



Year 7 Scheme of Work

Parent Overview 2026-2027

This parent-friendly Scheme of Work provides an overview of the mathematics taught across Year 7. For each unit, it shows the building blocks students draw upon, the key learning objectives and the mathematical vocabulary they will meet.

Half Term	Curriculum Overview
Autumn 1	Transition Booklet; Baseline Assessment; Unit 1: Understanding Number; Unit 2: Calculating with Decimals; Revision Skills; Unit 3: Substitution, Simplifying and Expanding
Autumn 2	Unit 4: Rounding and Estimating with Decimals; Unit 5: Constructing Triangles; Unit 6: Calculating with Percentages; Unit 7: Factors, Multiples and Primes; Synoptic Assessment 1; Maths Week
Spring 1	Unit 8: Solving Equations; Unit 9: Properties of Shape and Angles; Revision Skills; Unit 10: Proportional Reasoning; Unit 11: Understanding Risk
Spring 2	Unit 12: Averages and Range; Careers Week; Spring Assessment; Unit 13: Calculating Fractions
Summer 1	Unit 14: Units of Measurement; Unit 15: Area and Volume; Unit 16: Coordinates; Synoptic Assessment 2; Unit 17: Exploring FDP
Summer 2	Revision Skills; Unit 18: Transformations; Unit 19: Presentation of Data; Unit 20: Enlargement and Plans and Elevations; Smarties Week (if time permits)

What the sections mean

Building blocks: knowledge and skills used as a starting point for the unit. | Key objectives: the main mathematics students will learn. | Key words: important mathematical vocabulary used during the unit.

Unit 1: Understanding Number

Building blocks

- Understand the makeup of the number system base ten and be able to
- identify the name of each column up to millions
- Multiplication of single digit numbers

Key objectives

- Calculator Skills
- To introduce students to a scientific calculator
- Use key functions including fractions, mixed numbers, indices, roots, SD button
- Place Value:
- Understand and use various representations of place value
- Write large numbers in words, including tens of millions and vice versa
- Multiply a positive integer and decimals by a power of 10; Divide a positive integer and decimal by a power of 10
- Powers, Roots, Negatives and Order of Operations:
- Read, write and evaluate powers
- Recognise and use square numbers
- Define and find square roots (including using the square root symbol)
- Define and find cube roots and fourth roots etc, including the use of a scientific calculator
- Add and subtract over the number line crossing 0
- Apply the order of operations to multi-step calculations involving up to four operations and brackets

Key words

Base 10, Square number, Cube number, Square root, Cube root, Integer, Decimal, Negative number, Operation, Inverse, Power, Index / Indices

Unit 2: Calculating With Decimals

Building blocks

- Approximate any number by rounding to the nearest 10, 100 or 1000, 10 000, 100 000 or 1 000 000
- Use the four operations
- Approximate the answer to a calculation by estimation

Key objectives

- Add decimals with the same, and different, number of decimal places
- Subtract decimals with the same, and different, number of decimal places; Transform a multiplication involving decimals to a corresponding multiplication with integers
- Multiply a large integer up to four-digits by a decimal of up to 2 decimal places using integer multiplication
- Use a formal method to divide a decimal by an integer less than 10; Transform a calculation involving the division of decimals to an equivalent division involving integers
- Use approximation to check the validity of answers
- Calculate with decimals in the context of (e.g.) money

Key words

Integer Decimal Decimal place, Approximate, Add, Sum, Subtract, Difference, Multiply, Product, Divide, Quotient

Unit 3: Substitution, Simplifying And Expanding

Building blocks

- Use boxes, question marks and other symbols to represent missing values in calculations
- Calculate using the four operations

Key objectives

- Know the meaning of expression, term, formula, equation, function
- Know and use basic algebraic notation (the 'rules' of algebra)
- Understand how to form basic expressions algebraically
- Simplify a simple expression by collecting like terms
- Simplify expressions involving multiplication
- Simplify expressions involving division
- Manipulate expressions by multiplying an integer over a bracket (the distributive law)
- Manipulate expressions by multiplying a single term over a bracket (the distributive law)
- Expanding two single brackets and collecting terms e.g. $5(x + 3) + 2(x + 8)$
- Substitute positive numbers into expressions and formulae

