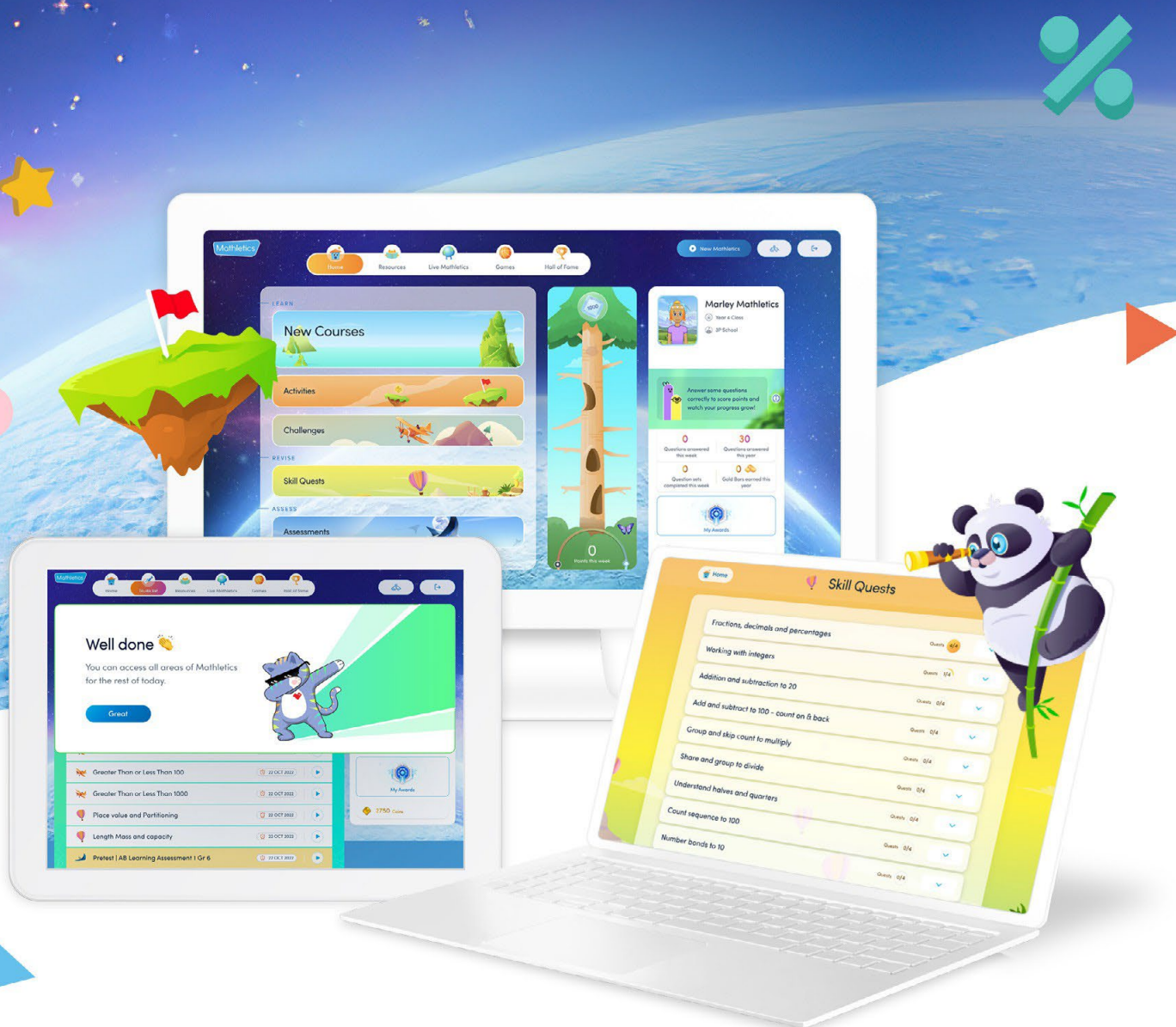


Mathletics

New South Wales Curriculum

Activities (Courses) and Skill Quests



Stage 3, Years 5-6

January, 2025



Mathletics

NSW Curriculum

Activities (Courses) & Skill Quests

January, 2025

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Year 5

1 Number and Algebra

1.1 Represent numbers A

MA3-RN-01	
applies an understanding of place value and the role of zero to represent the properties of numbers	
Course Topics	Activities
Represents numbers: whole number (A)	Numbers from Words to Digits 2
	Numbers from Words to Digits 3
	Place Value to Millions
	Place Value – Millions
	Place Value to Billions
	Equal, less or Greater Than?
Comparing Numbers	
Topics	Skill Quests
Represent numbers of any size	Representing & ordering numbers of any size
	Rounding numbers to a specified place
	Partitioning numbers of any size

