Mathletics
NZ Curriculum Mathematics and Statistics (2026)

Activities (Courses) and Skill Quests

Phase 3, Years 7-8

December, 2025

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Phase 3, Year 7

Number

Number structure and operations

Reading, writing comparing, and ordering whole numbers using powers of 10 (e.g. 10,000 = 10^4, 1000 < 10^4)	
📰 **Activities**	
Number: Powers & square roots	Scientific Notation 1
👑 **Skill Quests**	
Write numbers using powers of 10	Writing numbers using powers of 10

Representing numbers in expanded form using powers of 10 (e.g. 34,506 = $3 \times 10^4 + 4 \times 10^3 + 5 \times 10^2 + 6$)	
📰 **Activities**	
Number: Powers & square roots	Scientific Notation 1
👑 **Skill Quests**	
Represent numbers in expanded form	Representing numbers in expanded form

Using exponents and identifying square roots for square numbers up to at least 144	
📰 **Activities**	
Number: Powers & square roots	Index Notation/Exponent Notation
	Square Roots
👑 **Skill Quests**	
Exponents & square roots	Exponents
	Square roots

Using radicals (√) to represent square roots	
📰 **Activities**	
Number: Powers & square roots	Square Roots
👑 **Skill Quests**	
Use radicals to represent square roots	Using radicals to represent square roots

Using divisibility rules to identify numbers that are divisible by 2, 3, 4, 5, 6, 8, 9, and 10	
📰 **Activities**	
Number: Primes, factors & multiples	Divisibility Tests (2, 5, 10)
	Divisibility Tests (3, 4, 9)
👑 **Skill Quests**	
Divisibility rules	Divisibility rules for dividing by 2
	Divisibility rules for dividing by 3
	Divisibility rules for dividing by 4
	Divisibility rules for dividing by 5
	Divisibility rules for dividing by 6
	Divisibility rules for dividing by 8
	Divisibility rules for dividing by 9
	Divisibility rules for dividing by 10
	Divisibility rules

Identifying prime numbers to 100	
📋 **Activities**	
Number: Primes, factors & multiples	Prime or Composite Numbers
👑 **Skill Quests**	
Prime & composite numbers	Prime & composite numbers

Finding the highest common factor (HCF) of two numbers under 100, and finding the least common multiple (LCM) of two numbers under 10	
📋 **Activities**	
Number: Primes, factors & multiples	Highest Common Factor
	Lowest Common Multiple
👑 **Skill Quests**	
HCF & LCM	HCF & LCM

Locating integers on a number line	
📋 **Activities**	
Number: Integers	Ordering Integers (Number Line)
👑 **Skill Quests**	
Integers on a number line	Integers on a number line

Ordering whole negative and positive numbers using a number line	
📋 **Activities**	
Number: Integers	Directed Numbers
👑 **Skill Quests**	
Order rational numbers	Ordering rational numbers

Identifying the additive inverse of any number	
📋 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Additive inverse	Additive inverse

Representing addition and subtraction of integers using a number line	
📋 **Activities**	
Number: Integers	Negative or Positive?
👑 **Skill Quests**	
Add & subtract integers, number line	Adding & subtracting integers, number line

Using negative numbers to solve problems in a range of contexts, including the measurement of temperature and finance	
📋 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Negative numbers in context	Negative numbers in context

Using rounding and estimation to predict results and to check the reasonableness of calculations (e.g. 0.73 + 0.8 + 0.999 must be less than 3 since each are close to but less than 1)	
▤ Activities	
Number: Multiplication & division	Estimate Products
	Estimate Quotients
	Estimation: Multiply and Divide
♛ Skill Quests	
Estimate calculations	Estimating whole number calculations
	Estimating decimal calculations

Rounding whole numbers to any specified power of 10, and rounding decimals to the nearest whole number, tenth, or hundredth	
▤ Activities	
Rational numbers: Decimals	Rounding Decimals
♛ Skill Quests	
Round whole numbers & decimals	Rounding whole numbers
	Rounding decimals

Multiplying whole numbers	
▤ Activities	
Number: Multiplication & division	Multiplying Whole Numbers by 10, 100, and 1000
	Mental Methods Multiplication 2
	Multiply 2 Digits Area Model
	Single Digit multipliers
	Long Multiplication
	Multiply: 2-Digit Number, Regroup
	Dividing by 10, 100, 1000
♛ Skill Quests	
Multiply whole numbers	Multiplying whole numbers

Dividing whole numbers by one- or two-digit divisors (e.g. 327 ÷ 5 = 65.4 or 65 2/5)	
▤ Activities	
Number: Multiplication & division	Rounding Numbers for Division
	Mental Methods Division 2
	Mental Methods Division 3
	Divide: 1-Digit Divisor, Remainder
	Divide: 2-Digit Divisor, Remainder
	Long Division
	Short Division
♛ Skill Quests	
Divide whole numbers	Dividing whole numbers, 1-digit divisor
	Dividing whole numbers, 2-digit divisor

Evaluating expressions using the order of operations	
▤ Activities	
Number: Multiplication & division	Order of Operations 1 (BIDMAS)
	Identifying errors in applying the order of operations

