

Year 7

Term 1

Number skills

Mental maths
Addition and subtraction
Multiplication
Division
FINANCE: Time and money
Negative numbers
Factors, multiples and primes
Squares and square roots
More powers and roots
Calculations

Expressions functions and formulae

Using functions
Function machines
Expressions, functions and formulae

Simplifying expressions 1
Simplifying expressions 2
Writing expressions
STEM: Substituting into formulae
Writing algebraic expressions
STEM: Using formulae
Writing formulae
Brackets and powers
Factorising expressions

Sequences and graphs

Sequences
The n th term
Pattern sequences
Coordinates and line segments
Graphs

Decimals and measures

Estimates and measures
Decimal numbers
Metric units
Adding and subtracting decimals
Rounding
Multiplying and dividing decimals
FINANCE: Calculating with money

Term 2

Angles and lines

Measuring angles 1
Measuring angles 2
Drawing and estimating angles
Putting angles together

Lines and angles

Lines, angles and triangles
Drawing triangles accurately
STEM: Calculating angles
Angles in a triangle
Quadrilaterals
Angles and parallel lines
Polygons

Fractions, decimals and percentages

Comparing fractions
Equivalent fractions
Calculating with fractions
Adding and subtracting fractions
Introducing percentages
FINANCE: Finding percentages
Fractions, decimals and percentages
Multiplying and dividing fractions
Working with mixed numbers

Analysing and displaying data

Tables and pictograms
Two-way tables and bar charts
Averages and range
Grouped data
More graphs
Pie charts
STEM: Scatter graphs and correlation

Term 3

Number properties and calculations

STEM: Writing ratios
Using ratios to solve problems
Multiplicative reasoning

Ratio and proportion

Direct proportion
Writing ratios
Using ratios
Proportional reasoning
Using the unitary method

Area and volume

Area of a triangle
Area of a parallelogram and trapezium
Volume of cubes and cuboids
3D shapes
Surface area of cubes and cuboids
Problems and measures
STEM: Measures of area and volume

Transformations

Congruency and enlargements
Symmetry
Reflection
Rotation
Translations

Assessment

Formative: Skills check daily for recall and retrieval
End of topic assessments
Summative: Termly assessment of prior learning

Year 8

Term 1

Number properties

Squares, cubes and roots
Calculating with brackets and indices
LCM and HCF
Prime factor decomposition
Laws of indices
STEM: Powers of 10
Calculating and estimating

Extension: Working with powers

Simplifying expressions
More simplifying
Expanding and factorising expressions
Substituting and solving

Probability

The language of probability
Outcomes
Probability calculations
Experimental probability
FINANCE: Comparing probabilities
Comparing probabilities
Probability diagrams
Tree diagrams

Shapes and measures in 3D

3D solids
Nets of 3D solids
Surface area
Volume
Extension: 2D shapes and 3D solids
Plans and elevations
Surface area of prisms
Volume of prisms
Circumference of a circle
Area of a circle
Cylinders
Pythagoras' theorem

Term 2

Decimal calculations

Adding and subtracting decimals
Multiplying decimals
Ordering and rounding decimals
STEM: Problem-solving with decimals

Percentages, decimals and fractions

Fractions and decimals
Writing percentages
Percentages of amounts

Extension: Fractions, decimals and percentages

Recurring decimals
Using percentages
Percentage change

Expressions and equations

Simplifying expressions
Functions
Solving equations
Using brackets

Expressions and equations

Algebraic powers
Expressions and brackets
Factorising expressions
The balancing method

Extension: Equations

Solving one-step equations
Solving two-step equations
More complex equations

Statistics

Data collection sheets
Interpreting bar charts
Drawing bar charts
STEM: Pie charts

Statistics, graphs and charts

Using tables
Stem and leaf diagrams
Comparing data
Scatter graphs
FINANCE: Misleading graphs

Term 3

Fractions and percentages

Comparing fractions
Fractions of amounts
Adding and subtracting fractions
Fractions and percentages
Calculating percentages
STEM: Percentages and proportion
Fractions, decimals and reciprocals
Dividing fractions
Calculating with mixed numbers

Angles

Measuring and drawing angles
Vertically opposite angles
Angles in triangles
Drawing triangles accurately
Designing nets

Extension: Lines and angles

Quadrilaterals
Alternate angles and proof
Geometrical problems
Exterior and interior angles
Solving geometric problems

Extension: Delta 2 Unit 7

Constructions and loci

Accurate drawings
Constructing shapes
Constructions 1
Constructions 2
Loci

Sequences

Generating sequences
Extending sequences
Special sequences
Position-to-term rules
Finding the n th term
Extension: Graphs
Plotting linear graphs
The gradient
 $y = mx + c$
Parallel and perpendicular lines
Inverse functions
STEM: Non-linear graphs

Assessment

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Year 9

Term 1

Number calculations

Adding and subtracting
Multiplying
Dividing
Multiplying and dividing
negative numbers
Squares, cubes and roots

Extension: Powers and roots

Reciprocals
Indices
Standard form
STEM: Calculating with standard form
Fractional indices

Expressions, functions and formulae

Functions
Simplifying expressions 1
Simplifying expressions 2
Writing expressions
STEM: Substituting into formulae
Writing formulae

Extension: Inequalities, equations and formulae

Inequalities
Using index laws
Solving equations
Changing the subject

Statistics

Planning a survey
Statistics from tables
Comparing data
Tables
STEM: Data collection
Presenting and comparing data
Estimating statistics
Extension
Box plots
Cumulative frequency graphs

Term 2

Calculating with fractions

Adding and subtracting fractions
Multiplying fractions
Fractions, decimals and reciprocals
Dividing fractions
Calculating with mixed numbers

Fractions, decimals and percentages

Equivalent proportions
Recurring decimals
Adding and subtracting fractions
Multiply and divide fractions
Comparing proportions
FINANCE: Percentage change

Accuracy and measures

Density and pressure
STEM: Errors and bounds

Sequences and equations

Algebraic expressions
Using the nth term
Finding the nth term
Solving equations

Quadratics

Sequences
Expanding and factorising
Extension: Solving quadratic equations

Lines and angles

Lines, angles and triangles
Drawing triangles accurately
STEM: Calculating angles
Angles in a triangle

Quadrilaterals

Polygons and transformations

Quadrilaterals

Triangles

Trigonometry

Pythagoras' theorem
Intro lesson labelling sides and deciding on correct ratio
The tangent ratio
The sine and cosine ratio
Using trigonometry to find angles
Solving problems using trigonometry

Term 3

Probability

The language of probability
Calculating probability
More probability calculations
Experimental probability
FINANCE: Expected outcomes
Extension: Independent events

Extension: Mathematical reasoning

Explain, show and justify
Proof
More proof

Algebraic and real-life graphs

Reading graphs
Plotting graphs
Distance-time graphs

Equations, inequalities and proportionality

Trial and improvement
Using and solving inequalities
Extension: Graphical solutions
Simultaneous equations
Using $y = mx + c$
More simultaneous equations

Ratio and proportion

Writing ratios
Using ratios
Multiplicative reasoning
STEM Using ratios
Using proportions
Extension: Multiplicative reasoning
Direct proportion
Solving problems using direct proportion
Non-linear proportion
Arcs and sectors of circles

Assessment

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