MA3-RN-02	
compares and orders decimals up to 3 decimal places	
Course Topics	Activities
Represents numbers: decimals (A)	Comparing Decimals 2
	Decimal Order
	Decimal Order 2
	Decimals on a Number Line
	Rounding Decimals 1
Topics	Skill Quests
Compare & order decimals	Recognising decimals up to thousandths
	Partitioning decimals up to thousandths
	Comparing & ordering decimals up to thousandths

MA3-RN-03	
determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Convert fraction, decimal & percentage	Converting between decimals & fractions
	Converting between fractions & percentages
	Converting between decimals & percentages
	Converting fractions, decimals & percentages
Calculate percentage of an amount	Calculating a percentage of an amount using 10%
	Calculating percentage discounts

1.2 Additive relations A

MA3-AR-01	
selects and applies appropriate strategies to solve addition and subtraction problems	
Course Topics	Activities
Additive relations: add sub strategies (A)	Complements to 10, 20, 50
	Magic Mental Addition
	Magic Mental Subtraction
	Split Add and Subtract
	Jump Add and Subtract
	Compensation – Add
	Pyramid Puzzles 1
	Pyramid Puzzles 2
	Partition Puzzles 1
	Partition Puzzles 2
	Addition Properties
	Estimation: Add and Subtract
	Estimate Sums
Estimate Differences	
Topics	Skill Quests
Add & subtract numbers of any size	Adding strategies with numbers of any size
	Subtracting strategies with numbers of any size
	Selecting efficient strategies to add & subtract
	Using rounding to estimate
	Checking the accuracy of answers
Add & subtract to 1 decimal place	Adding decimals to 1 decimal place (models)
	Adding decimals to 1 decimal place (no models)
	Subtracting decimals to 1 decimal place (models)
	Subtracting to 1 decimal place (no models)
	Adding & subtracting decimals to 1 decimal place
Add & subtract to 2 decimal places	Adding decimals to 2 decimal places
	Subtracting decimals to 2 decimal places

1.3 Multiplicative relations A

MA3-MR-01	
selects and applies appropriate strategies to solve multiplication and division problems	
Course Topics	Activities
Multiplicative relations (A)	Fact Families: Multiply and Divide
	Multiplication Turnarounds
	Missing Numbers: \times and \div facts
	Times Tables
	Lowest Common Multiple
	Find the Factor
	Factors
	Highest Common Factor
	Prime or Composite?
	Solve Equations: Multiply, Divide 1
	Bar Model $\times \div$
	Multiply 2 Digits Area Model

	Multiply 3 single-digit numbers
	Multiply Multiples of 10
	Multiply More Multiples of 10
	Multiplying Whole Numbers by 10, 100, and 1000
	Double and Halve to Multiply
	Mental Methods Multiplication 1
Topics	Skill Quests
Use products, factors & primes	Determining products & factors Primes & composite numbers
Multiply by multiples of 10	Multiplying up to 4 digits by 100 & 1000
Multiply using double & halve strategy	Using doubling & related facts to multiply by 2 Using doubling & related facts to multiply by 4 Using doubling & related facts to multiply by 8 Partitioning & compensating to double & halve Using double & halve to multiply Using double/halve or triple/third
Multiply up to 4 digits by 1 digit	Multiplying using place value Multiplying using factorising Multiplying using the area model Multiplying using the round & compensate strategy Multiplying using an expanded algorithm Multiplying using a contracted algorithm
Multiply up to 4 digits by 2 digits	Strategies to multiply by a 2-digit number
Division with remainders	Introducing division with remainders
Divide up to 4 digits by 1-digit numbers	Using known facts to divide by a 1-digit divisor Partitioning to divide by a 1-digit divisor Using area models to divide by a 1-digit divisor Extended algorithm to divide 2 digits by 1 digit Extended algorithm to divide 3 digits by 1 digit Extended algorithm to divide 4 digits by 1 digit Contracted algorithm to divide 2 digits by 1 digit Contracted algorithm to divide 3 digits by 1 digit Contracted algorithm to divide 4 digits by 1 digit Solving division problems with 1-digit divisors Using estimation/rounding to check answers

