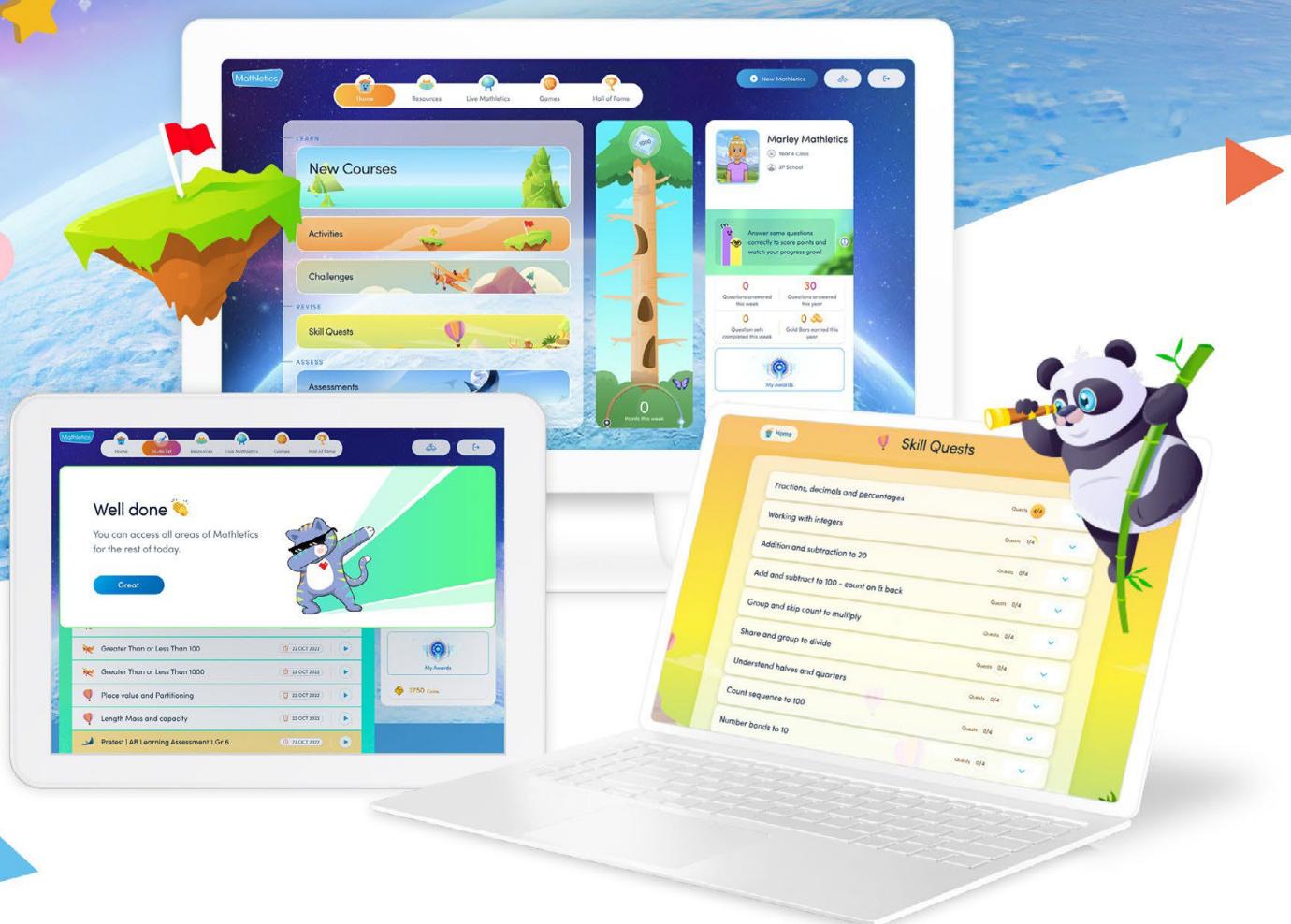


Mathletics Australian Curriculum v9

Activities (Courses) and Skill Quests



Years 3 – 6

January, 2026

Mathletics

Mathletics

Australian Curriculum (v9)
Activities (Courses) & Skill Quests
January 2026

Year 3	3
1 Number.....	3
2 Algebra	5
3 Measurement.....	6
4 Space	8
5 Statistics.....	9
6 Probability	10
Year 4	11
1 Number.....	11
2 Algebra	14
3 Measurement.....	15
4 Space	17
5 Statistics.....	17
6 Probability	18
Year 5	19
1 Number.....	19
2 Algebra	23
3 Measurement.....	23
4 Space	24
5 Statistics.....	25
6 Probability	26
Year 6	27
1 Number.....	27
2 Algebra	29
3 Measurement.....	30
4 Space	32
5 Statistics.....	32
6 Probability	33

Year 3

1 Number

AC9M3N01 recognise, represent and order natural numbers using naming and writing conventions for numerals beyond 10 000	
Course Topics	
Numbers beyond 10 000 with 5 digits	Place Value 3 Place Value to Thousands Partition and Rename 2 Partition and Rename 3 Ascending Order Descending Order Smallest and largest numbers Numbers from Words to Digits 1 Rounding Numbers
Topics	
Numbers to 10 000	Identifying & counting numbers to 4 digits Reading & representing numbers to 4 digits Comparing & ordering numbers to 4 digits Place value to 4 digits Partitioning numbers to 4 digits Rounding numbers to 4 digits
Numbers to 100 000	Comparing & ordering numbers to 5 digits Place value to 5 digits Partitioning numbers to 5 digits Rounding numbers to 5 digits

AC9M3N02 recognise and represent unit fractions including $1/2$, $1/3$, $1/4$, $1/5$, $1/10$ and their multiples in different ways; combine fractions with the same denominator to complete the whole	
Course Topics	Activities
Unit fractions	Shade fractions Identifying Fractions on a Number Line Fractions of a Collection 1 Fraction Length Models 1 Unit Fractions
Topics	
Fraction symbols	Exploring the meaning of fraction symbols Introducing terms numerator & denominator
Find & count in halves & quarters	Finding half of a set or quantity (symbols) Finding quarters of sets or shapes (symbols) Finding halves & quarters (symbols) Counting in halves & quarters to 1
Introduce eighths	Introducing eighths Using fractions: halves, quarters & eighths
Introduce thirds	Introducing thirds Using fractions: halves, thirds & quarters