👑 Skill Quests	
Order of operations	Order of operations

Rational numbers

Identifying, reading, writing, and representing fractions, decimals, and percentages	
📧 **Activities**	
Rational numbers: Decimals	Decimals on a Number Line
Rational numbers: Percentages & proportion	Modelling Percentages
	Quantities to Percentages (no units)
	Quantities to Percentages (with units)
👑 **Skill Quests**	
Represent decimals	Decimal place value
	Repeating decimals

Comparing, ordering, and converting between fractions, decimals, and percentages	
📧 **Activities**	
Rational numbers: Fractions	Comparing Fractions 1
	Arranging Fractions
Rational numbers: Decimals	Comparing Decimals
	Decimal Order
	Fraction to Terminating Decimal
	Fractions to Decimals
	Decimals to Fractions 2
	Decimals to Fractions 1
Rational numbers: Percentages & proportion	Common Fractions as Percentages (AU)
	Fractions to Percentages (Non-Calculator)
	Decimal to Percentage
	Percents to Fractions
	Percents and Decimals
	Percentages greater than 100% to Mixed Numerals
	Match Decimals and Percentages
👑 **Skill Quests**	
Compare & order FDP	Comparing & ordering fractions & mixed numbers
	Comparing & ordering terminating decimals
	Ordering terminating & repeating decimals
	Comparing & ordering FDP
Converting between FDP	Converting between FDP
	Converting fractions to repeating decimals
	Converting fractions to repeating percentages
	Converting repeating decimals to fractions
	Converting repeating percentages to decimals

Finding equivalent fractions and representing fractions in their simplest form	
📧 **Activities**	
Rational numbers: Fractions	The Equivalent Fraction
	Fraction Wall Labelling 1
	Simplify Fractions
	Mixed to Improper

	Improper to Mixed
Equivalent fractions	Equivalent fractions
	Simplifying fractions

Adding and subtracting fractions, including improper fractions and mixed numbers, and representing the answer in its simplest form	
📧 **Activities**	
Rational numbers: Fractions	Common Denominator
	No Common Denominator
	Add Like Mixed Numbers
	Subtract Like Mixed Numbers
👑 **Skill Quests**	
Add & subtract fractions	Adding fractions & mixed numbers
	Subtracting fractions & mixed numbers

Adding and subtracting decimals	
📧 **Activities**	
Rational numbers: Fractions	Fraction Wall Labelling 1
Rational numbers: Decimals	Decimal Complements
	Adding Decimals
	Subtracting Decimals
	Estimate Decimal Sums 1
	Estimate Decimal Differences 1
👑 **Skill Quests**	
Add & subtract decimals	Adding decimals
	Subtracting decimals

Multiplying and dividing numbers by powers of 10	
📧 **Activities**	
Rational numbers: Decimals	Multiply Decimals: 10, 100, 1000
	Divide Decimals: 10, 100, 1000
👑 **Skill Quests**	
Multiply & divide decimals, powers of 10	Multiplying decimals by powers of 10
	Dividing decimals by powers of 10

Multiplying whole numbers by fractions and representing the answer in its simplest form	
📧 **Activities**	
Rational numbers: Fractions	Model Fractions to Multiply
	Multiply: Whole Number and Fraction
👑 **Skill Quests**	
Multiply whole numbers & fractions	Multiplying whole numbers & fractions

Multiplying decimals by whole numbers (e.g. 0.7 × 5 and 0.7 × 50, which both relate to knowing 7 × 5 = 35)	
📧 **Activities**	
Rational numbers: Decimals	Multiply Decimal by Whole Number

👑 **Skill Quests**	
Multiply decimals & whole numbers	Multiplying decimals & whole numbers

Dividing fractions by whole numbers and representing the answer in its simplest form	
📖 **Activities**	
Rational numbers: Fractions	Divide Fractions Visual Model
👑 **Skill Quests**	
Divide fractions by whole numbers	Dividing fractions by whole numbers

Dividing a whole number by a unit fraction	
📖 **Activities**	
Rational numbers: Fractions	Divide by a Unit Fraction
👑 **Skill Quests**	
Divide whole numbers by unit fractions	Dividing whole numbers by unit fractions

Finding a fraction of a whole number (e.g. 5/3 of 186)	
📖 **Activities**	
Rational numbers: Fractions	Fraction of an Amount
👑 **Skill Quests**	
Fraction of a whole number	Fraction of a whole number

Finding a whole amount when given a fraction (e.g. 5/4 of the set is 85, what is the whole set?)	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Find the whole given a fraction	Finding the whole given a fraction

Finding common percentages of whole numbers	
📖 **Activities**	
Rational numbers: Percentages & proportion	Percent of a Number (Mental)
	Calculating Percentages 1
	Percentage Word Problems
👑 **Skill Quests**	
Common percentages of whole numbers	Common percentages of whole numbers

Finding the whole (100%) when given a percentage (e.g. 40% is 28)	
📖 **Activities**	
Rational numbers: Percentages & proportion	Percentage Word Problems
👑 **Skill Quests**	
Find the whole given a percentage	Finding the whole given a percentage

Using proportional reasoning to explore multiplicative relationships between quantities (e.g. 'If there are 3 red for every 7 blue balls, how many balls are there altogether when there are 18 red balls?')

