

# Mathematics Medium Term Plan – 2023/2024

Year 3	Year 4	Year 5	Year 6
Place value Addition and subtraction Multiplication and division A Multiplication and division B Length and perimeter Fractions A Mass and capacity Fractions B Money Time Properties of Shape Statistics	Place value Addition and subtraction Area Multiplication and division Length and perimeter Fractions Decimals Money Time Properties of Shape Statistics Position and Direction	Place value Addition and subtraction Multiplication and division A Fractions A Multiplication and division B Fractions B Decimals and percentages Perimeter and area Statistics Properties of shape Position and direction Decimals Negative numbers Converting units Volume	Place Value Addition, subtraction, multiplication and division Fractions Converting units Ratio Algebra Decimals Fractions, decimals and percentages Area, perimeter and volume Statistics Properties of shape Position and direction



## Year 3

### Place Value

- Represent numbers to 100
- Partition numbers to 100
- Number line to 100
- Hundreds
- Represent numbers to 1,000
- Partition numbers to 1,000
- Flexible partitioning of numbers to 1,000
- 100s, 10s and 1s (1)
- Find 1, 10 or 100 more or less
- Number line to 1,000
- Estimate on a number line to 1,000
- Compare numbers to 1,000
- Order numbers to 1,000
- Count in 50s

### Addition and subtraction

- Apply number bonds within 10
- Add and subtracts 1s
- Add and subtracts 10s
- Add and subtracts 100s
- Spot the pattern
- Add 1s across a 10
- Add 10s across a 100
- Subtract 1s across a 10
- Subtract 10s across a 100
- Make connection
- Add two numbers (no exchange)
- Subtract two numbers (no exchange)
- Add two numbers (across a 10)
- Add two numbers (across a 100)
- Subtract two numbers (across a 10)
- Subtract two numbers (across a 100)
- Add 2-digit and 3-digit numbers

- Subtract a 2-digit number from a 3-digit number
- Complements to 100
- Estimate answers
- Inverse operations
- Make decisions

#### **Multiplication and division A**

- Multiplication - equal groups
- Use arrays
- Multiple of 2
- Multiples of 5 and 10
- Sharing and grouping
- Multiply by 3
- Divide by 3
- The 3 times-table
- Multiply by 4
- Divide by 4
- The 4 times-table
- Multiply by 8
- Divide by 8
- The 8 times-table
- The 2, 4 and 8 times-table

#### **Multiplication and division B**

- Multiples of 10
- Related calculations
- Reasoning about multiplication
- Multiply a 2-digit number by a 1-digit number – no exchange
- Multiply a 2-digit number by a 1-digit number – with exchange
- Link multiplication and division
- Divide a 2-digit number by a 1-digit number – no exchange
- Divide a 2-digit number by a 1-digit number – flexible partitioning
- Divide a 2-digit number by a 1-digit number – with remainders
- Scaling
- How many ways?

#### **Length and perimeter**

- Measure in metres and centimetres
- Measure in millimetres
- Measure in centimetres and millimetres

- Metres, centimetres and millimetres
- Equivalent lengths (metres and centimetres)
- Equivalent lengths (centimetres and millimetres)
- Compare lengths
- Add lengths
- Subtract lengths
- What is perimeter?
- Measure perimeter
- Calculate perimeter

#### **Fractions A**

- Understand the denominators of unit fractions
- Compare and order unit fractions
- Understand the numerators of non-unit fractions
- Understand the whole
- Compare and order non-unit fractions
- Fractions and scales
- Fractions on a number line
- Count in fractions on a number line
- Equivalent fractions on a number line
- Equivalent fractions as bar models

#### **Mass and capacity**

- Use scales
- Measure mass in grams
- Measure mass in kilograms and grams
- Equivalent masses (kilograms and grams)
- Compare mass
- Add and subtract mass
- Measure capacity and volume in millilitres
- Measure capacity and volume in litres and millilitres
- Equivalent capacities and volumes (litres and millilitres)
- Compare capacity and volume
- Add and subtract capacity and volume

#### **Fractions B**

- Add fractions
- Subtract fractions
- Partition the whole
- Unit fractions of a set of objects
- Non-unit fractions of a set of objects

- Reasoning with fractions of an amount

### **Money**

- Pounds and pence
- Convert pounds and pence
- Add money
- Subtract money
- Find change

### **Time**

- Roman numerals to 12
- Tell the time to 5 minutes
- Tell the time to the minute
- Read time on a digital clock
- Use am and pm
- Years, months and days
- Days and hours
- Hours and minutes – use start and end times
- Hours and minutes - use durations
- Minutes and seconds
- Units of time
- Solve problems with time

### **Shape**

- Turns and angles
- Right angles
- Compare angles
- Measure and draw accurately
- Horizontal and vertical
- Parallel and perpendicular
- Recognise and describe 2-D shapes
- Draw polygons
- Recognise and describe 3-D shapes
- Make 3-D shapes

### **Statistics**

- Interpret pictograms
- Draw pictograms
- Interpret bar charts

- Draw bar charts
- Collect and represent data
- Two-way tables

## Year 4

### Place value

- Represent numbers to 1,000
- Step 2 Partition numbers to 1,000
- Step 3 Number line to 1,000
- Step 4 Thousands
- Step 5 Represent numbers to 10,000
- Step 6 Partition numbers to 10,000
- Step 7 Flexible partitioning of numbers to 10,000
- Step 8 Find 1, 10, 100, 1,000 more or less
- Step 9 Number line to 10,000
- Step 10 Estimate on a number line to 10,000
- Step 11 Compare numbers to 10,000
- Step 12 Order numbers to 10,000
- Step 13 Roman numerals
- Step 14 Round to the nearest 10
- Step 15 Round to the nearest 100
- Step 16 Round to the nearest 1,000 Small steps
- Step 17 Round to the nearest 10, 100 or 1,000

