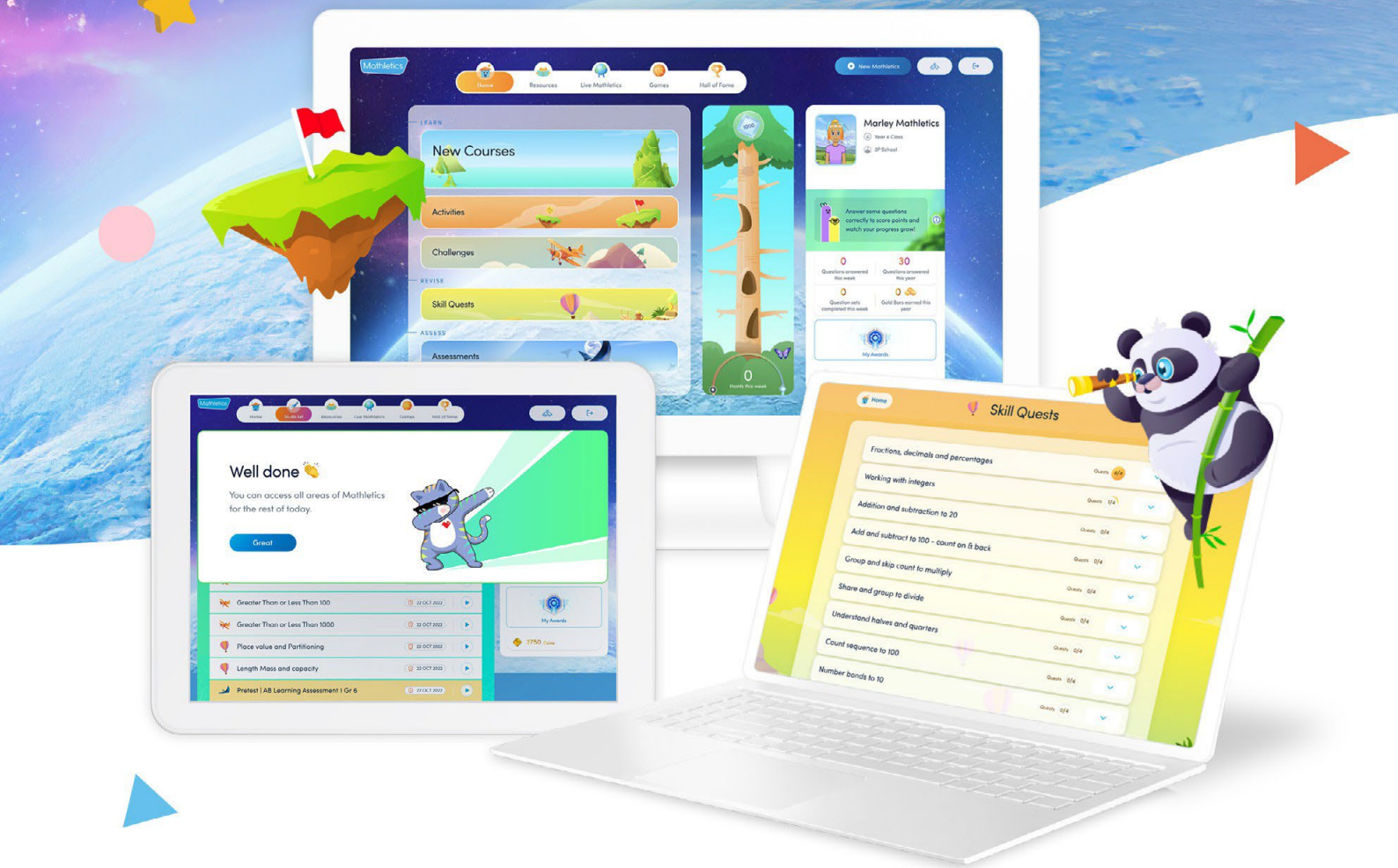
Mathletics

New South Wales Curriculum

Activities (Courses) and Skill Quests



Stage 2, Years 3-4

January, 2025

Mathletics

Mathletics

NSW Curriculum

Activities (Courses) & Skill Quests

January, 2025

Year 3

1 Number and Algebra

1.1 Representing numbers using place value A

MA2-RN-01 applies an understanding of place value and the role of zero to represent numbers to at least tens of thousands	
Course Topics	**Activities**
Represent numbers using place value (A)	Greater or Less to 100
	Which is Bigger?
	Which is Smaller?
	Place Value to Thousands
	Expanding Numbers
	Put in Order 1
	Ascending Order
	Descending Order
	Greater Than or Less Than 1
	Place Value 3
	Partition and Rename 2
	Nearest 1000?
	Missing Numbers 1
Topics	**Skill Quests**
Numbers to 10 000	Reading, representing & ordering 4-digit numbers
	Counting by tens & hundreds to 1000
	Comparing & ordering numbers up to 10 000
	Partitioning numbers to 4 digits
Numbers to 100 000	Reading, representing & ordering 5-digit numbers

1.2 Additive relations A

MA2-AR-01 selects and uses mental and written strategies for addition and subtraction involving 2- and 3-digit numbers	
Course Topics	**Activities**
Additive relations: up to 3 digits (A)	Add Two 2-Digit Numbers
	Adding to 2-digit numbers
	Magic Mental Addition
	Complements to 50 and 100
	Add 3 Numbers: Bonds to 100
	Compensation – Add
	Estimate Sums
	Subtract Tens
	Magic Mental Subtraction
	Column Subtraction
	2-Digit Differences: Regroup

	Repartition to Subtract
	Compensation – Subtract
	Estimate Differences
	Bump Add and Subtract
	Related Facts 1
Topics	**Skill Quests**
Addition & subtraction to 3 digits	Adding & subtracting multiple single-digit numbers
	Bonds to 100
	Connecting addition & subtraction
	Estimating with addition & subtraction
	Add/subtract multiples of 10 to 3-digit numbers
Mental strategies to add or subtract	Adding using jump strategy to 3 digits
	Subtracting using jump strategy to 3 digits
	Add/subtract using jump strategy to 3 digits