▤ **Activities**	
Rational numbers: Percentages & proportion	Word Problems: Ratio
👑 **Skill Quests**	
Proportional reasoning	Proportional reasoning

Financial mathematics

Calculating the total cost and change for a transaction involving any amount of money	
▤ **Activities**	
Number: Financial maths	Money Problems: Four Operations
👑 **Skill Quests**	
Teacher directed	

Applying percentage discounts to whole dollar amounts (e.g. in a 20%-off sale)	
▤ **Activities**	
Teacher directed	
👑 **Skill Quests**	
Percentage discounts	Percentage discounts

Algebra

Equations & relationships

Forming and solving one- and two-step linear equations with integer solutions (e.g. t + 7 = 12, 5s + 3 = 18)	
▤ **Activities**	
Algebra: Equations & relationships	Solve Equations: Add, Subtract 1
	Solve Equations: Add, Subtract 2
	Solve Equations: Multiply, Divide 1
	Solve Equations: Multiply, Divide 2
	Solving Simple Equations
👑 **Skill Quests**	
Linear equations, integers	Writing 1- & 2-step linear equations
	Solving 1-step linear equations, models
	Solving 1-step linear equations
	Solving 2-step linear equations, models
	Solving 2-step linear equations

Checking the truth of and completing number sentences involving all four operations and including the use of inequalities (e.g. 0.8 × 12 ≤ 8 × 0.5 + 8, true or false?)	
▤ **Activities**	
Teacher directed	
👑 **Skill Quests**	
Check solutions	Checking solutions

Using substitution to find the value of an expression or formula (e.g. calculating w + 12 given w = 4)	
▤ **Activities**	

Algebra: Equations & relationships	Simple Substitution 1
	Simple Substitution 2
	Substitution in Formulae

👑 Skill Quests

Use substitution	Using substitution

Rearranging known formulae using one or two steps (e.g. making w the subject of A=lw)

🖥 Activities

Teacher directed

👑 Skill Quests

Change the subject	Changing the subject

Simplifying expressions involving any of the four operations by collecting like terms (e.g. 3a + a + a = 5a, 3b − 2b = b)

🖥 Activities

Algebra: Equations & relationships	Like Terms: Add, Subtract

👑 Skill Quests

Simplify expressions	Simplifying expressions

Identifying and plotting points in the four quadrants of the coordinate plane, using ordered pairs and values from a table

🖥 Activities

Algebra: Equations & relationships	Graphing from a Table of Values
	Reading Values from a Line

👑 Skill Quests

Plot points on the coordinate plane	Plotting points on the coordinate plane

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Using tables, graphs in the coordinate plane, and diagrams to recognise the relationship between the ordinal position and its corresponding element in a linear pattern, develop a rule for the pattern in words, and make conjectures about further elements in the pattern

🖥 Activities

Algebra: Equations & relationships	Find the Pattern Rule
	Find the Function Rule
	Pattern Rules and Tables
	Graphing from a Table of Values
	Reading Values from a Line

👑 Skill Quests

Linear patterns in tables	Linear patterns in tables

Identifying the constant increase or decrease in a linear pattern, using variables and algebraic notation to represent the rule in an equation, and using the equation to make conjectures

🖥 Activities

Algebra: Equations & relationships	Find the Pattern Rule
	Find the Function Rule
	Pattern Rules and Tables

👑 Skill Quests

Linear pattern rules	Linear pattern rules

Measurement

Measuring

Selecting and using an appropriate base measure (e.g. metre, gram, litre) within the metric system, along with a prefix (e.g. kilo–, centi–) to show the size of units	
📖 **Activities**	
Measurement: Measuring & time	Converting Units of Length
	Metres and Kilometres
	Grams and Kilograms
	Converting Units of Mass
	Millilitres and Litres
👑 **Skill Quests**	
The metric system	The metric system

Using formulae to find unknown measurements related to perimeter (e.g. the length of the unknown sides of a square given its perimeter, the length of an unknown side in a composite shape given its perimeter)	
📖 **Activities**	
Measurement: Perimeter, area & volume	Perimeter Detectives 2
👑 **Skill Quests**	
Perimeter	Perimeter

Using formulae to find unknown measurements related to area (e.g. the base of a triangle given its area and height, the area of a figure composed of a triangle and rectangle, given side lengths)	
📖 **Activities**	
Measurement: Perimeter, area & volume	Area: Composite Shapes
👑 **Skill Quests**	
Area	Area

Using formulae to find unknown measurements related to volume (e.g. the dimensions of a cube given its volume, the volume of a rectangular prism given side lengths)	
📖 **Activities**	
Measurement: Perimeter, area & volume	Volume: Rectangular Prisms 2
👑 **Skill Quests**	
Volume	Volume

Reading, interpreting, and using timetables and charts that present information about duration	
📖 **Activities**	
Measurement: Measuring & time	Time Zones
👑 **Skill Quests**	
Timetables	Timetables

Geometry

Shapes

Classifying triangles by both their angle and side properties
📖 **Activities**

Geometry: Shape, space, pathways	Triangle Tasters
👑 **Skill Quests**	
Classify triangles	Classifying triangles

