Mathletics
NSW Curriculum

Skill Quests

Stage 2 & 3

May, 2022

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Stage 2

1 Number and Algebra

Outcome	Quests	Content
MA2-4NA applies place value to order, read and represent numbers of up to five digits	Numbers up to 5 digits (3)	Identifying and counting numbers up to 4 digits
		Reading and representing numbers: up to 4 digits
		Comparing and ordering numbers to 10 000
		Using place value to partition: up to 4 digits
		Rounding numbers: 4 digits
	Numbers up to 5 digits (4)	Comparing and ordering numbers up to 5 digits
		Reading and representing numbers: up to 5 digits
		Using place value to partition: up to 5 digits
		Rounding numbers: 5 digits
MA2-5NA uses mental and written strategies for addition and subtraction involving two-, three-, four- and five-digit numbers	Add/sub up to 5 digits (3)	Add/subtract: single digit numbers
		Add/subtract: 2 & 3-digit using jump strategy
		Add/subtract: place value partitioning 2 & 3 digit
		Add/subtract: bridging up to 10 using 2 & 3 digit
		Add/subtract: bridging
		Add/subtract: partitioning 3-digits
		Adding and subtracting 3-digit numbers
		Add/subtract: using place value (split model)
		Add/subtract: rounding & compensation 2-digit
		Add/subtract: to and from 100
		Add/subtract: 1-digit numbers, 100, 1000 & 10 000
		Add/subtract: Non-standard/place value partitioning
		Add/subtract: choosing efficient strategies
		Add/subtract: estimating
		Relationship between addition and subtraction
		Representing money values

	Add/sub up to 5 digits (4)	Representing problems using a bar model
		Add/subtract: efficient strategies & word problems
		Addition: algorithm (without regrouping)
		Addition: algorithm (with regrouping)
		Addition: algorithm (with/without regrouping)
		Subtraction: algorithm (without decomposing)
		Subtraction: algorithm (with decomposing)
		Add/subtract: word problems
		Add/subtract: money
MA2-6NA uses mental and informal written strategies for multiplication and division	Mult/div mental strategies (3)	Skip counting by 10 to 1000
		Skip counting by 2 to 1000
		Skip counting by 5 to 1000
		Skip counting by 3 to 1000
		Skip counting by 4
		Multiplication/division facts for 2
		Multiplication/division facts for 10
		Multiplication/division facts for 5
		Multiplication/division facts for 2, 5, 10
		Multiplication/division facts for 3
		Multiplication word problems
		Word problems and missing numbers
	Mult/div mental strategies (4)	Multiplication/division facts for 4
		Multiplication/division facts up to 5
		Multiplication/division facts and properties
		Exploring multiplication/division for 6 up to 60
		Exploring multiplication/division for 7 up to 70
		Exploring multiplication/division for 8 up to 80
		Exploring multiplication/division for 9 up to 90
		Using facts to multiply using 2-digits

		Using facts to divide 3-digit numbers by 10
	5	Multiplication strategies using 1 digit
		Using the conventions of multiplication
		Multiples and factors up to 100
		Inverse facts
		Practising multiplication strategies
		Multiplying 2-digit numbers by a 1-digit number
		Multiplying 2-digits using repeated addition
		Multiplying 2-digits using factorising
		Selecting effective multiplication strategies
		Develop strategies for division with no remainder
		Dividing a 2-digit number by a 1-digit number
		Remainders in division problems
MA2-7NA represents, models and compares commonly used fractions and decimals	Common fractions & decimals (3)	Using fractions: halves and quarters
		Numerator and denominator
		Using fractions: halves, thirds and quarters
		Using fractions: thirds and sixths
		Using fractions: fifths
		Counting in thirds
		Using mixed numbers on a number line
	Common fractions & decimals (4)	Investigating fractions
		Using decimal tenths
		Using decimal hundredths
		Partitioning decimal hundredths
		Connecting decimal fractions and common fractions
MA2-8NA generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values	Patterns & missing values (3)	Describing, continuing & creating number patterns
		Exploring odd and even numbers
	Patterns & missing values (4)	Using number sentences to find unknown quantities
		Odd and even numbers
		Investigating multiple sequences
		Exploring number patterns