	Adding using bridging to 10 up to 3 digits
	Subtracting using bridging to 10 up to 3 digits
	Add/subtract using bridging to 10 up to 3 digits
	Adding using split strategy to 3 digits
	Subtracting using split strategy to 3 digits
	Add/subtract using split strategy to 3 digits
	Adding using round & compensate to 3 digits
	Subtracting using round & compensate to 3 digits
	Add/subtract using round & compensate to 3 digits
Select strategies to add or subtract	Add/subtract using bar model to 3 digits
	Selecting strategies to add/subtract to 3 digits
	Using addition & subtraction with money

MA2-AR-02 completes number sentences involving addition and subtraction by finding missing values	
Course Topics	**Activities**
Additive relations: up to 3 digits (A)	Bar Model Problems 1
	Bar Model Problems 2
	Missing Values
Topics	**Skill Quests**
Solve number sentences with add/subtract	Solving addition & subtraction number sentences

1.3 Multiplicative relations A

MA2-MR-01 represents and uses the structure of multiplicative relations to 10 × 10 to solve problems	
Course Topics	**Activities**
Multiplicative relations (A)	Counting by Tens
	Counting by Fives
	Counting by Twos
	Count by 2s, 5s and 10s
	Skip Counting
	Counting up in 4s
	Skip Counting with Coins

	Grouping in Threes
	Grouping in Fours
	Grouping in Fives
	Grouping in Tens
	Arrays 1
	Arrays 2
	Model Multiplication to 5 × 5
	Fact Families: Multiply and Divide
	Multiplication Turnarounds
	Dividing by Two
	Dividing by Five
	Dividing Tens
	Halve it!
Topics	**Skill Quests**
Number patterns	Generating/describing patterns (1, 2, 5, 10, 25)
	Generating/describing patterns (3, 4, 6, 7, 8, 9)
	Identifying number patterns
	Investigating odd & even numbers
	Understand the property of 0 & 1 in multiplication
Multiplicative facts for 2, 4, 5 & 10	Recalling multiplication & division facts of 2
	Recalling multiplication & division facts of 4
	Recalling multiplication & division facts of 5
	Recalling multiplication & division facts of 10
	Solving problems using multiplication facts