Spatial reasoning

Transforming 2D shapes in the coordinate plane by a single translation, reflection across a given mirror line, or a rotation about a given point by a multiple of 90 degrees	
📖 **Activities**	
Geometry: Shape, space, pathways	Transformations: Coordinate Plane
	Rotations: Coordinate Plane
👑 **Skill Quests**	
Transformations	Rotations on the coordinate plane
	Translations on the coordinate plane
	Reflections on the coordinate plane

Identifying the 2D shapes that compose 3D shapes	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Identify 2D shapes in 3D shapes	Identifying 2D shapes in 3D shapes

Drawing nets for prisms and pyramids	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Nets for prisms & pyramids	Nets for prisms & pyramids

Reasoning about unknown angles in situations involving perpendicular lines, parallel lines, and transversals	
📖 **Activities**	
Geometry: Shape, space, pathways	Labelling Angles
	Angles in a Revolution
	Equal, Complementary or Supplementary Angles
	Complementary, Supplementary or Neither
	Vertically Opposite: Value of x
👑 **Skill Quests**	
Identify angle relationships	Identifying angle relationships

Solving for an unknown angle in a diagram by setting up and solving a multi-step equation based on supplementary, complementary, vertical, and adjacent angle relationships	
📖 **Activities**	
Geometry: Shape, space, pathways	Labelling Angles
	Angles in a Revolution
	Equal, Complementary or Supplementary Angles
	Complementary, Supplementary or Neither
	Vertically Opposite: Value of x
👑 **Skill Quests**	

Unknown angles	Unknown angles, parallel lines & transversal
	Complementary & supplementary angles
	Adjacent angles
	Vertical angles

Pathways

Interpreting and communicating the location of positions and pathways using coordinates, angle measures, and the eight main and halfway compass points (e.g. NE, which is 45° E from N)	
▤ **Activities**	
Geometry: Shape, space, pathways	What Direction was That?
	Scale
♛ **Skill Quests**	
Location using compass points	Location using compass points

Statistics

Developing knowledge from data

Planning and collecting data in order to respond to a statistical question (e.g. Are our feet the same length?)
▤ **Activities**
Teacher directed
♛ **Skill Quests**
Teacher directed

Calculating the mean, median, and mode for numerical data	
▤ **Activities**	
Statistics: Knowledge	Mean
	Median
	Mode
	Mean from Frequency Table
	Mode from Frequency Table
	Median from Frequency Table
♛ **Skill Quests**	
Calculate mean, median & mode	Calculating the mean
	Calculating the median
	Calculating the mode

Calculating the range for numerical data	
▤ **Activities**	
Statistics: Knowledge	Data Extremes and Range
♛ **Skill Quests**	
Calculate range	Calculating the range

Visualisation of data

For a given set of data, choosing and constructing an appropriate data visualisation according to the data type (e.g. a dot plot, bar graph, time-series graph)

📰 Activities	
Teacher directed	
👑 Skill Quests	
Choose & construct data visualisations	Choosing data visualisations
	Constructing dot plots
	Constructing line graphs
	Constructing clustered bar graphs

Noticing and explaining outliers in a given set of data	
📰 Activities	
Statistics: Visualisation & interpretation	Data Extremes and Range
👑 Skill Quests	
Outliers	Outliers

Interpretation of data

Responding to statistical questions by calculating an appropriate measure of central tendency and range for a variety of data tables and data visualisations	
📰 Activities	
Statistics: Knowledge	Mean from Frequency Table
	Mode from Frequency Table
	Median from Frequency Table
👑 Skill Quests	
Appropriate statistical measures	Appropriate statistical measures

Interpreting data visualisations, including those from contemporary media	
📰 Activities	
Statistics: Visualisation & interpretation	Line Graphs: Interpretation
	Sector Graphs
	Divided Bar Graphs
	Frequency Histograms
👑 Skill Quests	
Interpret data visualisations	Interpreting dot plots
	Interpreting strip graphs
	Interpreting pie charts
	Interpreting line graphs
	Interpreting bar graphs

Identifying when a data visualisation cannot be interpreted accurately due to missing information	
📰 Activities	
Teacher directed	
👑 Skill Quests	
Misleading information	Misleading information

Identifying outliers by eye and taking them into account when using range as a measure of spread	
📰 Activities	
Teacher directed	

Skill Quests	
Effect of outliers	Effect of outliers

Probability

Experimental probability

Carrying out a chance experiment and calculating the experimental probability of each outcome	
Activities	
Probability: Experimental & theoretical	Dice and Coins
Skill Quests	
Calculate experimental probability	Calculating experimental probability

Comparing experimental probability (using at least 30 trials) to theoretical probability, and explaining why they differ and how increasing the number of trials reduces this difference	
Activities	
Teacher directed	
Skill Quests	
Experimental & theoretical probability	Experimental & theoretical probability

Carrying out chance experiments of at least 100 trials and comparing the experimental probability of each individual outcome to its theoretical probability, in order to demonstrate the Law of Large Numbers	
Activities	
Teacher directed	
Skill Quests	
Teacher directed	