Key words

Algebra, Expression, Term, Formula / Formulae, Equation, Function, Variable, Represent, Evaluate, Like terms, Simplify, Collect, Integer, Expand, Substitute

Unit 4: Rounding And Estimating Decimals

Building blocks

- Approximate any number by rounding to the nearest 10, 100 or 1000, 10 000, 100 000 or 1 000 000

Key objectives

- Round a number to a specified number of decimal places
- Round a number to one significant figure
- Estimate calculations by rounding numbers to one significant figure; Understand that division by 0.5, 0.1 and 0.2 is equivalent to multiplying by 2, 10 and 5 and use this in estimation

Key words

Approximate, Round, Decimal place, Estimate, Accurate Accuracy, Significant figure, Equivalent, Tenths, Hundredths, Thousandths

Unit 5: Constructing Triangles

Building blocks

- Use a ruler to accurately measure line segments to the nearest millimetre
- Know the names and properties of types of angles
- Use a protractor to accurately measure angles to the nearest degree; Use a pair of compasses' accurately

Key objectives

- Understand and use labelling notation for lengths and angles
- Use ruler and protractor to construct triangles, and other shapes, from written descriptions
- Use ruler and compasses to construct triangles when all three sides are known

Key words

Construct, Accurate, Sketch, Parallel, Perpendicular, Equilateral

Unit 6: Calculating Percentages

Building blocks

- Understand what is meant by percentage
- Shade in percentage using a 10 by 10 grid
- Find basic percentages 50 %, 25%, 10%, and 1%

Key objectives

- Find basic percentages 50 %, 25%, 10%, and 1%
- Find a given percentage using a non-calculator method (build up method)
- Increase and decrease by a given percentages
- Apply percentage increase and decrease in real life situations, including simple interest

Key words

Percent Percentage, Share, Increase Decrease

Unit 7: Factors, Multiples And Primes

Building blocks

- Understand and use divisibility tests

Key objectives

- Understand that a multiplication or division can be broken down into
- smaller steps e.g. $\times 10$ is equivalent to $\times 2$ then $\times 5$
- Understand the difference between prime and composite number (see definition of prime in misconceptions box)
- Find prime numbers and test numbers to see if they are prime
- Write numbers as a product of prime factors
- Find common factors of numbers
- Find the highest common factor of numbers in simple cases by listing, including co-prime examples
- Find common multiples of numbers
- Recognise and solve problems involving the lowest common multiple by listing

Key words

Factor, Multiple, Prime, Product, Composite

Unit 8: Solving Equations

Building blocks

- Find missing numbers of mathematical calculations.
- Understand inverse operations and number families
- Use function machines to find and output given and input and vice versa.

Key objectives

- Solve one-step equations when the solution is a positive integer or fraction
- Solve two-step equations when the solution is a positive integer or fraction Solve three-step equations when the solution is a positive integer or fraction
- Solve multi-step equations including the use of brackets when the solution is a positive integer or fraction
- Solve equations when the solution is an integer or fraction
- **ALL SOLVING UNKNOWN ON ONE SIDE OF THE EQUATION**

Key words

Algebra, algebraic, algebraically, Unknown, Equation, Operation, Solve, Balance, Solution, Brackets, Symbol Substitute, Inverse

Unit 9: Properties Of Shape And Angles

Building blocks

- Know the names of common 3D shapes
- Know the meaning of face, edge, vertex
- Understand the principle of a net
- Know the names of special triangles
- Know the names of special quadrilaterals

Key objectives

- Know the connection between faces, edges and vertices in 3D shapes
- Recognise and use nets of 3D shapes
- Know and solve problems using the properties and definitions of triangles; Know the properties and definitions of special types of quadrilaterals (including diagonals)
- Sketching shapes using correct terminology and notation (e.g. include hatch marks, parallel lines etc)
- Recognise and solve problems using vertically opposite angles
- Recognise and solve problems using angles at a point
- Recognise and solve problems using angles at a point on a line