MA2-MR-02 completes number sentences involving multiplication and division by finding missing values	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Solve multiplication & division problems	Find the missing number in mult/divison problems

1.4 Partitioned fractions A

MA2-PF-01 represents and compares halves, quarters, thirds and fifths as lengths on a number line and their related fractions formed by halving (eighths, sixths and tenths)	
Course Topics	**Activities**
Partitioned fractions (A)	Halves and Quarters
	Thirds and Sixths
	Shade Fractions
	Identifying Fractions on a Number Line
	Equivalent Fraction Wall 1
Topics	**Skill Quests**
Halves, quarters, thirds & fifths	Halves, quarters & eighths
	Thirds & fifths
	Working with unit fractions

2 Measurement and Space

2.1 Geometric measure A

MA2-GM-01 uses grid maps and directional language to locate positions and follow routes	
Course Topics	**Activities**
Geometric measure: position (A)	Following Directions
	Coordinate Meeting Place
	What Direction was That?
	Using a Key
Topics	**Skill Quests**
Use grid maps to describe position	Interpreting maps to describe position
	Locating positions on a map

MA2-GM-02 measures and estimates lengths in metres, centimetres and millimetres	
Course Topics	**Activities**
Geometric measure: length (A)	How Long is That?
	Measuring Length
	Perimeter of Shapes
	Converting cm and mm
	Centimetres and Metres
Topics	**Skill Quests**
Use metric measurements for lengths	Measuring in m, cm, mm
	Selecting measures for length (m, cm, mm)
	Comparing length measurements
	Ordering length measurements

MA2-GM-03 identifies angles and classifies them by comparing to a right angle	
Course Topics	**Activities**
Geometric measure: angle (A)	Equal Angles
	Comparing Angles
	Right Angle Relation
	What Type of Angle?
	Classifying Angles
Topics	**Skill Quests**
Identify & compare angles	Identifying angles as measures of turn

2.2 Two-dimensional spatial structure A

MA2-2DS-01 compares two-dimensional shapes and describes their features	
Course Topics	**Activities**
2D spatial structure: shape & area (A)	What Line am I?
	Collect the Shapes
	Collect More Shapes

	Collect the Shapes 2
	Area of Shapes
Topics	**Skill Quests**
Identify features of 2D shapes	Comparing & describing features of quadrilaterals
	Identifying, classifying & sorting 2D shapes

MA2-2DS-02 performs transformations by combining and splitting two-dimensional shapes	
Course Topics	**Activities**
2D spatial structure: transformations (A)	Symmetry
	Symmetry or Not?
	Flip, Slide, Turn
	Transformations
	Rotational Symmetry
Topics	**Skill Quests**
Perform transformations	Transforming shapes by translation & reflections
	Recognising line symmetry
	Transforming shapes by rotation

MA2-2DS-03 estimates, measures and compares areas using square centimetres and square metres	
Course Topics	**Activities**
2D spatial structure: shape & area (A)	Equal Areas
Topics	**Skill Quests**
Calculate area of a rectangle	Using cm2 to measure areas of rectangles
	Using m2 to measure areas of rectangles

2.3 Three-dimensional spatial structure A

MA2-3DS-01 makes and sketches models and nets of three-dimensional objects including prisms and pyramids	
Course Topics	**Activities**
3D spatial structure: 3D objects (A)	Prisms and Pyramids
	Collect the Objects
	Match the Object
Topics	**Skill Quests**
Identify prisms, pyramids & cylinders	Identifying prisms
	Identifying pyramids & cylinders
	Describing key features of prisms & pyramids
	Making models of prisms & pyramids
	Introducing nets of prisms

MA2-3DS-02 estimates, measures and compares capacities (internal volumes) using litres, millilitres and volumes using cubic centimetres	
Course Topics	**Activities**
3D spatial structure: volume & capacity (A)	How Full?
	Which Holds More?
	Filling Fast!
	Comparing Volume
Topics	**Skill Quests**
Measure capacity & volume	Introducing a formal measure of capacity (litres)
	Measuring & comparing volumes using cubic blocks