Introduce sixths	Introducing sixths
Introduce fifths	Introducing fifths
Introduce tenths	Introducing tenths

AC9M3N03	
add and subtract two- and three-digit numbers using place value to partition, rearrange and regroup numbers to assist in calculations without a calculator	
Course Topics	Activities
Up to 3 digit add & subtract	Add 3 Numbers: Bonds to 100 Partition Puzzles 2 Repartition to Subtract
Topics	Skill Quests
Addition & subtraction using place value	Add & subtract using number facts within 1000 Add & subtract 2- & 3-digit using jump strategy Add & subtract 2- & 3-digit using place value Add & subtract 2- & 3-digit using bridging to 10 Adding & subtracting - bridging with unknowns Adding & subtracting 3-digits using partitioning Adding & subtracting 3-digits using place value Add & subtract 2- & 3-digit using split strategy Add & subtract 2-digit rounding & compensation Add & subtract 3-digit rounding & compensation Adding & subtracting to make 100 Add & subtract multiples of 100, 1000 & 10 000 Add & subtract using non-standard partitioning Add & subtract: choosing efficient strategies

AC9M3N04	
multiply and divide one- and two-digit numbers, representing problems using number sentences, diagrams and arrays, and using a variety of calculation strategies	
Course Topics	Activities
Multiply & Divide	Related Facts 2 Frog Jump Multiplication Frog Jump Division Equivalent Facts: Multiply Divide Into Equal Groups
Topics	Skill Quests
Multiplication & division	Using repeated addition to multiply Using repeated subtraction to divide Relating multiplication & division Interpreting & solving mult/div word problems Multiplication strategies: 1-digit numbers Multiplying 2-digit numbers by a 1-digit number

AC9M3N05	
estimate the quantity of objects in collections and make estimates when solving problems to determine the reasonableness of calculations	
Course Topics	Activities
Up to 3 digit add & subtract	Estimate Differences Estimate Sums Bar Model Problems 1

	Bar Model Problems 2
Topics	Skill Quests
Estimation strategies	Estimating additions
	Estimating subtractions
	Judging the reasonableness of answers

	AC9M3N06
use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate problems using number sentences and choose calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Solve practical problems	Solving addition & subtraction practical problems
	Solve multiplication & division practical problems
	Missing number problems using all four operations

	AC9M3N07
follow and create algorithms involving a sequence of steps and decisions to investigate numbers; describe any emerging patterns	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Create algorithms to investigate numbers	Identifying & creating number patterns
	Working with code to create algorithms

2 Algebra

	AC9M3A01
recognise and explain the connection between addition and subtraction as inverse operations, apply to partition numbers and find unknown values in number sentences	
Course Topics	Activities
Patterns & missing numbers	Odd and Even Numbers 1 Pick the Next Number Describing Patterns Find the Missing Number 1 Missing Values Counting by Twos Counting by Fives Counting by Tens Count by 2s, 5s and 10s
Topics	Skill Quests
Addition & subtraction relationship	Relationship between addition & subtraction Equivalent number sentences Word problems for finding unknown quantities Representing add & subtract using a bar model

AC9M3A02	
extend and apply knowledge of addition and subtraction facts to 20 to develop efficient mental strategies for computation with larger numbers without a calculator	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Apply knowledge of facts to 20	Finding fact families Numbers bonds to 20 Applying facts to 20 to larger numbers

AC9M3A03	
recall and demonstrate proficiency with multiplication facts for 3, 4, 5 and 10; extend and apply facts to develop the related division facts	
Course Topics	Activities
Patterns & missing numbers	Dividing Twos Dividing Fives Dividing Tens Grouping in Fours Dividing Fours Grouping in Threes Dividing Threes
Topics	Skill Quests
Multiplication & division facts for 2	Recalling multiplication & division facts for 2
Multiplication & division facts for 10	Exploring multiplication by 10 Recalling multiplication & division facts for 10
Multiplication & division facts for 5	Exploring multiplication by 5 Recalling multiplication & division facts for 5
Mult/div facts for 2, 5 & 10	Multiplication & division facts for 2, 5, 10
Multiplication & division facts for 3	Exploring multiplication by 3 Recalling multiplication & division facts for 3
Multiplication & division facts for 4	Exploring multiplication by 4 Recalling multiplication & division facts for 4

3 Measurement

AC9M3M01	
identify which metric units are used to measure everyday items; use measurements of familiar items and known units to make estimates	
Course Topics	Activities
Measurements	Which Unit of Measurement? Which Measuring Tool? Using a Litre
Topics	Skill Quests
Identify metric units of measure	Introducing centimetres Introducing millimetres Selecting appropriate units to measure length Introducing litres Introducing millilitres Selecting appropriate units to measure capacity

Introducing kilograms
Introducing grams
Selecting appropriate units to measure mass
Identifying correct units of measurement

AC9M3M02	
measure and compare objects using familiar metric units of length, mass and capacity, and instruments with labelled markings	
Course Topics	Activities
Measurements	How Long is That? Measure to the Nearest Half Centimetre How Heavy? Ordering Mass (g)
Topics	Skill Quests
Length, mass & capacity	Comparing, ordering & measuring length Comparing, ordering & measuring capacity Comparing, ordering & measuring mass

AC9M3M03	
recognise and use the relationship between formal units of time including days, hours, minutes and seconds to estimate and compare the duration of events	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Introduce units of time	Introducing hours Introducing minutes Introducing seconds
Duration & units of time	Understanding relationship between units of time Understanding duration

AC9M3M04	
describe the relationship between the hours and minutes on analog and digital clocks, and read the time to the nearest minute	
Course Topics	Activities
Measurements	Five Minute Times What is the Time?
Topics	Skill Quests
Tell time	Telling time to five minutes Telling time to the minute