Theoretical probability

Calculating probabilities for events as decimals, fractions, and percentages	
Activities	
Probability: Experimental & theoretical	Simple Probability
Skill Quests	
Calculate probability, FDP	Calculating probability, FDP

Comparing the likelihood of different events	
Activities	
Probability: Experimental & theoretical	Probability Scale
Skill Quests	
Compare likelihood	Comparing likelihood

Calculating probabilities for complementary events	
Activities	
Probability: Experimental & theoretical	Complementary Events
Skill Quests	
Complementary events	Complementary events

Phase 3, Year 8

Number

Number structure and operations

Reading, writing comparing, and ordering whole numbers and decimals using positive and negative powers of 10	
📖 Activities	
Number structure	Comparing Numbers
	Scientific Notation
	Scientific Notation 2
	Ordering Scientific Notation
👑 Skill Quests	
Write numbers using powers of 10	Writing numbers using powers of 10

Representing whole numbers and decimals in expanded form using powers of 10 (e.g. $3.61 = 3 \times 10^1 + 6 \times 10^{-1} + 1 \times 10^{-2}$)	
📖 Activities	
Number structure	Scientific Notation
	Scientific Notation 2
👑 Skill Quests	
Represent numbers in expanded form	Representing numbers in expanded form

Representing negative powers of 10 as a fraction and a decimal, and vice-versa (e.g. $0.01 = 1/100 = 10^{-2}$)	
📖 Activities	
Teacher directed	
👑 Skill Quests	
Teacher directed	

Using exponents and identifying cube roots for cube numbers up to at least 125	
📖 Activities	
Teacher directed	
👑 Skill Quests	
Cube roots for cube numbers	Cube roots for cube numbers

Using radicals ($\sqrt{}$ and $\sqrt[3]{}$) to represent square and cube roots	
📖 Activities	
Number structure	Square Roots 1
👑 Skill Quests	
Teacher directed	

Evaluating square and cube roots for perfect squares and cubes and using a calculator to approximate them for other numbers	
📖 Activities	
Number structure	Estimate Square Roots
	Estimating Cube Roots

👑 Skill Quests	
Square & cube roots	Square & cube roots
	Approximating square & cube roots

Representing composite numbers as products of their prime factors, using exponents to summarise repeated factors (e.g. 36 = 2 × 2 × 3 × 3 × 3 = $2^2 × 3^3$)	
📖 **Activities**	
Number structure	Prime factorisation with Indices
👑 **Skill Quests**	
Products of prime factors	Products of prime factors

Locating negative and positive numbers on a number line	
📖 **Activities**	
Number structure	Integers on a Number Line
👑 **Skill Quests**	
Positive & negative numbers, number line	Positive & negative numbers, number line

Comparing and ordering negative and positive numbers using a number line (e.g. −3.4 < −3)	
📖 **Activities**	
Number structure	Comparing Integers (<, =, >)
👑 **Skill Quests**	
Compare & order rational numbers	Comparing & ordering rational numbers

Evaluating expressions involving negative numbers, addition, and subtraction (e.g. 3 + −7)	
📖 **Activities**	
Number structure	Integers: Add and Subtract
	Integers: Subtraction
	More with Integers
👑 **Skill Quests**	
Add & subtract integers	Adding & subtracting integers

Using rounding, estimation, and benchmarks to predict results and to check the reasonableness of calculations (e.g. 14.7 × 5 must be between 14 × 5 = 70 and 15 × 5 = 75)	
📖 **Activities**	
Rational numbers: Decimals	Estimate Decimal Operations
👑 **Skill Quests**	
Estimate calculations	Estimating whole number calculations
	Estimating decimal calculations

Rounding whole numbers to any specified power of 10, and rounding decimals to the nearest whole number, tenth, hundredth, or thousandth	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Round whole numbers & decimals	Rounding whole numbers
	Rounding decimals

Multiplying and dividing whole numbers (e.g. 327 ÷ 15 = 21.8 or 21 4/5)	
🔲 **Activities**	
Operations: Multiplication & division	Mental Methods Multiplication 3
	Long Multiplication
	Multiply: 2-Digit Number, Regroup
	Rounding Numbers for Division
	Mental Methods Division 3
	Divide: 2-Digit Divisor, Remainder
	Long Division
	Short Division
👑 **Skill Quests**	
Multiply & divide whole numbers	Multiplying whole numbers
	Dividing whole numbers

Evaluating expressions with integers, using the order of operations	
🔲 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Order of operations, integers	Order of operations, integers

Rational numbers

Identifying, reading, writing, and representing fractions, decimals, and percentages	
🔲 **Activities**	
Rational numbers: Fractions	The Equivalent Fraction
	Fraction Wall Labelling 2
👑 **Skill Quests**	
Represent decimals	Decimal place value
	Repeating decimals