	6	Expressing equations as word problems
		Solving word problems involving mult and div

2 Measurement and Geometry

Outcome	Quests	Content
MA2-9MG measures, records, compares and estimates lengths, distances and perimeters in metres, centimetres and millimetres, and measures, compares and records temperatures	Measuring length and temperature (3)	Comparing, ordering and measuring length
	Measuring length and temperature (4)	Using metric units to measure length
		Length and 3D objects
		Introducing perimeter
		Reading temperature
MA2-10MG measures, records, compares and estimates areas using square centimetres and square metres	Area: square cm and m (3)	Using formal units for area
	Area: square cm and m (4)	Solving word problems involving mult and div
		Comparing objects using familiar metric units
MA2-11MG measures, records, compares and estimates volumes and capacities using litres, millilitres and cubic centimetres	Volume/capacity: L, mL, cubic cm (3)	Measure, order and compare units of volume
		Measuring volume
	Volume/capacity: L, mL, cubic cm (4)	Measuring capacity in millilitres
MA2-12MG measures, records, compares and estimates the masses of objects using kilograms and grams	Mass: kg and g (3)	Using the kilogram to measure mass
	Mass: kg and g (4)	Measuring in grams and kilograms
MA2-13MG reads and records time in one-minute intervals and converts between hours, minutes and seconds	Time: minutes, hours, seconds (3)	Telling the time to the minute
	Time: minutes, hours, seconds (4)	Converting time and solving time problems
		Using AM and PM
		Read and interpret timetables
		Writing dates
MA2-14MG makes, compares, sketches and names three-dimensional objects, including prisms, pyramids, cylinders, cones and spheres, and describes their features	Features of 3D objects (3)	Exploring prisms and nets
		Rectangular prism nets
	Features of 3D objects (4)	Identifying prisms
		Identifying pyramids
		Prisms and pyramids
		Identifying cylinders
		Identifying spheres
MA2-15MG manipulates, identifies and sketches two-dimensional shapes, including special quadrilaterals, and describes their features	Features of 2D shapes (3)	Comparing and identifying two-dimensional shapes
		Comparing features of two-dimensional shapes
		Recognising lines of symmetry
	Features of 2D shapes (4)	Composing and decomposing 2D shapes
		Introducing transformations
		Creating and drawing symmetrical designs
		Recognising tessellations
MA2-16MG identifies, describes, compares and classifies angles	Angle introduction (3)	Identifying and comparing angles

		Introducing angles
	Angle introduction (4)	Classifying angles
MA2-17MG uses simple maps and grids to represent position and follow routes, including using compass directions	Simple maps & grids (3)	Interpreting and creating referenced maps
	Simple maps & grids (4)	Using legends and reading maps
		Solving measurement problems

3 Statistics and Probability

Outcome	Quests	Content
MA2-18SP selects appropriate methods to collect data, and constructs, compares, interprets and evaluates data displays, including tables, picture graphs and column graphs	Display & interpret data (3)	Introducing the statistical investigation process
		Category data
		Statistical investigations
		Representing and interpreting information
		Comparing data displays
	Display & interpret data (4)	Select and trial methods for data collection
		Column graphs using many-to-one correspondence
		Picture graphs with many-to-one correspondence
		Evaluating and comparing data displays
MA2-19SP describes and compares chance events in social and experimental contexts	Explore chance events (3)	Conducting chance experiments
	Explore chance events (4)	Describing the chance of events occurring
		Exploring everyday events occurring
		Identifying the chance of events occurring

Stage 3

1 Number and Algebra

Outcome	Quests	Content
MA3-4NA orders, reads and represents integers of any size and describes properties of whole numbers	Number properties & integers (5)	Recognise, represent and order numbers
		Multiples and factors
	Number properties & integers (6)	Square and triangular numbers
		Investigating integers
		Prime and composite numbers
MA3-5NA selects and applies appropriate strategies for addition and subtraction with counting numbers of any size	Add/sub numbers of any size (5)	Adding numbers of any size
		Subtracting numbers of any size
		Adding and subtracting numbers of any size
		Checking with estimation and rounding
	Add/sub numbers of any size (6)	Addition and subtraction word problems
MA3-7NA compares, orders and calculates with fractions, decimals and percentages	Mult/div & order of operations (5)	Multiplication using multiples of 10
		Mult: rounding, compensating and partitioning
		Mult: doubling, halving and thirding
		Multiplying using the split method
		Multiplying by factorising
		Multiplying using an area model
		Multiplying using formal algorithms
		Multiplication word problems
		Division using partitioning
		Extended division - no remainders or zeros
		Extended division - remainders
		Extended division - with and without remainders
		Contracted division - no remainders or zeros
		Contracted division - remainders
		Contracted division - with and without remainders
		Division word problems
		Rounding to estimate products and quotients