AC9M3M05	
identify angles as measures of turn and compare angles with right angles in everyday situations	
Course Topics	Activities
Shape & space	Comparing Angles Equal Angles
Topics	Skill Quests
Identify & compare angles	Introducing angles Introducing right angles

AC9M3M06	
recognise the relationships between dollars and cents and represent money values in different ways	
Course Topics	Activities
Money, Dollars & Cents	Money Who's got the Money? How much Change?
Topics	Skill Quests
Money	Recognising Australian notes & coins Counting Australian dollars & cents Using money to make purchases

4 Space

AC9M3SP01	
make, compare and classify objects, identifying key features and explaining why these features make them suited to their uses	
Course Topics	Activities
Shape & space	How Many Faces? How many Edges? Count the Corners Relate Shapes and Solids Collect the Objects Symmetry
Topics	Skill Quests
3D objects	Exploring prisms & pyramids Introducing nets Recognising & comparing 3D objects Describing & sorting 3D objects Comparing 2D shapes & 3D objects

AC9M3SP02	
interpret and create two-dimensional representations of familiar environments, locating key landmarks and objects relative to each other	
Course Topics	Activities
Shape & space	Following Directions Coordinate Meeting Place Map Coordinates Where is it?
Topics	Skill Quests
Interpret & create maps	Interpreting simple maps

5 Statistics

AC9M3ST01	
Course Topics	Activities
Topics	Skill Quests
Record sort read & interpret data	Tallies Sorting Data
Collect & record data	Collecting & recording category data Using tables

AC9M3ST02	
Course Topics	Activities
Topics	Skill Quests
Record sort read & interpret data	Pictographs Interpreting Tables Reading from a Column Graph Column Graphs
Create & compare data representations	Representing & interpreting data displays Comparing data displays

AC9M3ST03	
Course Topics	Activities
Topics	Skill Quests
Teacher directed	
Understand statistical investigations	Introducing the statistical investigation process Conducting a statistical investigation

6 Probability

AC9M3P01	
identify practical activities and everyday events that involve chance; describe possible outcomes and events as 'likely' or 'unlikely' and identify some events as 'certain' or 'impossible' explaining reasoning	
Course Topics	Activities
Probability and chance	Will it Happen? Most Likely and Least Likely Introductory probability What are the Chances? How many Combinations?
Topics	Skill Quests
Language of chance	Using basic probability language

AC9M3P02	
conduct repeated chance experiments; identify and describe possible outcomes, record the results, recognise and discuss the variation	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Chance experiments	Conducting chance experiments

Year 4

1 Number

AC9M4N01	
recognise and extend the application of place value to tenths and hundredths and use the conventions of decimal notation to name and represent decimals	
Course Topics	Activities
Introducing Decimals	Decimals from Words to Digits 1 Decimals on the Number Line Decimal Place Value Who's got the Money? Money Grams and Kilograms Millilitres and Litres Centimetres and Metres
Topics	Skill Quests
Numbers to 1 000 000	Reading & representing numbers to 6 digits Comparing & ordering numbers to 6 digits Place value to 6 digits Partitioning numbers to 6 digits Counting by ones, tens & hundreds
Numbers of any size	Reading & representing numbers of any size Comparing & ordering numbers of any size Place value of numbers of any size Partitioning numbers of any size
Place value to hundredths	Introducing decimal notation Understanding decimal tenths Understanding decimal hundredths Partitioning decimal hundredths
Connect decimals & fraction	Connecting fractions & decimal notation
Round decimal tenths & hundredths	Rounding decimal tenths & hundredths
Decimals used in money	Understanding decimals used in money

AC9M4N02	
explain and use the properties of odd and even numbers	
Course Topics	Activities
Patterns & missing numbers	Odd and Even Numbers 1
Topics	Skill Quests
Odd & even numbers	Odd & even number patterns (up to 20) Identifying odd & even numbers & patterns Properties of odd & even numbers

AC9M4N03	
find equivalent representations of fractions using related denominators and make connections between fractions and decimal notation	
Course Topics	Activities
Fractions & equivalents	Thirds and Sixths

	What Fraction is Shaded? What fraction is Shaded 1 What Mixed Number Is Shaded? Equivalent Fraction Wall 1 Equivalent Fraction Wall 2
Topics	Skill Quests
Equivalent fractions	Investigating equivalent fractions less than 1 Investigating equivalent fractions greater than 1 Patterns in equivalent fractions Using multiplication to find equivalent fractions

AC9M4N04	
count by fractions including mixed numerals; locate and represent these fractions as numbers on number lines	
Course Topics	Activities
Fractions & equivalents	Identifying Fractions on a Number Line Identifying Fractions Beyond 1 Counting with Fractions on a Number Line Mixed and Improper Fractions on a Number Line
Topics	Skill Quests
Count by fractions & mixed numerals	Counting in halves & quarters Counting in halves, quarters & eighths Counting in thirds Counting in tenths Counting in simple fractions on a number line
Convert fraction types using models	Converting mixed numerals to improper fractions

AC9M4N05	
solve problems involving multiplying or dividing natural numbers by multiples and powers of 10 without a calculator, using the multiplicative relationship between the place value of digits	
Course Topics	Activities
Multiplication & division	Multiplying by 10, 100, 1000 Dividing by 10, 100, 1000
Topics	Skill Quests
Mult/div by multiples of 10, 100 & 1000	Using place value to multiply by 10 Multiplying by multiples of 100 Multiplying by 1000 Dividing by multiples of 10 Dividing by multiples of 100 Dividing by 1000

AC9M4N06	
develop efficient strategies and use appropriate digital tools for solving problems involving addition and subtraction, and multiplication and division where there is no remainder	
Course Topics	Activities
Efficient strategies with operations	Bump Add and Subtract Jump Add and Subtract Complements to 10, 20, 50 Split Add and Subtract Compensation – Add