Key words

Face, Edge, Vertex (Vertices) Cube, Cuboid, Prism, Cylinder, Pyramid, Cone, Sphere, Quadrilateral, Square, Rectangle, Parallelogram, (Isosceles) Trapezium, Kite, Rhombus, Delta, Arrowhead, Diagonal, Perpendicular, Parallel, Triangle, Scalene, Right-angled, Isosceles,, Equilateral, Angle, Degrees, Right angle, Acute angle, Obtuse angle, Reflex angle, Protractor, Vertically Opposite

Unit 10: Proportional Reasoning

Building blocks

- Find common factors of pairs of numbers
- Convert between standard metric units of measurement
- Convert between units of time

Key objectives

- Describe a comparison of measurements or objects using ratio notation $a:b$
- Simplify a ratio by cancelling common factors
- Simplify ratio where units are not consistent
- Find equivalent ratios
- Simplify to the form $1:n$ and $n:1$
- Divide a quantity in a two part ratio
- Understand the link between ratio and fractions
- Use proportion to answer recipe questions

Key words

Ratio Proportion, Compare, comparison, Part, Simplify, Common factor, Cancel, Lowest terms, Unit

Unit 11: Understanding Risk

Building blocks

- Writing fractions, decimals and percentages

Key objectives

- Know and use the vocabulary of probability
- Understand the use of the 0-1 scale to measure probability
- Use fractions, decimals and percentages to give probabilities
- Work out theoretical probabilities for events with equally likely outcomes
- Know that the sum of probabilities for all mutually exclusive outcomes is 1; Apply the fact that the sum of probabilities for all outcomes is 1 to find the probability of an event not happening

Key words

Probability, Theoretical probability, Event, Outcome, Impossible, Unlikely, Even chance, Likely, Certain, Equally likely, Mutually exclusive, Exhaustive Experiment

Unit 12: Averages And Range

Building blocks

- Understand tally charts
- Find the midpoint between two numbers

Key objectives

- Find the mode of set of data
- Find the median of a set of data including when there are an even number of numbers in the data set
- Calculate the mean from a set of data
- Calculate and understand the range as a measure of spread (or consistency) Analyse and compare sets of data, appreciating the limitations of different statistics (mean, median, mode, range)

Key words

Average, Spread, Consistency, Mean, Median, Mode, Range, Measure, Data, Statistic, Statistics, Approximate, Round

Unit 13: Calculating Fractions

Building blocks

- Add and subtract fractions with the same denominator
- Add and subtract fractions with different denominators using pictures.

Key objectives

- Convert mixed numbers and improper fractions
- Add proper and improper fractions
- Subtract proper and improper fractions
- Multiply proper and improper fractions
- Multiply a fraction and an integer
- Divide a proper fraction by a proper fraction
- Divide improper fractions
- Note: Calculations with mixed numbers follows in Year 8, but conversion is included here

Key words

Proper fraction Improper fraction Mixed number, Equivalent fraction, Simplify Simplest form Cancel Lowest terms Operation

Unit 14: Units Of Measurement

Building blocks

- Convert fluently between units of time
- Convert fluently between units of money

Key objectives

- Choose appropriate units for a particular situation
- Understand that some units are metric, and some are imperial
- Convert fluently between metric units of length
- Convert fluently between metric units of mass
- Convert fluently between metric units of volume / capacity
- Understand and use analogue time

Key words

Length, distance, Mass, weight, Volume Capacity, Metre, centimetre, millimetre Tonne, kilogram, gram, milligram, Litre, millilitre, Hour, minute, second, Inch, foot, yard, Pound, ounce, Pint, gallon

Unit 15: Area And Volume

Building blocks

- Find area and perimeter by counting squares
- Use and apply the formula to calculate the area of triangles Use and apply the formula to calculate the area of triangles