MA3-MR-02	
constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations	
Course Topics	Activities
Multiplicative relations: more strategies (A)	Multiply: 1-Digit Number
	Multiply: 2-Digit Number, Regroup
	Long Multiplication
	Mental Methods Division 1
	Mental Methods Division 2
	Mental Methods Division 3
	Estimation: Multiply and Divide
	Estimate Products
	Remainders by Arrays
	Remainders by Tables
Dividing by 10, 100, 1000	

	Problems: Times and Divide
Topics	Skill Quests
Multiplicative number sentences	Finding unknown quantities - multiply/divide
	Introducing order of operations

1.4 Representing quantity fractions A

MA3-RQF-01	
compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10	
Course Topics	Activities
Represents quantity fractions (A)	Compare Fractions 1a
	Add: Common Denominator
	Subtract: Common Denominator
	Common Denominator
	Unit Fractions
	One Take Fraction
	Add Subtract Fractions 1
Topics	Skill Quests
Compare fractions	Identifying fractions equivalent to 1 whole
	Comparing & ordering common unit fractions
Add/subtract fractions: same denominator	Adding/subtracting a fraction to a whole number
	Adding/subtracting fractions: same denominator
	Adding/subtracting mixed numbers: same denominator

MA3-RQF-02	
determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, and $\frac{1}{10}$ of measures and quantities	
Course Topics	Activities
Represents quantity fractions (A)	Compare Fractions 1a
	Add: Common Denominator
	Subtract: Common Denominator
	Common Denominator
	Unit Fractions
	One Take Fraction
	Add Subtract Fractions 1
Topics	Skill Quests
Teacher directed	

2 Measurement and Space

2.1 Geometric measure A

MA3-GM-01 locates and describes points on a coordinate plane	
Course Topics	Activities
Geometric measure: coordinate plane (A)	Coordinate Graphs: 1st Quadrant
	Ordered Pairs
	Horizontal and Vertical Change
	Transformations: Coordinate Plane
Topics	Skill Quests
Locate position in the first quadrant	Using the first quadrant to locate position
	Plotting coordinates in the first quadrant

MA3-GM-02 selects and uses the appropriate unit and device to measure lengths and distances including perimeters	
Course Topics	Activities
Geometric measure: length and perimeter (A)	Kilometre Conversions
	Perimeter: Squares and Rectangles
	Perimeter: Triangles 2
	Perimeter Detectives 1
Topics	Skill Quests
Use appropriate measures for length	Selecting & using appropriate measures for length
	Comparing & ordering lengths
Calculate perimeter	Calculating the perimeter of rectangles

MA3-GM-03 measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point	
Course Topics	Activities
Geometric measure: angle (A)	Estimating Angles
	Measuring Angles
	What Type of Angle?
	Classifying Angles
Topics	Skill Quests
Measure & identify angles	Estimating, measuring & comparing angles
	Constructing & classifying angles

2.2 Two-dimensional spatial structure A

MA3-2DS-01	
investigates and classifies two-dimensional shapes, including triangles and quadrilaterals based on their properties	
Course Topics	Activities
2D spatial structure: classify shapes (A)	Triangle Tasters
	Sides, Angles and Diagonals
	Plane Figure Terms
	Collect the Polygons
Topics	Skill Quests
Describe properties of 2D shapes	Classifying 2D shapes & describe properties

MA3-2DS-03	
combines, splits and rearranges shapes to determine the area of parallelograms and triangles	
Course Topics	Activities
2D spatial structure: area (A)	Area: Parallelograms (Metric)
Topics	Skill Quests
Teacher directed	

2.3 Three-dimensional spatial structure A

MA3-3DS-01	
Outcome text (bold outcome text if no outcome code present)	
Course Topics	Activities
3D spatial structure: prisms & pyramids (A)	What Prism am I?
	What Pyramid am I?
	Prisms and Pyramids
Topics	Skill Quests
Connect 3D with 2D representations	Naming prisms & pyramids
	Connecting prisms with their nets
	Connecting 3D objects with their nets

MA3-3DS-02	
selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities	
Course Topics	Activities
3D spatial structure: volume (A)	Millilitres and Litres
	Volume of Solids and Prisms - 1cm ³ blocks
	Volume: Rectangular Prisms 1
Topics	Skill Quests
Use appropriate units for capacity	Using displacement for volume of irregular solids
	Using appropriate units for capacity (L & mL)
Investigate volume using blocks	Investigating volume using blocks