	Column Addition 1 Columns that Subtract Subtract Numbers Magic Symbols 1 Double and Halve to Multiply Fact Families: Multiply and Divide Multiplication Arrays Arrays 1 Arrays 2 Related Facts 2 Model multiplication to 5×5 Grid Methods 1 Problems: Times and Divide
Topics	Skill Quests
Addition & subtraction using algorithms	Addition algorithms (without regrouping) Addition algorithms (with regrouping) Addition algorithms (with & without regrouping) Subtraction algorithms (without decomposing) Subtraction algorithms (with decomposing)
Addition & subtraction strategies	Add & subtract using efficient strategies Add & subtract using a bar model Add & subtract using place value portioning Add & subtract using jump strategies Add & subtract using split strategies Add & subtract using round & compensate strategies
Mult & div strategies, no remainder	Multiplication strategies: 1-digit numbers Using the conventions of multiplication Inverse facts: multiplication & division Practising multiplication strategies Multiplying 2-digit numbers by a 1-digit number Multiplying 2-digit numbers using doubling Multiplying 2-digit numbers using factorising Selecting effective multiplication strategies Selecting effective division strategies Comparisons using the language of multiplication Dividing a 2-digit number by a 1-digit number

AC9M4N07	
choose and use estimation and rounding to check and explain the reasonableness of calculations including the results of financial transactions	
Course Topics	Activities
Efficient strategies with operations	Estimate Sums Estimate Differences
Topics	Skill Quests
Use estimation & rounding	Rounding & estimating with addition Rounding & estimating with subtraction Checking accuracy of addition & subtraction Estimating with multiplication & division Using estimating with money

AC9M4N08

use mathematical modelling to solve practical problems that involve additive and multiplicative situations including financial contexts; formulate the problems using number sentences and choose efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation

Course Topics	Activities
Problem solving with models	Bar Model Problems 1 Bar Model Problems 2 Fractions of a Collection 1 Fractions of a Collection 2
Topics	Skill Quests
Addition & subtraction word problems	Addition & subtraction word problems Posing addition & subtraction problems Expressing word problems as equations
Multiplication & division word problems	Expressing equations as word problems Solving multiplication & division word problems.
Addition & subtraction money problems	Solving addition & subtraction money problems

AC9M4N09

follow and create algorithms involving a sequence of steps and decisions that use addition or multiplication to generate sets of numbers; identify and describe any emerging patterns

Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Sequences & patterns	Investigating sequences with multiples Exploring number patterns Finding & generating shape patterns from a rule Generating add/sub patterns from a rule Generating multiplication patterns from a rule Using a function machine to apply rules to numbers Working with code to create algorithms

2 Algebra

AC9M4A01

find unknown values in numerical equations involving addition and subtraction, using the properties of numbers and operations

Course Topics	Activities
Patterns & missing numbers	Describing Patterns Missing Values I am Thinking of a Number! Balance Numbers to 20
Topics	Skill Quests
Addition & subtraction number sentences	Using inverse operations for add/sub equations Relationship between addition & subtraction Equivalent number sentences Word problems for finding unknown quantities

AC9M4A02	
recall and demonstrate proficiency with multiplication facts up to 10×10 and related division facts; extend and apply facts to develop efficient mental strategies for computation with larger numbers without a calculator	
Course Topics	Activities
Multiplication & division	Grouping in Threes Grouping in Fours Grouping in Sixes Grouping in Sevens Grouping in Eights Grouping in Nines Dividing Threes Dividing Fours Dividing Sixes Dividing Sevens Dividing Eights Dividing Nines Multiplication Turnarounds Missing Numbers: \times and \div facts Times Tables Multiply 3 single-digit numbers
Topics	Skill Quests
Multiplication & division facts	Multiplication & division facts up to 5 Multiplying & dividing by 6 up to 60 Multiplying & dividing by 7 up to 70 Multiplying & dividing by 8 up to 80 Multiplying & dividing by 9 up to 90 Multiplying & dividing to 10×10

3 Measurement

AC9M4M01	
interpret unmarked and partial units when measuring and comparing attributes of length, mass, capacity, duration and temperature, using scaled and digital instruments and appropriate units	
Course Topics	Activities
Measuring converting & comparing	How Heavy? How Long is That? Measuring Length Measure to the Nearest Half Centimetre How many Blocks? Comparing Volume Volume of Solids and Prisms - 1cm^3 blocks What's the Temperature (Celsius)?
Topics	Skill Quests
Length, mass, capacity & temperature	Metric units of length Length & 3D objects Measuring temperature Measuring capacity in millilitres Measuring mass in grams & kilograms Reading scales with metric units

AC9M4M02

recognise ways of measuring and approximating the perimeter and area of shapes and enclosed spaces, using appropriate formal and informal units

Course Topics	Activities
Measuring converting & comparing	Biggest Shape Equal Areas Area of Shapes Perimeter of Shapes
Topics	Skill Quests
Measure perimeter	Introducing perimeter Measuring perimeter
Measure area	Measuring & estimating area using square units Introducing area using formal units Measuring & comparing regular & irregular shapes Measuring area using formal units

AC9M4M03

solve problems involving the duration of time including situations involving “am” and “pm” and conversions between units of time

Course Topics	Activities
Measuring converting & comparing	What is the Time? Time Conversions: Whole Numbers 1 Time Conversions: Whole Numbers 2 Time Conversions: Simple Fractions Time Conversions: Simple Decimals (0.25, 0.5, 0.75)
Topics	Skill Quests
Convert units of time	Converting units of time
Solve duration of time problems	Understanding am & pm notation Solving duration of time problems

AC9M4M04

estimate and compare angles using angle names including acute, obtuse, straight angle, reflex and revolution, and recognise their relationship to a right angle

Course Topics	Activities
Space shape & angle	Equal Angles Comparing Angles Right Angle Relation What Type of Angle? Relate Shapes and Solids Collect the Objects 2
Topics	Skill Quests
Classify angles	Classifying angles

4 Space

AC9M4SP01	
represent and approximate composite shapes and objects in the environment, using combinations of familiar shapes and objects	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Identify composite shapes & objects	Composing & decomposing 2D shapes

AC9M4SP02	
create and interpret grid reference systems using grid references and directions to locate and describe positions and pathways	
Course Topics	Activities
Space shape & angle	Coordinate Meeting Place Map Coordinates Using a key What Direction was That? More Directions!
Topics	Skill Quests
Create & interpret grid references	Working with grid reference systems

