mass Word Problems	**Understand the metric system for length** • Using decimal representations for length • Converting between metric units for length • Solving problems involving length **Convert between units of mass** • Converting between metric units of mass	**Number, Decimals 5-7** • Posting parcels DOK 2 **Measurement, Length 4-6** • Card crafting calculation DOK 2 • Lengthy thinking DOK 2 • Platinum wire earrings DOK 3	Y6-F **Volume, Capacity and Mass** • Mass pp 9–16 Y6-F **Length, Perimeter and Area** • Units of length pp 1–7 • Perimeter pp 8–12
LS 5 **Big idea** Addition and subtraction problems can be solved by using a variety of strategies **Topic** Addition and subtraction problems	**MA3-AR-01** selects and applies appropriate strategies to solve addition and subtraction problems **MA3-RN-03** determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values	**Additive relations B** **Represent numbers B**	• Choose and use efficient strategies to solve addition and subtraction problems • Applies known strategies to add and subtract decimals • Decimals and percentages: Determine percentage discounts of 10%, 25% and 50%	**Y6 Operations** • Addition and subtraction	**Represents quantity fractions (B)** • Add Unlike Fractions • Subtract Unlike Fractions	**Calculate percentage of an amount** • Calculating a percentage of an amount using 10% • Calculating percentage discounts	**Number & Algebra, Money 4-6** • Harry's bike shop DOK 3 **Number & Algebra, Addition & Subtraction 5-7** • Add-venn-turous adding DOK 2 • Ropes and mazes DOK 4 **Number & Algebra, Money 2-4** • Keep it balanced DOK 3 **Number & Algebra, Money 5-7** • Bike for sale DOK 3 • Fruit salad DOK 3	

Scope & Sequence Term 4

NSW Stage 3 Year 6

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 1 **Big idea** The number system extends infinitely to very large and very small numbers **Topic** Number review	**MA3-RN-01** applies an understanding of place value and the role of zero to represent the properties of numbers **MA3-RN-03** determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values **MA3-AR-01** selects and applies appropriate strategies to solve addition and subtraction problems	**Represent numbers B** **Additive relations B**	• Whole numbers: Locate and represent integers on a number line • Decimals and percentages: Make connections between benchmark fractions, decimals and percentages • Decimals and percentages: Determine percentage discounts of 10%, 25% and 50% • Choose and use efficient strategies to solve addition and subtraction problems • Applies known strategies to add and subtract decimals	**Y6 Operations** • Place value and rounding review • Addition and subtraction • Multiplication • Division • Estimation • Using the four operations • Order of operations	**Refer to:** • Term 1, Learning Sequence 1 • Term 2, Learning Sequence 1 • Term 3, Learning Sequence 1		**Number & Algebra, Equations & Expressions 4-6** • Solving unknowns DOK 3 • Writing & interpreting DOK 3	
LS 2 **Big idea** Fractions represent multiple ideas and can be represented in different ways **Topic** Fractions problems	**MA3-RQF-01** compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10 **MA3-RQF-02** determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$ and $\frac{1}{10}$ of measures and quantities	**Representing quantity fractions B**	• Recognise that a fraction can represent a division • Compare common fractions with related denominators • Build up to the whole from a given fractional part • Use equivalence to add and subtract fractional quantities • Find fractional quantities of whole numbers (halves, quarters, fifths and tenths)	**Y6 Representing quantity fractions** • Problem solving with fractions • Find a fraction of an amount • Problem solving fractions of amounts		• **Add/sub fractions: related denominators** • Adding/subtracting fractions: related denominators • Adding/subtracting simple fractions: related • Adding/subtracting mixed numbers: related **Calculate fraction of an amount** • Calculating a fraction of a whole • Solving word problems: fraction of an amount	**Number & Algebra, Fractions 4-6** • Thunder Radio competition winners DOK 2 • The case of the missing superhero capes DOK 2 • It's a piece of pie! DOK 2 **Number & Algebra, Fractions 5-7** • Fractional differences DOK 2 • Paint pot fractions DOK 3	Y6-F **Fractions, Decimals and Percentages** • Fractions of an amount pp 21–27 • Calculating pp 28–32 Y6 **Rich Learning Task** • The Gumball Heist
LS 3 **Big idea** Questions can be asked and answered by collecting and interpreting data **Topic** Chance	**MA3-CHAN-01** conducts chance experiments and quantifies the probability **MA3-DATA-02** interprets data displays, including timelines and line graphs	**Chance B** **Data B**	• Compare observed frequencies of outcomes with expected results • Create random generators and describe probabilities using fractions • Conduct chance experiments with both small and large numbers of trials • Interpret and compare a range of data displays • Interpret data presented in digital media and elsewhere		**Chance (B)** • Fair Games	**Compare observed with expected results** • Comparing observed frequency with expected results • Describing probability of single events	**Chance & Probability 4-6** • What are the chances? DOK 3	Y6-F **Chance and Probability** • Chance – ordering events pp 1–2 • Chance – probability pp 3–5 • Chance – fair and unfair p 6 • Chance – coin investigation p 7 • Chance - two dice investigation pp 8–9

Scope & Sequence Term 4

NSW Stage 3 Year 6

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NSW New Syllabus (2023) S3 Year 6

LS & Topic	Outcomes	Focus	Content	New Courses	Activities (courses)	Skill Quests	Challenges	Ebooks
LS 4 **Big idea** Multiplicative thinking involves flexible use of multiplication and division concepts, strategies and representations **Topic** Multiplication and division problems	**MA3-MR-01** selects and applies appropriate strategies to solve multiplication and division problems **MA3-MR-02** constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations	**Multiplicative relations B**	• Select and apply strategies to solve problems involving multiplication and division with whole numbers • Multiply and divide decimals by powers of 10 • Use equivalent number sentences involving multiplication and division to find unknown quantities • Represent and describe number patterns formed by multiples • Explore the use of brackets and the order of operations to write number sentences	**Y6 Decimals** • Multiply decimals by powers of 10 • Divide decimals by powers of 10 • Multiply decimals by whole numbers • Multiply decimals by whole numbers **Y6 Operations** • Multiplication • Division			**Number & Algebra, Multiplication & Division 5-7** • True or false? DOK 2 • Pyramid puzzler DOK 2	Y6-F **Multiplication and Division** Puzzles and investigations pp 19–24
LS 5 **Big idea** Shapes encountered in daily life can be classified by their attributes **Topic** Shape transformations	**MA3-2DS-01** combines, splits and rearranges shapes to determine the area of parallelograms and triangles	**Two-dimensional spatial structure B**	• 2D shapes: Dissect two-dimensional shapes and rearrange them using translations, reflections and rotations		**2D spatial structure: transformations (B)** • Flip, Side, Turn • Transformations • Rotational Symmetry • Rotational Symmetry of Shapes	**Transform 2-dimensional shapes** • Translating points on the Cartesian plane • Reflecting points on the Cartesian plane • Rotating shapes & find the order of symmetry • Creating patterns using transformations • Combinations of transformations	**Geometry, 2D Shape 4-6** • Relating 2D shapes DOK 3 • Tricksy triangles DOK 4	Y6-F **Geometry** • Transformation, tessellation and symmetry pp 16–24

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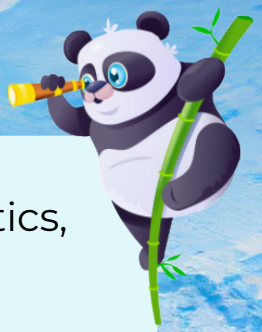

For more information about Mathletics, contact our friendly team.

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