	Mult/div & order of operations (6)	Multiplying and dividing by multiples of 10
		Selecting efficient mult/div strategies
		Selecting effective strategies for divison
		Multiplication and division word problems
		Order of operations - no brackets
		Order of operations using brackets
MA3-7NA compares, orders and calculates with fractions, decimals and percentages	Fractions, decimals, percentages (5)	Compare and order common unit fractions
		Adding and subtracting proper fractions
		Add & subtract fractions - common denominators
		Place value using thousandths
		Compare and order decimals
	Fractions, decimals, percentages (6)	Working with fractions
		Add & subtract proper fractions - related denoms
		Add & subtract mixed numerals - related denoms
		Finding a fraction of a quanitity
		Adding decimals
		Subtracting decimals
		Multiplying decimals
		Dividing decimals
		Multiplying and dividing decimals by powers of 10
		Representing fractions, decimals and percentages
		Fraction, decimal and percentage equivalence
		Calculating percentages
MA3-8NA analyses and creates geometric and number patterns, constructs and completes number sentences, and locates points on the Cartesian plane	Number patterns (5)	Number patterns - addition and subtraction
		Number sentences - multiplication and division
	Number patterns (6)	Continuing and creating number sequences
		The Cartesian plane

2 Measurement and Geometry

Outcome	Quests	Content
MA3-9MG selects and uses the appropriate unit and device to measure lengths and distances, calculates perimeters, and converts between units of length	Length, distance, perimeter (5)	Comparing and ordering metric lengths
		Calculating perimeter of rectangles
	Length, distance, perimeter (6)	Decimal notation and the metric system
		Converting standard metric units of length
		Length problems
MA3-10MG selects and uses the appropriate unit to calculate areas, including areas of squares, rectangles and triangles	Calculating area (5)	Selecting appropriate units for measuring
		Calculating the area of rectangles
	Calculating area (6)	Calculating the area of triangles
MA3-11MG selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities, and converts between units of capacity	Calculating volume & capacity (5)	Measuring volume
	Calculating volume & capacity (6)	Volume and capacity
		Decimal representation in capacity
		Converting common units of capacity
		Volume of rectangular prisms
MA3-12MG selects and uses the appropriate unit and device to measure the masses of objects, and converts between units of mass	Measure & convert mass (5)	Working with mass
	Measure & convert mass (6)	Decimal representation in mass
		Converting units of mass
MA3-13MG uses 24-hour time and am and pm notation in real-life situations, and constructs timelines	24-hour time & timelines (5)	Using 24-hour time
		Understanding elapsed time
	24-hour time & timelines (6)	Using timetables
		Timelines
MA3-14MG identifies three-dimensional objects, including prisms and pyramids, on the basis of their properties, and visualises, sketches and constructs them given drawings of different views	Properties of 3D objects (5)	Prisms and pyramids
		Nets
	Properties of 3D objects (6)	Constructing prisms and pyramids
MA3-15MG manipulates, classifies and draws two-dimensional shapes, including equilateral, isosceles and scalene triangles, and describes their properties	Properties of 2D shapes (5)	Classifying 2D shapes
		Drawing 2D shapes
		Rigid transformations
		Symmetry
		Enlarging 2D shapes
	Properties of 2D shapes (6)	Diagonals of 2D shapes
		Circles
		Rigid transformations

MA3-16MG measures and constructs angles, and applies angle relationships to find unknown angles	Angles & angle relationships (5)	Identifying and measuring angles
		Constructing and classifying angles
	Angles & angle relationships (6)	Adjacent and vertically opposite angles
MA3-17MG locates and describes position on maps using a grid-reference system	Maps & grid references (5)	Grid-referenced maps
		Using landmarks and directional language

3 Statistics and Probability

Outcome	Quests	Content
MA3-18SP uses appropriate methods to collect data and constructs, interprets and evaluates data displays, including dot plots, line graphs and two-way tables	Data investigations (5)	Categorical and numerical data
		Constructing data displays
		Describing and interpreting data sets
	Data investigations (6)	Two-way tables
		Side-by-side column graphs
		Comparing & selecting bivariate data displays
		Interpreting and evaluating secondary data
MA3-19SP conducts chance experiments and assigns probabilities as values between 0 and 1 to describe their outcomes	Probability values (5)	Outcomes of chance experiments
		Probabilities from 0 to 1
	Probability values (6)	Frequency and fairness in chance experiments
		Probability as a fraction, decimal or percent
		Chance experiments with trials and sampling

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