AC9M4SP03	
recognise line and rotational symmetry of shapes and create symmetrical patterns and pictures, using dynamic geometric software where appropriate	
Course Topics	Activities
Space shape & angle	Symmetry Symmetry or Not? Rotational Symmetry
Topics	Skill Quests
Line & rotational symmetry	Recognising & drawing line symmetry Rotational symmetry
Symmetrical patterns, pictures & shapes	Creating & drawing symmetrical designs Recognising tessellations

5 Statistics

AC9M4ST01	
acquire data for categorical and discrete numerical variables to address a question of interest or purpose using digital tools; represent data using many-to-one pictographs, column graphs and other displays or visualisations; interpret and discuss the information that has been created	
Course Topics	Activities
Graphs with scales &/or axis	Picture Graphs: with scale & half symbols Making Picture Graphs: With Scale Column Graphs Reading from a Column Graph

Topics	Skill Quests
Represent data with many-to-one graphs	Column graphs using many-to-one correspondence
	Picture graphs with many-to-one correspondence

AC9M4ST02	
analyse the effectiveness of different displays or visualisations in illustrating and comparing data distributions, then discuss the shape of distributions and the variation in the data	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Evaluate & compare data displays	Evaluating & comparing data displays
	Evaluating the shape of data sets

AC9M4ST03	
conduct statistical investigations, collecting data through survey responses and other methods; record and display data using digital tools; interpret the data and communicate the results	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Methods of data collection	Surveys & sorting data

6 Probability

AC9M4P01	
describe possible everyday events and the possible outcomes of chance experiments and order outcomes or events based on their likelihood of occurring; identify independent or dependent events	
Course Topics	Activities
Chance	Chance Gauge
	What are the Chances?
	Counting Techniques 1
Topics	Skill Quests
Chance events	Describing the chance of events occurring
Non-simultaneous everyday events	Exploring non-simultaneous everyday events
Independent & dependent events	Independent & dependent events

AC9M4P02	
conduct repeated chance experiments to observe relationships between outcomes; identify and describe the variation in results	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Conduct chance experiments	Conducting chance experiments
	Investigating equally likely outcomes of chance

Year 5

1 Number

AC9M5N01	
interpret, compare and order numbers with more than 2 decimal places, including numbers greater than one, using place value understanding; represent these on a number line	
Course Topics	Activities
REVIEW Whole Numbers & Place Value	Place Value to Millions Numbers from Words to Digits 1 Numbers from Words to Digits 2 Greater Than or Less Than? Partition and Rename 3 Expanded Notation Rounding Numbers Decimals from Words to Digits 1 Decimals on the Number Line Decimal Place Value Nearest Whole Number
Fractions decimals & percentages	Decimal Order Comparing Decimals Centimetres and Metres
Topics	Skill Quests
Understand decimals to thousandths	Introducing decimal thousandths Partitioning decimals of any size Comparing & ordering decimals Interpreting zeros at end of decimals Decimal & fraction equivalences Connecting decimals to the metric system

AC9M5N02	
express natural numbers as products of their factors, recognise multiples and determine if one number is divisible by another	
Course Topics	Activities
Factors & Multiples	Multiples Lowest Common Multiple Factors Highest Common Factor Find the Factor Divisibility Tests (2, 5, 10) Divisibility Tests (3, 4, 9) Tests of Divisibility 1
Topics	Skill Quests
Multiples & factors	Finding multiples Finding factors Solving problems using factors & multiples
Divisibility tests	Divisibility tests for 2, 5 & 10 Divisibility tests for 3, 4, 6, 8 & 9

AC9M5N03

compare and order fractions with the same and related denominators including mixed numerals, applying knowledge of factors and multiples; represent these fractions on a number line

Course Topics	Activities
Compare & order fractions	Shading Equivalent Fractions Equivalent Fraction Wall 1 Equivalent Fractions on a Number Line 1 Equivalent Fractions Compare Fractions 1a Compare Fractions 1b Improper to Mixed Mixed to Improper Converting Mixed and Improper Identifying Fractions on a Number Line Mixed and Improper Fractions on a Number Line
Topics	Skill Quests
Compare & order fractions	Comparing & ordering fractions Comparing & ordering fractions & mixed numbers Using common factors to simplify proper fractions

AC9M5N04

recognise that 100% represents the complete whole and use percentages to describe, represent and compare relative size; connect familiar percentages to their decimal and fraction equivalents

Course Topics	Activities
Fractions decimals & percentages	Modelling Percentages Fractions to Decimals Percents and Decimals Common Fractions as Percentages (AU)
Topics	Skill Quests
Fractions, decimals & percentages	Introducing percentages Connecting percentages & decimals Connecting percentages & fractions Relationship - percentages, decimals & fractions

AC9M5N05

solve problems involving addition and subtraction of fractions with the same or related denominators, using different strategies

Course Topics	Activities
Add & Subtract related fractions	Add: Common Denominator Subtract: Common Denominator Common Denominator Add Like Mixed Numbers Subtract Like Mixed Numbers
Topics	Skill Quests
Add & subtract fractions	Add & subtract proper fractions - same denominator Add & subtract mixed numerals - same denominator Add & subtract fractions - related denominators Add & subtract mixed num - related denominators

AC9M5N06

solve problems involving multiplication of larger numbers by one- or two-digit numbers, choosing efficient calculation strategies and using digital tools where appropriate; check the reasonableness of answers

Course Topics	Activities
More Multiplication & division	Multiply Multiples of 10 Multiply More Multiples of 10 Multiply 2 Digits Area Model Grid Methods 1 Double and Halve to Multiply Mental Methods Multiplication 1
Topics	Skill Quests
Strategies to multiply by 1- or 2-digits	Multiplication using multiples of 10 Multiplying: rounding, compensating & partitioning Multiplying: doubling, halving & thirding Multiplying using the split method Multiplying using an area model Multiplying by factorising Multiplying using expanded algorithm Multiplying using contracted algorithm Multiplying using extended form of algorithm

AC9M5N07

solve problems involving division, choosing efficient strategies and using digital tools where appropriate; interpret any remainder according to the context and express results as a whole number, decimal or fraction