2.4 Non-spatial measure A

MA2-NSM-01 estimates, measures and compares the masses of objects using kilograms and grams	
Course Topics	**Activities**
Non-spatial measure: mass & time (A)	Everyday Mass
	Half Hour Times
Topics	**Skill Quests**
Measure mass in kg & g	Introducing a formal measure for weight (kg)

MA2-NSM-02 represents and interprets analog and digital time in hours, minutes and seconds	
Course Topics	**Activities**
Non-spatial measure: mass & time (A)	Five Minute Times
	What's the Temperature (Celsius)?
Topics	**Skill Quests**
Represent time using analog displays	Representing & reading analog time displays

3 Statistics and Probability

3.1 Data A

MA2-DATA-01 collects discrete data and constructs graphs using a given scale	
Course Topics	**Activities**
Data (A)	Sorting Data
	Column Graphs
	Picture Graphs: single-unit scale
	Pictographs
	Tallies

Topics	Skill Quests
Collect & organise discrete data	Posing questions & collecting discrete data
	Organising & displaying discrete data using graphs

MA2-DATA-02 interprets data in tables, dot plots and column graphs	
Course Topics	**Activities**
Data (A)	Sorting Data
	Column Graphs
	Picture Graphs: single-unit scale
	Pictographs
	Tallies
Topics	**Skill Quests**
Read tables, dot plots & column graphs	Interpreting tables & column graphs
	Comparing data displays

3.2 Chance A

MA2-CHAN-01 records and compares the results of chance experiments	
Course Topics	**Activities**
Chance (A)	Most Likely and Least Likely
	How many Combinations?
	Will it Happen?
Topics	**Skill Quests**
Chance concepts	Identifying outcomes from experiments

Year 4

1 Number and Algebra

1.1 Representing numbers using place value B

MA2-RN-01 applies an understanding of place value and the role of zero to represent numbers to at least tens of thousands	
Course Topics	**Activities**
Represent numbers using place value (B)	Expanded Notation
	Numbers in Words
	Partition and Rename 3
	Rounding Numbers
	Numbers from Words to Digits 1
	Missing Numbers 2
Topics	**Skill Quests**
Numbers to 100 000	Reading, representing & ordering numbers to 10 000
	Rounding numbers to 10 000
	Partitioning 5-digit numbers
	Recognising numbers that are 10, 100, 1000 bigger

MA2-RN-02 represents and compares decimals up to 2 decimal places using place value	
Course Topics	**Activities**
Represent numbers using place value (B)	Decimals on the Number Line
	Decimals from Words to Digits 1
	Decimal Place Value
	Decimal Order 1
Topics	**Skill Quests**
Represent decimals to hundredths	Introducing decimal tenths
	Introducing decimal hundredths
	Comparing & ordering decimals to hundredths
	Partitioning decimal hundredths
	Connecting decimals to common fractions
	Connecting decimals & fractions up to hundredths

1.2 Additive relations B

MA2-AR-01 selects and uses mental and written strategies for addition and subtraction involving 2- and 3-digit numbers	
Course Topics	**Activities**
Additive relations (B)	Magic Mental Addition
	Magic Mental Subtraction
	Compensation – Add

	Compensation – Subtract
	Split Add and Subtract
	Pyramid Puzzles 1
	Pyramid Puzzles 2
	Partition Puzzles 1
	Partition Puzzles 2
Topics	**Skill Quests**
Addition & subtraction to 4 digits	Add/subtract using non-standard partitioning
	Add/subtract multiples of 100, 1000 & 10 000
	Use algorithms to add (without regrouping)
	Use algorithms to add (with regrouping)
	Use algorithms to add (with & without regrouping)
	Use algorithms to subtract (without regrouping)
	Use algorithms to subtract (with regrouping)
	Rounding to estimate answers
	Choosing efficient strategies for addition
	Choosing efficient strategies for subtraction
	Adding & subtracting money

MA2-AR-02 completes number sentences involving addition and subtraction by finding missing values	
Course Topics	**Activities**
Additive relations (B)	Addition Properties
	Strategies for Column Addition
	Columns that Add
	Column Addition 1
	Missing Values
	Missing Numbers
Topics	**Skill Quests**
Solve number sentences with add/subtract	Solving addition & subtraction number sentences