Key objectives

- Calculate perimeters of 2D shapes
- Use and apply the formula to calculate the area of trapezia Find the missing length in a triangle/rectangle given the area.
- Find the area of compound shapes
- Find the surface area of cuboids (including cubes)
- Use and apply the formula to calculate the volume of cuboids

Key words

Perimeter, area, volume, capacity, surface area, Square, rectangle, parallelogram, triangle, trapezium (trapezia) Polygon, Cube, cuboid, Square millimetre, square centimetre, square metre, square kilometre, Cubic centimetre, centimetre cube, Formula, formulae, Length, breadth, depth, height, width

Unit 16: Coordinates

Building blocks

- Plot coordinates in all four quadrants

Key objectives

- Understand how a pair of coordinates links to x and y values
- Solve geometrical problems on coordinate axes
- Write the equation of a line parallel to the x-axis or the y-axis
- Identify and draw the lines $y = x$ and $y = -x$
- Plot a simple graph given a completed table of values including linear, quadratic, cubic etc

Key words

Coordinate, Equation, Horizontal, Vertical, Diagonal, Graph, Linear, Quadratic, Cubic

Unit 17: Exploring Fdp

Building blocks

- Simplify fractions
- Understand equivalent fractions
- Convert between mixed and improper fractions
- Understand the meaning of percentage

Key objectives

- Order fractions with the same denominator or denominators are a multiple of each other
- Order fractions with the same numerator
- Order fractions where the denominators different.
- Order mixed numbers and fractions
- Convert between percentages and fractions where the denominator is a factor of 100 (or can be scaled to 100)
- Convert between fractions, decimals and percentages
- Write a quantity as a percentage of another

Key words

Integer, Numerator, Denominator, Improper fraction, Proper fraction, Percentage, Proportion Express, Simplify, LCM, HCF

Unit 18: Transformations

Building blocks

- Carry out a reflection in a given vertical or horizontal mirror line
- Carry out a translation from worded instructions
- Write the equation of a line parallel to the x-axis or the y-axis Identify and draw the lines $y = x$ and $y = -x$

Key objectives

- Construct reflections in horizontal, vertical and diagonal mirror lines
- Describe a reflection in horizontal, vertical and diagonal mirror lines
- Complete a translation described by a 2D vector
- Describe a translation as a 2D vector
- Construct rotations using a given angle, direction and centre of rotation
- Describe a rotation by finding the centre, direction and angle of rotation

Key words

(Cartesian) coordinates, Axis, axes, x-axis, y-axis, Origin, Quadrant, Translation, Reflection, Rotation, Transformation, Object, Image, Congruent, congruence, Mirror line, Vector, Centre of rotation

Unit 19: Presentation Of Data

Building blocks

No information is listed in this section of the source Scheme of Work.

Key objectives

- Enlargement
- Use the centre and scale factor to carry out an enlargement with a positive integer scale factor
- Find the centre of enlargement
- Find the scale factor of an enlargement
- Plans and Elevations
- Understand and draw the plans and elevations of a 3D shapes

Key words

Similar, Similarity, Enlarge, Enlargement, Scale factor, Centre of enlargement, Object, Image, Plan, Elevation

UNIT 20: Enlargement and plans and Elevations

Building blocks

No information is listed in this section of the source Scheme of Work.

Key objectives

- Enlargement
- Use the centre and scale factor to carry out an enlargement with a positive integer scale factor
- Find the centre of enlargement
- Find the scale factor of an enlargement
- Plans and Elevations
- Understand and draw the plans and elevations of a 3D shapes

Key words

Data, Categorical data, Discrete data, Pictogram, Symbol, Key, Frequency, Table, Frequency table, Tally, Bar chart, Time graph, Time series, Bar-line graph, Vertical line chart, Scale, Graph, Axis, axes, Line graph, Pie chart, Sector, Angle, Maximum, minimum, Quantitative, Qualitative, Continuous, Discrete, Primary, Secondary