Course Topics	Activities
More Multiplication & division	Dividing by 10, 100, 1000 Division Facts 1 Remainders by Arrays Mental Methods Division 1 Mental Methods Division
Topics	Skill Quests
Division strategies incl. remainders	Dividing by a 1-digit number using partitioning Dividing by a 2-digit number using partitioning Dividing by a 1-digit number using factorising Dividing by a 2-digit number using factorising Extended division - no remainders or zeros Extended division with remainders Extended division with & without remainders Contracted division - no remainders or zeros Contracted division - no remainders Contracted division - with & without remainders Dividing by 2-digit numbers - formal algorithms

AC9M5N08

check and explain the reasonableness of solutions to problems including financial contexts using estimation strategies appropriate to the context

Course Topics	Activities
Rounding & estimating	Rounding off Numbers Estimate Sums Estimate Differences Estimate Products

	Estimate Quotients Estimation: Multiply and Divide Estimate Decimal Sums 2 Estimate Decimal Operations
Topics	Skill Quests
Estimation & rounding	Rounding to estimate addition & subtraction Rounding to estimate multiplication & division Estimating with money

AC9M5N09	
use mathematical modelling to solve practical problems involving additive and multiplicative situations including financial contexts; formulate the problems, choosing operations and efficient calculation strategies, using digital tools where appropriate; interpret and communicate solutions in terms of the situation	
Course Topics	Activities
Solve problems	Columns that Add Add Two 2-Digit Numbers Add 3-Digit Numbers Columns that Subtract Subtract Numbers Multiply: 1-Digit Number Multiply: 2-Digit by 1-Digit Divide: 1-Digit Divisor 1 Bar model $\times \div$ Problems: Times and Divide
Topics	Skill Quests
Add & subtract practical problems	Addition & subtraction word problems Expressing word problems as equations add/sub Solving add & subtract money problems
Multiply & divide practical problems	Multiplication & division word problems Expressing word problems as equations mult/div Solving mult-step mult/div word problems Solving mult & div money problems
All operations practical problems	Express equations as word problems all operations

AC9M5N10	
create and use algorithms involving a sequence of steps and decisions and digital tools to experiment with factors, multiples and divisibility; identify, interpret and describe emerging patterns	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Create & use algorithms	Manipulating numbers using a given rule Designing flowcharts to solve add/sub of fractions Factors & multiples

2 Algebra

AC9M5A01	
recognise and explain the connection between multiplication and division as inverse operations and use this to develop families of number facts	
Course Topics	Activities
Fact families Mult/Div	Fact Families: Multiply and Divide Multiplication Turnarounds Missing Numbers: \times and \div facts Times Tables Multiply 3 single-digit numbers
Topics	Skill Quests
Connect multiplication & division	Inverse relationship - multiplication & division

AC9M5A02	
find unknown values in numerical equations involving multiplication and division using the properties of numbers and operations	
Course Topics	Activities
Missing Values	Equivalent Facts: Multiply Missing Values Missing Numbers: Variables Solve Equations: Multiply, Divide 1 I am Thinking of a Number! Fit the Conditions 1
Topics	Skill Quests
Find unknown values in mult & div	Finding unknown values - multiplication & division

3 Measurement

AC9M5M01	
choose appropriate metric units when measuring the length, mass and capacity of objects; use smaller units or a combination of units to obtain a more accurate measure	
Course Topics	Activities
Measurement	Kilometre Conversions Metres and Kilometres Millilitres and Litres Litre Conversions Kilogram Conversions Grams and Kilograms
Topics	Skill Quests
Choose appropriate metric units	Introducing kilometres Comparing & ordering units of length Selecting appropriate units – length Comparing & ordering units of mass Selecting appropriate units – mass Selecting appropriate units – capacity Recognising suitable metric units - all

AC9M5M02	
solve practical problems involving the perimeter and area of regular and irregular shapes using appropriate metric units	
Course Topics	Activities
Measurement	Perimeter: Squares and Rectangles Area of Shapes Biggest Shape Equal Areas Area: Squares and Rectangles
Topics	Skill Quests
Perimeter & area - practical problems	Calculating perimeter practical problems Calculating area practical problems

AC9M5M03	
compare 12- and 24-hour time systems and solve practical problems involving the conversion between them	
Course Topics	Activities
Time conversions & problems	Time Conversions: Whole Number 1 Time Conversions: Whole Number 2 Elapsed Time 24 Hour Time Using Timetables
Topics	Skill Quests
Use 24-hour time	Using 24-hour notation Using 24-hour time in timetables

AC9M5M04	
estimate, construct and measure angles in degrees, using appropriate tools including a protractor, and relate these measures to angle names	
Course Topics	Activities
Measurement	Classifying Angles Measuring Angles Estimating Angles
Topics	Skill Quests
Estimate, construct & measure angles	Identifying, estimating & measuring angles Classifying & constructing angles

4 Space

AC9M5SP01	
connect objects to their nets and build objects from their nets using spatial and geometric reasoning	
Course Topics	Activities
Space & shape	What Pyramid am I? What Prism am I? Prisms and Pyramids
Topics	Skill Quests
Connect objects to nets	Connecting prisms & pyramids with their nets Connecting 3D objects with their nets

AC9M5SP02	
construct a grid coordinate system that uses coordinates to locate positions within a space; use coordinates and directional language to describe position and movement	
Course Topics	Activities
Space & shape	Map Coordinates Coordinate Graphs: 1st Quadrant More Directions!
Topics	Skill Quests
Use coordinates in a grid system	Working with grid referenced maps Using Cartesian coordinate system - first quadrant Using landmarks & directional language

AC9M5SP03	
describe and perform translations, reflections and rotations of shapes, using dynamic geometric software where appropriate; recognise what changes and what remains the same, and identify any symmetries	
Course Topics	Activities
Space & shape	Flip, Slide, Turn Transformations Rotational Symmetry
Topics	Skill Quests
Identify & describe transformations	Identifying & describing transformations