1.3 Multiplicative relations B

MA2-MR-01 represents and uses the structure of multiplicative relations to 10 × 10 to solve problems	
Course Topics	**Activities**
Multiplicative relations: multiply (B)	Multiples of
	Increasing Patterns
	Decreasing Patterns
	Grouping in Threes
	Grouping in Sixes
	Grouping in Sevens
	Grouping in Nines
	Multiplication Turn-Abouts
	Related Facts 2
	Times Tables
	Bar Model ×÷
	Grid Methods 1

	Problems: Times and Divide
	Find the Missing Number 2
	Missing Numbers: x and ÷ facts
	Multiplying by 10, 100, 1000
Multiplicative relations: divide (B)	Dividing Threes
	Dividing Sixes
	Dividing Nines
	Dividing Sevens
	Dividing Eights
	Mental Methods Division
Topics	**Skill Quests**
Number sequences	Investigating number sequences with multiplication
Use doubling to multiply	Using doubling to multiply by 8
Multiplication facts: 3, 6, 7, 8, 9	Multiplication & division facts for 3
	Multiplication & division facts for 6
	Multiplication & division facts for 7
	Multiplication & division facts for 8
	Multiplication & division facts for 9
	Multiplication fact families up to 10 x 10
Multiply by multiples of 10	Multiplying by a multiple of 10

MA2-MR-02 completes number sentences involving multiplication and division by finding missing values	
Course Topics	**Activities**
Multiplicative relations: multiply (B)	Multiples of
	Increasing Patterns
	Decreasing Patterns
	Grouping in Threes
	Grouping in Sixes
	Grouping in Sevens
	Grouping in Nines
	Multiplication Turn-Abouts
	Related Facts 2
	Times Tables
	Bar Model ×÷
	Grid Methods 1
	Problems: Times and Divide
	Find the Missing Number 2
	Missing Numbers: x and ÷ facts
	Multiplying by 10, 100, 1000
Multiplicative relations: divide (B)	Dividing Threes
	Dividing Sixes
	Dividing Nines
	Dividing Sevens
	Dividing Eights
	Mental Methods Division
Topics	**Skill Quests**
Solve multiplication & division problems	Find the missing number in multiplication/division problems
	Multiplication & division word problems
	Multiplication & division strategies

1.4 Partitioned fractions B

MA2-PF-01 represents and compares halves, quarters, thirds and fifths as lengths on a number line and their related fractions formed by halving (eighths, sixths and tenths)	
Course Topics	**Activities**
Partitioned fractions (B)	Compare Fractions 1a
	Compare Fractions 1b
	Comparing Fractions 1
	Equivalent Fraction Wall 1
Topics	**Skill Quests**
Unit fractions	Working with unit fractions
Understand equivalent fractions	Modelling equivalent fractions

2 Measurement and Space

2.1 Geometric measure B

MA2-GM-01 uses grid maps and directional language to locate positions and follow routes	
Course Topics	**Activities**
Geometric measure: position (B)	Following Directions
	Coordinate Meeting Place
	What Direction was That?
	Using a Key
Topics	**Skill Quests**
Use maps & compass directions	Creating & interpreting grid maps
	Using directional language (cardinal compass)

MA2-GM-02 measures and estimates lengths in metres, centimetres and millimetres	
Course Topics	**Activities**
Geometric measure: length (B)	How Long is That?
	Measuring Length
	Perimeter of Shapes
	Converting cm and mm
	Centimetres and Metres
Topics	**Skill Quests**
Measure length & perimeter	Using scaled instruments to measure lengths
	Measuring in m, cm, mm
	Comparing length measurements
	Ordering length measurements
	Converting between metric lengths
	Calculating the perimeter of quadrilaterals

MA2-GM-03 identifies angles and classifies them by comparing to a right angle	
Course Topics	**Activities**
Geometric measure: angle (B)	Equal Angles
	Comparing Angles
	Right Angle Relation
	What Type of Angle?
	Classifying Angles
Topics	**Skill Quests**
Classify angles	Classifying angles