Comparing, ordering, and converting between fractions, decimals, and percentages	
🔲 **Activities**	
Rational numbers: Fractions	Converting Mixed and Improper
	Comparing Fractions 2
	Comparing Fractions with Signs
Rational numbers: Decimals	Comparing Decimals
	Decimal Order
	Fractions to Decimals 2
Rational numbers: Percentages	Mixed Numerals to Percentages greater than 100%
	Fractions to Percentages (Calculator)
	Percentage to Fraction
	Decimals to percentages
	Percentages to Decimals
👑 **Skill Quests**	
Compare & order FDP	Comparing & ordering fractions & mixed numbers
	Comparing & ordering terminating decimals
	Ordering terminating & repeating decimals

Converting between FDP	Comparing & ordering FDP
	Converting between FDP
	Converting fractions to repeating decimals
	Converting fractions to repeating percentages
	Converting repeating decimals to fractions
	Converting repeating percentages to decimals

Multiplying whole numbers by fractions, including by improper fractions, by mixed numbers, and by first converting to an improper fraction

🗐 **Activities**	
Rational numbers: Fractions	Multiply: Whole Number and Fraction
👑 **Skill Quests**	
Multiply whole numbers & fractions	Multiplying whole numbers & fractions, models
	Multiplying whole numbers & fractions

Multiplying fractions and representing the answer in its simplest form

🗐 **Activities**	
Rational numbers: Fractions	Multiply Fraction by Fraction
	Multiply Two Fractions 1
	Multiplying Fractions
👑 **Skill Quests**	
Multiply fractions	Multiplying fractions
	Multiplying improper fractions
	Multiplying mixed numbers

Multiplying and dividing numbers by powers of 10

🗐 **Activities**	
Rational numbers: Decimals	Multiply Decimals and Powers of 10
	Divide Decimals: 10, 100, 1000
👑 **Skill Quests**	
Multiply & divide decimals, powers of 10	Multiplying decimals by powers of 10
	Dividing decimals by powers of 10

Multiplying positive decimals (e.g. 2.3×45)

🗐 **Activities**	
Rational numbers: Decimals	Multiply Decimals 1
	Multiply Decimals: Area Model
	Decimal by Decimal
👑 **Skill Quests**	
Multiply decimals	Multiplying decimals

Finding a fraction of a whole number, including when the result is a mixed number or improper fraction (e.g. for 2/5 of 42, 2/5 × 42 = 84/5 = 16 4/5)

🗐 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Fraction of a whole number	Fraction of a whole number

Finding a whole amount when given a fraction, including when the whole set is a mixed number or improper fraction (e.g. if 8 is 3/5 of a set, 8 × 5/3 = 13 1/3)	
📇 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Find the whole given a fraction	Finding the whole given a fraction

Finding percentages of whole numbers	
📇 **Activities**	
Rational numbers: Percentages	Percentage Word Problems
	Percentage of a Quantity
	Percentage Composition/What percentage?
	Percentage of an amount using Decimals (calculator)
👑 **Skill Quests**	
Percentages of whole numbers	Percentages of whole numbers

Finding the whole (100%) when given a percentage (e.g. 3% is 27)	
📇 **Activities**	
Rational numbers: Percentages	Percentage Word Problems
👑 **Skill Quests**	
Find the whole given a percentage	Finding the whole given a percentage

Identifying percentage equivalence in calculations (e.g. 45% of 20 is equal to 20% of 45)	
📇 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Teacher directed	

Dividing a quantity into two parts, given the part:part or part:whole ratio	
📇 **Activities**	
Rational numbers: Ratio	Dividing a Quantity in a Ratio
	Word Problems: Ratio
👑 **Skill Quests**	
Divide a quantity into two parts	Dividing a quantity into two parts

Expressing the division of quantity into two parts as a ratio	
📇 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Division of quantity into 2 parts, ratio	Division of quantity into 2 parts, ratio

Financial mathematics

Creating and comparing weekly, monthly, and yearly finance plans (e.g. for saving plans, phone plans, budgets, and 'buy now, pay later' services)

▤ Activities	
Number: Financial maths	Budgeting
	Wages and Salaries
	Working Overtime
👑 **Skill Quests**	
Create simple financial plans	Creating simple financial plans

Applying percentage discounts (e.g. a 35% discount on $180 will give a new price of $180−(0.35 × $180)=$117)	
▤ **Activities**	
Teacher directed	
👑 **Skill Quests**	
Percentage discounts	Percentage discounts

Algebra

Equations & relationships

Forming and solving linear equations with rational solutions (e.g. t + 7 = 6.5, 5s + 9 = −18)	
▤ **Activities**	
Algebra: Equations, inequalities, patterns	Solve Equations: Add, Subtract 2
	Solve Equations: Multiply, Divide 2
	Solving Simple Equations
👑 **Skill Quests**	
Linear equations, rational numbers	Solving 1-step linear equations
	Solving 2-step linear equations

Forming and solving linear inequalities and representing the solution on a number line (e.g. t − 3 ≥ −5)	
▤ **Activities**	
Algebra: Equations, inequalities, patterns	Inequalities on a Number Line: Mixed Basics
	Solve One-Step Inequalities 1
	Solve One-Step Inequalities 2
👑 **Skill Quests**	
Linear inequalities	Representing solutions on a number line
	Writing an inequality to describe a number line
	Writing & solving 1-step linear inequalities
	Solving 1-step linear inequalities
	Solving 2-step linear inequalities