5 Statistics

AC9M5ST01	
acquire, validate and represent data for nominal and ordinal categorical and discrete numerical variables to address a question of interest or purpose using software including spreadsheets; discuss and report on data distributions in terms of highest frequency (mode) and shape, in the context of the data	
Course Topics	Activities
Statistics	Tally Charts Mode Mode from Stem and Leaf Plot Mode from Frequency Table Grouping data and modal class
Topics	Skill Quests
Acquire, validate & represent data	Conducting surveys or statistical investigations
Understand data distributions	Understanding & calculating the mode Introducing the shape of data distribution

AC9M5ST02	
interpret line graphs representing change over time; discuss the relationships that are represented and conclusions that can be made	
Course Topics	Activities
Statistics	Line Graphs: Interpretation Travel Graphs

Topics	Skill Quests
Interpret line graphs	Interpreting line graphs

AC9M5ST03	
plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation	
Course Topics	Activities
Statistics	Stem and Leaf Plots: Concept Dot Plots Divided Bar Graphs Sector Graphs
Topics	Skill Quests
Teacher directed	

6 Probability

AC9M5P01	
list the possible outcomes of chance experiments involving equally likely outcomes and compare to those which are not equally likely	
Course Topics	Activities
Chance & Probability	What are the Chances? Chance Gauge Introductory probability Fair Games
Topics	Skill Quests
Outcomes of chance experiments	Investigating equally likely outcomes Exploring fair & unfair chance experiments

AC9M5P02	
conduct repeated chance experiments including those with and without equally likely outcomes, observe and record the results; use frequency to compare outcomes and estimate their likelihoods	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Teacher directed	

Year 6

1 Number

AC9M6N01	
recognise situations, including financial contexts, that use integers; locate and represent integers on a number line and as coordinates on the Cartesian plane	
Course Topics	Activities
Introducing Integers	Integers on a Number Line Ordering Integers (Number Line) Comparing Integers (<, =, >) What's the Temperature (Celsius)?
Topics	Skill Quests
Understand integers	Recognising situations that use integers Locating & representing integers on a number line Introducing the Cartesian plane

AC9M6N02	
identify and describe the properties of prime, composite and square numbers and use these properties to solve problems and simplify calculations	
Course Topics	Activities
Multiples, factors, primes & composites	Multiples Multiples of Highest Common Factor Lowest Common Multiple Prime or Composite?
Topics	Skill Quests
Prime, composite & square numbers	Introducing prime & composite numbers Introducing square numbers

AC9M6N03	
apply knowledge of equivalence to compare, order and represent common fractions including halves, thirds and quarters on the same number line and justify their order	
Course Topics	Activities
Equivalent fractions	Shading Equivalent Fractions Identifying Fractions on a Number Line Mixed and Improper Fractions on a Number Line Equivalent Fractions Comparing Fractions 1 Compare Fractions 1a Compare Fractions 1b
Topics	Skill Quests
Compare & order common fractions	Recognise, compare & represent common fractions Comparing common fractions on a number line

AC9M6N04

apply knowledge of place value to add and subtract decimals, using digital tools where appropriate; use estimation and rounding to check the reasonableness of answers

Course Topics	Activities
Add/subtract decimal and fractions	Decimal Complements Adding Decimals Subtract Decimals 1
Topics	Skill Quests
Add/sub decimals - mental strategies	Adding decimals using mental strategies Subtracting decimals using mental strategies
Add/sub decimals - digital technologies	Adding decimals using digital technologies Subtracting decimals using digital technologies
Add/sub decimals - written method	Adding decimals using written method Subtracting decimals using written method
Add/sub decimals – estimating	Estimating sums & differences of decimals

AC9M6N05

solve problems involving addition and subtraction of fractions using knowledge of equivalent fractions

Course Topics	Activities
Add/subtract decimal and fractions	Add Subtract Fractions 1 Common Denominator Add: Common Denominator Subtract: Common Denominator One Take Fraction Add Like Mixed Numbers Subtract Like Mixed Numbers
Topics	Skill Quests
Add & subtract proper fractions	Adding fractions with related denominators Subtracting fractions with related denominators Add & subtract fractions - related denominators
Add & subtract mixed numerals	Adding fractions & mixed numerals Subtracting fractions & mixed numerals

AC9M6N06

multiply and divide decimals by multiples of powers of 10 without a calculator, applying knowledge of place value and proficiency with multiplication facts, using estimation and rounding to check the reasonableness of answers

Course Topics	Activities
Fractions, decimals & percentages	Multiply Decimals: 10, 100, 1000 Divide Decimals: 10, 100, 1000
Topics	Skill Quests
Multiply/divide decimals by powers of 10	Multiplying decimals by powers of 10 Dividing decimals by powers of 10 Using estimation

AC9M6N07

solve problems that require finding a familiar fraction, decimal or percentage of a quantity, including percentage discounts, choosing efficient calculation strategies and using digital tools where appropriate

Course Topics	Activities
	Fractions to Decimals

Fractions, decimals & percentages	Decimals to Fractions 1
	Percentage to Fraction
	Decimals to percentages
	Common Fractions as Percentages (AU)
	Fractions to Percentages (Non-Calculator)
	Percents and Decimals
	Match Decimals and Percentages
	Calculating Percentages (Mental)
	Money Problems: Four Operations
	Time Conversions: Simple Fractions
	Time Conversions: Simple Decimals (0.25, 0.5, 0.75)
Topics	Skill Quests
Find a fraction of a quantity	Finding a fraction of a quantity
Calculate percentages	Calculating percentages

AC9M6N08	
approximate numerical solutions to problems involving rational numbers and percentages, including financial contexts, using appropriate estimation strategies	
Course Topics	Activities
Add/subtract decimal and fractions	Estimate Decimal Sums 1 Estimate Decimal Differences 1 Estimate Decimal Sums 2 Estimate Decimal Differences 2
Fractions, decimals & percentages	Estimate Decimal Operations Estimate Products with Fractions
Topics	Skill Quests
Rational numbers & percentages	Estimating solutions