2.4 Non-spatial measure A

MA3-NSM-01 selects and uses the appropriate unit and device to measure the masses of objects	
Course Topics	Activities
Non-spatial measure: mass (A)	Kilogram Conversions
	Grams and Kilograms
	Converting Units of Mass
	Mass Word Problems
Topics	Skill Quests
Use appropriate units for mass	Choosing appropriate units for mass
	Decimal representations to metric system

MA3-NSM-02 measures and compares duration, using 12- and 24-hour time and am and pm notation	
Course Topics	Activities
Non-spatial measure: time (A)	24 Hour Time
	Using Timetables
	Time Conversions: Whole Numbers 1
	Time Conversions: Whole Numbers 2
	Time Conversions: Simple Fractions
Topics	Skill Quests
Use 12 & 24 hour time	Converting between 12 & 24 hour time
	Using timetables

3 Statistics and Probability

3.1 Data A

MA3-DATA-01 constructs graphs using many-to-one scales	
Course Topics	Activities
Data: displaying numerical data (A)	Sorting Data
	Column Graphs
Topics	Skill Quests
Collect & display discrete data	Collecting discrete data
	Choosing & using appropriate tables/graphs

MA3-DATA-02 interprets data displays, including timelines and line graphs	
Course Topics	Activities
Data: interpretation (A)	Interpreting Tables
	Reading from a Column Graph
	Line Graphs: Interpretation
Topics	Skill Quests
Interpret discrete data	Interpreting discrete data using various displays
	Interpreting line graphs

3.2 Chance A

MA3-CHAN-01 conducts chance experiments and quantifies the probability	
Course Topics	Activities
Chance (A)	How many Combinations?
	Counting Techniques 1
	What are the Chances?
	Introductory Probability
Topics	Skill Quests
List outcomes of probability experiments	Listing outcomes of equally likely experiments

Year 6

1 Number and Algebra

1.1 Represent numbers B

MA3-RN-01	
applies an understanding of place value and the role of zero to represent the properties of numbers	
Course Topics	Activities
Represents numbers: including decimals (B)	Directed Numbers
Topics	Skill Quests
Represent numbers of any size	Representing & ordering numbers of any size
Represent integers	Locating & representing integers on a number line
	Interpreting integers in context

MA3-RN-02	
compares and orders decimals up to 3 decimal places	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Compare & order decimals	Comparing & ordering decimals up to thousandths

MA3-RN-03	
determines percentages of quantities, and finds equivalent fractions and decimals for benchmark percentage values	
Course Topics	Activities
Represents numbers: including decimals (B)	Modelling Percentages
	Percents and Decimals
	Calculating Percentages (Mental)
	Match Decimals and Percentages
	Complementary Percentages
	Percentage of an amount using fractions (<100%)
Topics	Skill Quests
Convert fraction, decimal & percentage	Converting fractions, decimals & percentages
Calculate percentage of an amount	Calculating a percentage of an amount using 10%
	Calculating percentage discounts

1.2 Additive relations B

MA3-AR-01	
selects and applies appropriate strategies to solve addition and subtraction problems	
Course Topics	Activities
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	
Topics	Skill Quests
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
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)

1.3 Multiplicative relations B

MA3-MR-01	
selects and applies appropriate strategies to solve multiplication and division problems	
Course Topics	Activities
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
Topics	Skill Quests
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

MA3-MR-02	
constructs and completes number sentences involving multiplicative relations, applying the order of operations to calculations	
Course Topics	Activities
Multiplicative relations (B)	Order of Operations 1 (BIDMAS)
	Identifying errors in applying the order of operations
Topics	Skill Quests
Multiplicative number sentences	Finding unknown quantities - multiply/divide
	Applying order of operations & grouping symbols

1.4 Representing quantity fractions B

MA3-RQF-01	
compares and orders fractions with denominators of 2, 3, 4, 5, 6, 8 and 10	
Course Topics	Activities
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?
	Add Unlike Fractions
	Subtract Unlike Fractions
Topics	Skill Quests
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
Add/sub fractions: related denominators	Adding/subtracting fractions: related denominators
	Adding/subtracting simple fractions: related
	Adding/subtracting mixed numbers: related

MA3-RQF-02 determines $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, and $\frac{1}{10}$ of measures and quantities	
Course Topics	Activities
Represents quantity fractions (B)	Fractions of a Collection 1
	Fractions of a Collection 2
	Fraction Fruit Sets 1
	Fraction Fruit Sets 2
	Fractions of a Collection
Topics	Skill Quests
Calculate fraction of an amount	Calculating a fraction of a whole
	Solving word problems: fraction of an amount