Using substitution to find the value of an expression or formula (e.g. calculating w + 12 given w = 4)	
▤ **Activities**	
Algebra: Equations, inequalities, patterns	Simple Substitution 2
	Simple Substitution 3
👑 **Skill Quests**	
Use substitution	Using substitution

Rearranging known formulae using one or two steps
▤ **Activities**

Algebra: Equations, inequalities, patterns	Changing the Subject
👑 **Skill Quests**	
Change the subject	Changing the subject

Simplifying algebraic expressions involving sums, products, differences, and single brackets, and collecting like terms (e.g. 2 (x + 3) + 1 = 2x + 6 + 1 = 2x + 7)	
📃 **Activities**	
Algebra: Equations, inequalities, patterns	Like Terms: Add and Subtract
	Using the Distributive Property
👑 **Skill Quests**	
Simplify expressions	Simplifying expressions, 4 operations
	Simplifying expressions, brackets

Factorising simple algebraic expressions (e.g. 5x −35 = 5(x − 7))	
📃 **Activities**	
Algebra: Equations, inequalities, patterns	Factorising
👑 **Skill Quests**	
Factorise simple algebraic expressions	Factorising simple algebraic expressions

Identifying and plotting points in the four quadrants of the coordinate plane, using ordered pairs and values from a table	
📃 **Activities**	
Algebra: Equations, inequalities, patterns	Graphing from a Table of Values 2
	Determining a Rule for a Line
👑 **Skill Quests**	
Plot points on the coordinate plane	Plotting points on the coordinate plane

Using tables, graphs in the coordinate plane, and diagrams to recognise the relationship between the ordinal position and its corresponding element in a linear pattern, develop a rule for the pattern in words, and make conjectures about further elements in the pattern	
📃 **Activities**	
Algebra: Equations, inequalities, patterns	Find the Function Rule
	Function Rules and Tables
👑 **Skill Quests**	
Linear patterns in tables	Linear patterns in tables

Identifying the constant increase or decrease in a linear pattern, using variables and algebraic notation to represent the rule in an equation, and using the equation to make conjectures	
📃 **Activities**	
Algebra: Equations, inequalities, patterns	Find the Function Rule
	Function Rules and Tables
👑 **Skill Quests**	
Linear pattern rules	Linear pattern rules

Investigating the patterns of triangular numbers, square numbers, and cube numbers, extending the patterns, creating tables of values, and plotting the values on the coordinate plane	
📃 **Activities**	

Teacher directed	
👑 **Skill Quests**	
Triangular, square & cube numbers	Describing triangular numbers
	Describing square numbers
	Describing cube numbers

Measurement

Measuring

Estimating and measuring length, area, volume, capacity, mass (weight), temperature, time, and angle, using appropriate units	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Select appropriate units	Selecting appropriate units, length
	Selecting appropriate units, area
	Selecting appropriate units, volume & capacity
	Selecting appropriate units, mass
	Selecting appropriate units, time

Converting between metric units of area (mm², cm², m², and km²) and volume (mm³, cm³ and m³)	
📖 **Activities**	
Measurement	Converting Units of Area
	Converting Volume
👑 **Skill Quests**	
Convert units of area & volume	Converting units of area
	Converting units of volume

Converting between different volume units (cm3, m3, mL, L)	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Convert between units of volume	Converting between units of volume

Calculating the area of a parallelogram and a trapezium	
📖 **Activities**	
Measurement	Area: Parallelograms (Metric)
	Area: Quadrilaterals
👑 **Skill Quests**	
Area of a parallelogram & a trapezium	Area of a parallelogram
	Area of a trapezium

Calculating the area of a shape, given some lengths and its perimeter, and vice versa	
📖 **Activities**	
Measurement	Area: Quadrilaterals
👑 **Skill Quests**	
Area & perimeter	Area & perimeter

Calculating lengths of quadrilaterals, given their area and other sufficient information	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Lengths of trapeziums using area	Finding lengths of trapeziums using area

Calculating the volume of triangular prisms	
📖 **Activities**	
Measurement	Volume of Triangular prisms
👑 **Skill Quests**	
Volume of triangular prisms	Volume of triangular prisms

Calculating the volume of composite figures made up of cubes, rectangular prisms, and/or triangular prisms	
📖 **Activities**	
Teacher directed	
👑 **Skill Quests**	
Volume of composite figures	Volume of composite figures

Reading, interpreting, and using timetables, charts and results that present information about duration.	
📖 **Activities**	
Measurement	Time Zones
👑 **Skill Quests**	
Timetables	Timetables

Converting times to a given unit (e.g. hours and minutes to minutes)	
📖 **Activities**	
Measurement	Time Conversions: Simple Decimals
	Hours and Minutes
👑 **Skill Quests**	
Convert time	Converting time

Geometry

Shapes

Identifying and describing the parts of a circle: the radius, diameter, and circumference	
📖 **Activities**	
Geometry: Shape, space & pathways	Identify Parts of Circles 1
	Identify Parts of Circles 2
👑 **Skill Quests**	
Parts of a circle	Parts of a circle

Spatial reasoning

Transforming 2D shapes on the coordinate plane, including composite shapes, by a combination of translations, reflections, rotations, and scaling by any factor