AC9M6N09	
use mathematical modelling to solve practical problems, involving rational numbers and percentages, including in financial contexts; formulate the problems, choosing operations and efficient calculation strategies, and using digital tools where appropriate; interpret and communicate solutions in terms of the situation, justifying the choices made	
Course Topics	Activities
Fractions, decimals & percentages	Fraction Wall Labelling 2 Fraction Word Problems Percentage Word Problems Model Fractions to Multiply
Topics	Skill Quests
Solve practical percentage problems	Solving practical percentage problems

2 Algebra

AC9M6A01	
recognise and use rules that generate visually growing patterns and number patterns involving rational numbers	
Course Topics	Activities

Algebra patterns equations & rules	Increasing Patterns
	Describing Patterns
	Find the Pattern Rule
	Table of Values
	Pattern Rules and Tables
Topics	Skill Quests
Recognise & use rules for patterns	Continuing & creating number sequences

AC9M6A02	
find unknown values in numerical equations involving brackets and combinations of arithmetic operations, using the properties of numbers and operations	
Course Topics	Activities
Algebra patterns equations & rules	Number Sequences Up to 1 Million Order of Operations 1 (BIDMAS) Writing Algebraic Expressions Missing Numbers: Variables Simple Substitution Solve Equations: Add, Subtract 1 Solve Equations: Multiply, Divide 1
Topics	Skill Quests
Understand order of operations	Order of operations with no grouping symbols Order of operations using grouping symbols Order of operations practical situations

AC9M6A03	
create and use algorithms involving a sequence of steps and decisions that use rules to generate sets of numbers; identify, interpret and explain emerging patterns	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Design flowcharts to solve problems	Designing flowcharts to solve problems
Use rules & algorithms	Manipulating numbers using a given rule Creating algorithms for sets

3 Measurement

AC9M6M01	
convert between common metric units of length, mass and capacity; choose and use decimal representations of metric measurements relevant to the context of a problem	
Course Topics	Activities
Converting metric units	Grams and Kilograms Conversion Grams and Kilograms Grams and Milligrams Converting Units of Mass Centimetres and Metres Metres and Kilometres Millilitres and Litres

	Converting Volume
Topics	Skill Quests
Connect decimals to the metric system	Decimal notation & the metric system Decimal representation in capacity Decimal representation in mass
Convert metric units of measurement	Converting metric units of length Converting metric units of capacity Converting metric units of mass

	AC9M6M02
establish the formula for the area of a rectangle and use it to solve practical problems	
Course Topics	Activities
Area and angle	Area of Shapes Area: Squares and Rectangles
Topics	Skill Quests
Use formula for area of a rectangle	Using a formula to calculate area of a rectangle

	AC9M6M03
interpret and use timetables and itineraries to plan activities and determine the duration of events and journeys	
Course Topics	Activities
Time conversions & problems	Time Conversions: Simple Fractions Time Conversions: Simple Decimals Time Mental Elapsed Time 24 Hour Time Using Timetables
Topics	Skill Quests
Interpret & use timetables	Interpreting & using timetables

	AC9M6M04
identify the relationships between angles on a straight line, angles at a point and vertically opposite angles; use these to determine unknown angles, communicating reasoning	
Course Topics	Activities
Area and angle	Measuring Angles Estimating Angles Angle Sum of a Triangle Quadrilaterals: Angle Sum with Equations Exterior Angles of a Triangle Angles of revolution: Unknown Values Vertically Opposite Angles: Unknown Values
Topics	Skill Quests
Understand angle properties	Understanding adjacent angles Exploring vertically opposite angles Calculating angles that total 360° Investigating supplementary & complementary angles

4 Space

AC9M6SP01	
compare the parallel cross-sections of objects and recognise their relationships to right prisms	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Investigate cross-sections	Investigating cross-sections

AC9M6SP02	
locate points in the 4 quadrants of a Cartesian plane; describe changes to the coordinates when a point is moved to a different position in the plane	
Course Topics	Activities
Shape and space	Ordered Pairs
	Number Plane
	Graphing from a Table of Values
	Reading Values from a Line
Topics	Skill Quests
Points on the Cartesian plane	Locating points on the Cartesian plane

AC9M6SP03	
recognise and use combinations of transformations to create tessellations and other geometric patterns, using dynamic geometric software where appropriate	
Course Topics	Activities
Shape and space	Transformations: Coordinate Plane
	Rotations: Coordinate Plane
Topics	Skill Quests
Use combinations of transformations	Recognising tessellations
	Identifying a sequence of 2 transformations

5 Statistics

AC9M6ST01	
interpret and compare data sets for ordinal and nominal categorical, discrete and continuous numerical variables using comparative displays or visualisations and digital tools; compare distributions in terms of mode, range and shape	
Course Topics	Activities
Mode & range	Mode
	Mode from Stem and Leaf Plot
	Mode from Frequency Table
	Data Extremes and Range
	Stem and Leaf Plots with Range
	Double Stem and Leaf Plots
	Line Graphs: Interpretation
Topics	Skill Quests
	Two-way tables

Interpret, compare & describe data sets	Side-by-side column graphs Comparing & selecting bivariate data displays Describing & interpreting data sets
Compare mode, range & shape	Understanding mode, range & shape of distributions Comparing modes in sets of data

AC9M6ST02	
identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Interpret & evaluate secondary data	Interpreting & evaluating secondary data

AC9M6ST03	
plan and conduct statistical investigations by posing and refining questions or identifying a problem and collecting relevant data; analyse and interpret the data and communicate findings within the context of the investigation	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Teacher directed	

6 Probability

AC9M6P01	
recognise that probabilities lie on numerical scales of 0 – 1 or 0% – 100% and use estimation to assign probabilities that events occur in a given context, using common fractions, percentages and decimals	
Course Topics	Activities
Probability	Simple Probability Probability Scale Complementary Events Dice and Coins
Topics	Skill Quests
Assign probabilities	Probability as a fraction, decimal or percent Probabilities from 0 to 1

AC9M6P02	
conduct repeated chance experiments and run simulations with an increasing number of trials using digital tools; compare observations with expected results and discuss the effect on variation of increasing the number of trials	
Course Topics	Activities
Teacher directed	
Topics	Skill Quests
Conduct chance experiments	Conducting chance experiments

Mathletics

For more information about Mathletics,
contact our friendly team.

www.mathletics.com/contact