2 Measurement and Space

2.1 Geometric measure B

MA3-GM-01 locates and describes points on a coordinate plane	
Course Topics	Activities
Geometric measure: coordinate plane (B)	Coordinate Graphs: 1st Quadrant
	Ordered Pairs
	Horizontal and Vertical Change
	Transformations: Coordinate Plane
Topics	Skill Quests
Locate position in the four quadrants	Using the four quadrants to locate position

MA3-GM-02 selects and uses the appropriate unit and device to measure lengths and distances including perimeters	
Course Topics	Activities
Geometric measure: length application (B)	Converting Units of Length
	Metres and Kilometres
	Perimeter: Triangles
	Perimeter Detectives 2
	Operations with Length
Topics	Skill Quests
Understand the metric system for length	Using decimal representations for length
	Converting between metric units for length
	Solving problems involving length

MA3-GM-03	
measures and constructs angles, and identifies the relationships between angles on a straight line and angles at a point	
Course Topics	Activities
Geometric measure: angle (B)	Estimating Angles
	Measuring Angles
	What Type of Angle?
	Classifying Angles
Topics	Skill Quests
Identify angle relationships	Adjacent, complementary & supplementary angles
	Exploring angle relationships

2.2 Two-dimensional spatial structure B

MA3-2DS-01	
investigates and classifies two-dimensional shapes, including triangles and quadrilaterals based on their properties	
Course Topics	Activities
2D spatial structure: transformations (B)	Flip, Slide, Turn
	Transformations
	Rotational Symmetry
	Rotational Symmetry of Shapes
Topics	Skill Quests
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

MA3-2DS-02	
selects and uses the appropriate unit to calculate areas, including areas of rectangles	
Course Topics	Activities
2D spatial structure: area (B)	Area: Squares and Rectangles
	Calculate Area of Squares and Rectangles
	Converting Units of Area
	Area: Parallelograms (Metric)
Topics	Skill Quests
Teacher directed	

MA3-2DS-03	
combines, splits and rearranges shapes to determine the area of parallelograms and triangles	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Calculate area of shapes	Calculating area of composite shapes
	Calculating area of parallelograms
	Calculating area of triangles

2.3 Three-dimensional spatial structure B

MA3-3DS-01	
visualises, sketches and constructs three-dimensional objects, including prisms and pyramids, making connections to two-dimensional representations	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Prisms & pyramids	Connecting 3D objects with their nets

MA3-3DS-02	
selects and uses the appropriate unit to estimate, measure and calculate volumes and capacities	
Course Topics	Activities
3D spatial structure: volume (B)	Millilitres and Litres
	Volume of Solids and Prisms - 1cm ³ blocks
	Volume: Rectangular Prisms 1
Topics	Skill Quests
Calculate volume in m ³ & cm ³	Calculating volume of cubes (m ³ & cm ³)
	Calculating volume rectangular prisms (cm ³ & m ³)

2.4 Non-spatial measure B

MA3-NSM-01	
selects and uses the appropriate unit and device to measure the masses of objects	
Course Topics	Activities
Non-spatial measure: mass (B)	Kilogram Conversions
	Grams and Kilograms
	Converting Units of Mass
	Mass Word Problems
Topics	Skill Quests
Convert between units of mass	Converting between metric units of mass

MA3-NSM-02	
measures and compares duration, using 12- and 24-hour time and am and pm notation	
Course Topics	Activities
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?
Topics	Skill Quests
Solve duration problems	Solving problems with duration using 12 & 24 hours

3 Statistics and Probability

3.1 Data B

MA3-DATA-01 constructs graphs using many-to-one scales	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Teacher directed	

MA3-DATA-02 interprets data displays, including timelines and line graphs	
Course Topics	Activities
Data (B)	Reading from a Column Graph
	Line Graphs: Interpretation
	Mode
	Data Extremes and Range
Topics	Skill Quests
Interpret data displays	Interpreting & comparing data in various displays
	Calculating & interpreting the range
	Calculating & interpreting the mode
	Interpreting data presented in digital media

3.2 Chance B

MA3-CHAN-01 conducts chance experiments and quantifies the probability	
Course Topics	Activities
Chance (B)	Fair Games
Topics	Skill Quests
Compare observed with expected results	Comparing observed frequency with expected results
	Describing probability of single events



For more information about Mathletics,
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