1.2 Two-dimensional spatial structure B

MA2-2DS-01 compares two-dimensional shapes and describes their features	
Course Topics	**Activities**
2D spatial structure: shape & area (B)	What Line am I?
	Collect the Shapes
	Collect More Shapes
	Collect the Shapes 2
	Shapes
Topics	**Skill Quests**
Identify features of 2D shapes	Identifying, classifying & sorting 2D shapes
Identify shapes in composite polygons	Creating shapes from combining & splitting shapes

MA2-2DS-02 performs transformations by combining and splitting two-dimensional shapes	
Course Topics	**Activities**
2D spatial structure: transformations (B)	Symmetry
	Symmetry or Not?
	Flip, Slide, Turn
	Transformations
	Rotational Symmetry
Topics	**Skill Quests**
Perform transformations	Transforming shapes by translation & reflections
	Transforming shapes by rotation
Tessellations	Creating symmetrical patterns & shapes

MA2-2DS-03 estimates, measures and compares areas using square centimetres and square metres	
Course Topics	**Activities**
2D spatial structure: shape & area (B)	Area of Shapes
	Equal Areas

Topics	Skill Quests
Calculate area using grid structure	Measuring area of shapes using grids & arrays

1.3 Three-dimensional spatial structure B

MA2-3DS-01 makes and sketches models and nets of three-dimensional objects including prisms and pyramids	
Course Topics	**Activities**
3D spatial structure: 3D objects (B)	Relate Shapes and Solids
	Faces, Edges, and Vertices 1
	How Many Faces?
	How many Edges?
	How many Vertices?
	Faces, Edges and Vertices
	Naming 3D Objects
Topics	**Skill Quests**
Connect 3D objects with nets	Representing & drawing 3D objects

MA2-3DS-02 estimates, measures and compares capacities (internal volumes) using litres, millilitres and volumes using cubic centimetres	
Course Topics	**Activities**
3D spatial structure: volume & capacity (B)	Using a Litre
	Millilitres and Litres
	Litre Conversions
	How many Blocks?
	Volume of Solids and Prisms - 1cm³ blocks
Topics	**Skill Quests**
Read scaled instruments in L & mL	Using scaled instruments for capacities (L & mL)
	Select appropriate measures for capacity (L & mL)

1.4 Non-spatial measure B

MA2-NSM-01 estimates, measures and compares the masses of objects using kilograms and grams	
Course Topics	**Activities**
Non-spatial measure: mass & time (B)	How Heavy?
	Ordering Mass (g)
Topics	**Skill Quests**
Read scaled instruments in kg & g	Measuring mass in grams
	Measuring & comparing mass in g & kg

MA2-NSM-02 represents and interprets analog and digital time in hours, minutes and seconds	
Course Topics	**Activities**
Non-spatial measure: mass & time (B)	Quarter To and Quarter Past
	What is the Time?
Topics	**Skill Quests**
Represents time using digital displays	Representing & reading digital time displays
	Using AM & PM notation

3 Statistics and Probability

3.1 Data B

MA2-DATA-01 collects discrete data and constructs graphs using a given scale	
Course Topics	**Activities**
Data (B)	Picture Graphs: with scale & half symbols
	Reading from a Column Graph
	Making Picture Graphs: With Scale
Topics	**Skill Quests**
Data collection & display	Organising & displaying discrete data using graphs

MA2-DATA-02 interprets data in tables, dot plots and column graphs	
Course Topics	**Activities**
Data (B)	Picture Graphs: with scale & half symbols
	Reading from a Column Graph
	Making Picture Graphs: With Scale
Topics	**Skill Quests**
Interpret data with many-to-one scales	Interpreting displays with many-to-one scales

3.2 Chance B

MA2-CHAN-01 records and compares the results of chance experiments	
Course Topics	**Activities**
Chance (B)	Introductory Probability
	Chance Gauge
	What are the Chances?
Topics	**Skill Quests**
Describe the likelihood of outcomes	Using the language of probability
	Identifying events affected by previous events

Mathletics

For more information about Mathletics,
contact our friendly team.

www.mathletics.com/contact

3P Learning