Activities	
Geometry: Shape, space & pathways	Vertical and horizontal shift
	Transformations: Coordinate Plane
	Rotations: Coordinate Plane

Skill Quests	
Combinations of transformations	Combinations of transformations
	Introducing scaling by a factor

Proving that the interior angle sum of a triangle is 180°, and generalising a rule for the interior angle sum and exterior angles for any polygon

Activities	
Geometry: Shape, space & pathways	Angle Sum of a Triangle
	Exterior Angles of a Triangle
	Interior Angles

Skill Quests	
Teacher directed	

Reasoning about unknown angles in situations involving internal and external angles of polygons

Activities	
Geometry: Shape, space & pathways	Angle Sum of a Triangle
	Exterior Angles of a Triangle
	Quadrilaterals: Angle Sum with Equations
	Interior Angles

Skill Quests	
Find unknown interior & exterior angles	Finding unknown interior angles of a triangle
	Finding unknown interior angles of a quadrilateral
	Finding unknown interior angles of a polygon

Pathways

Using map scales, compass points, distance, and turn to interpret and communicate positions and pathways in coordinate systems and grid reference systems

Activities	
Geometry: Shape, space & pathways	More Directions!
	Scale

Skill Quests	
Positions & pathways	Location using compass points
	Using map scales

Statistics

Developing knowledge from data

Planning and collecting data in order to respond to a statistical question (e.g. Are our feet the same length?)

Activities	
Teacher directed	

Skill Quests	
Teacher directed	

Calculating the mean, median, and mode for numerical data	
📋 Activities	
Statistics: Knowledge	Mean
	Median
	Mode
	Mean from Frequency Table
	Mode from Frequency Table
	Median from Frequency Table
👑 Skill Quests	
Calculate mean, median & mode	Calculating the mean
	Calculating the median
	Calculating the mode

Calculating the range for numerical data	
📋 Activities	
Statistics: Knowledge	Data Extremes and Range
👑 Skill Quests	
Calculate range	Calculating the range

Visualisation of data

For a given set of data, choosing and constructing an appropriate data visualisation according to the data type (e.g. a dot plot, bar graph, time-series graph)	
📋 Activities	
Teacher directed	
👑 Skill Quests	
Choose & construct data visualisations	Choosing data visualisations
	Constructing dot plots
	Constructing line graphs
	Constructing clustered bar graphs

Noticing and explaining outliers in a given set of data	
📋 Activities	
Statistics: Visualisation & interpretation	Data Extremes and Range
👑 Skill Quests	
Outliers	Outliers

Interpretation of data

Responding to statistical questions by calculating an appropriate measure of central tendency and range for a variety of data tables and data visualisations	
📋 Activities	
Statistics: Knowledge	Mean from Frequency Table
	Mode from Frequency Table
	Median from Frequency Table
👑 Skill Quests	
Appropriate statistical measures	Appropriate statistical measures

Interpreting data visualisations, including those from contemporary media	
▤ Activities	
Statistics: Visualisation & interpretation	Line Graphs: Reading
	Sector Graph Angles
	Creating a Sector Graph
	Sector Graph Calculations
	Divided Bar Graphs
	Frequency Histograms
♛ Skill Quests	
Interpret data visualisations	Interpreting dot plots
	Interpreting strip graphs
	Interpreting pie charts
	Interpreting line graphs
	Interpreting bar graphs

Identifying when a data visualisation cannot be interpreted accurately due to missing information	
▤ Activities	
Teacher directed	
♛ Skill Quests	
Misleading information	Misleading information

Identifying outliers by eye and taking them into account when using range as a measure of spread	
▤ Activities	
Teacher directed	
♛ Skill Quests	
Effect of outliers	Effect of outliers

Probability

Experimental probability

Carrying out a chance experiment and calculating the experimental probability of each outcome	
▤ Activities	
Probability: Experimental & theoretical	Dice and Coins
♛ Skill Quests	
Calculate experimental probability	Calculating experimental probability

Comparing experimental probability (using at least 30 trials) to theoretical probability, and explaining why they differ and how increasing the number of trials reduces this difference	
▤ Activities	
Teacher directed	
♛ Skill Quests	
Experimental & theoretical probability	Experimental & theoretical probability

Carrying out chance experiments of at least 100 trials and comparing the experimental probability of each individual outcome to its theoretical probability, in order to demonstrate the Law of Large Numbers

📖 **Activities**
Teacher directed
👑 **Skill Quests**
Teacher directed

Theoretical probability

Calculating probabilities for events as decimals, fractions, and percentages	
📖 **Activities**	
Probability: Experimental & theoretical	Simple Probability
👑 **Skill Quests**	
Calculate probability, FDP	Calculating probability, FDP

Comparing the likelihood of different events	
📖 **Activities**	
Probability: Experimental & theoretical	Probability Scale
👑 **Skill Quests**	
Compare likelihood	Comparing likelihood

Calculating probabilities for complementary events	
📖 **Activities**	
Probability: Experimental & theoretical	Complementary Events
👑 **Skill Quests**	
Complementary events	Complementary events

Mathletics

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