### Addition and subtraction

- Add and subtract 1s, 10s, 100s and 1,000s
- Add up to two 4-digit numbers – no exchange
- Add two 4-digit numbers – one exchange
- Add two 4-digit numbers – more than one exchange
- Subtract two 4-digit numbers – no exchange
- Subtract two 4-digit numbers – one exchange
- Subtract two 4-digit numbers – more than one exchange
- Efficient subtraction
- Estimate answers
- Checking strategies

### Multiplication and division A

- Multiples of 3
- Multiply and divide by 6
- 6 times-table and division facts
- Multiply and divide by 9
- 9 times-table and division facts
- The 3, 6 and 9 times-tables

- Multiply and divide by 7
- 7 times-table and division facts
- 11 times-table and division facts
- 12 times-table and division facts
- Multiply by 1 and 0
- Divide a number by 1 and itself
- Multiply three number

#### Multiplication and Division B

- Factor pairs
- Use factor pairs
- Multiply by 10
- Multiply by 100
- Divide by 10
- Divide by 100
- Related facts – multiplication and division
- Informal written methods for multiplication
- Multiply a 2-digit number by a 1-digit number
- Multiply a 3-digit number by a 1-digit number
- Divide a 2-digit number by a 1-digit number (1)
- Divide a 2-digit number by a 1-digit number (2)
- Divide a 3-digit number by a 1-digit number
- Correspondence problems
- Efficient multiplication

#### Length and perimeter

- Measure in kilometres and metres
- Equivalent lengths (kilometres and metres)
- Perimeter on a grid
- Perimeter of a rectangle
- Perimeter of rectilinear shapes
- Find missing lengths in rectilinear shapes
- Calculate perimeter of rectilinear shapes
- Perimeter of regular polygons
- Perimeter of polygons

#### Fractions

- Understand the whole
- Step 2 Count beyond 1
- Step 3 Partition a mixed number
- Step 4 Number lines with mixed numbers
- Step 5 Compare and order mixed numbers



- Step 6 Understand improper fractions
- Step 7 Convert mixed numbers to improper fractions
- Step 8 Convert improper fractions to mixed numbers
- Step 9 Equivalent fractions on a number line
- Step 10 Equivalent fraction families
- Step 11 Add two or more fractions
- Step 12 Add fractions and mixed numbers
- Step 13 Subtract two fractions
- Step 14 Subtract from whole amounts
- Step 15 Subtract from mixed numbers

### **Decimals A**

- Tenths as fractions
- Tenths as decimals
- Tenths on a place value chart
- Tenths on a number line
- Divide a 1-digit number by 10
- Divide a 2-digit number by 10
- Hundredths as fractions
- Hundredths as decimals
- Hundredths on a place value chart
- Divide a 1- or 2-digit number by 10

### **Decimals B**

- Make a whole with tenths
- Make a whole with hundredths
- Partition decimals
- Flexibly partition decimals
- Compare decimals
- Order decimals
- Round to the nearest whole number
- Halves and quarters as decimals

### **Money**

- Write money using decimals
- Convert between pounds and pence
- Compare amounts of money
- Estimate with money
- Calculate with money
- Solve problems with money

**Time**

- Years, months, weeks and days
- Hours, minutes and seconds
- Convert between analogue and digital time
- Convert to the 24-hour clock
- Convert from the 24-hour clock

**Properties of shape**

- Understand angles as turns
- Identify angles
- Compare and order angles
- Triangles
- Quadrilaterals
- Polygons
- Lines of symmetry
- Complete a symmetric figure

**Statistics**

- Interpret charts
- Comparison, sum and difference
- Interpret line graphs
- Draw line graphs
- Interpret charts

**Position and direction**

- Describe position using coordinates
- Plot coordinates
- Draw 2-D shapes on a grid
- Translate on a grid
- Describe translation on a grid

## Year 5

### Place value

- Roman numerals to 1,000
- Numbers to 10,000
- Numbers to 100,000
- Numbers to 1,000,000
- Read and write numbers to 1,000,000
- Powers of 10
- 10/100/1,000/10,000/100,000 more or less
- Partition numbers to 1,000,000
- Number line to 1,000,000
- Compare and order numbers to 100,000
- Compare and order numbers to 1,000,000
- Round to the nearest 10, 100 or 1,000
- Round within 100,000
- Round within 1,000,000

### Addition and subtraction

- Mental strategies
- Add whole numbers with more than four digits
- Subtract whole numbers with more than four digits
- Round to check answers
- Inverse operations (addition and subtraction)
- Multi-step addition and subtraction problems
- Compare calculations
- Find missing numbers

### Multiplication and division A

- Multiples
- Common multiples
- Factors
- Common factors
- Prime numbers
- Square numbers
- Cube numbers
- Multiply by 10, 100 and 1,000
- Divide by 10, 100 and 1,000
- Multiples of 10, 100 and 1,000

**Fractions A**

- Find fractions equivalent to a unit fraction
- Find fractions equivalent to a non-unit fraction
- Recognise equivalent fractions
- Convert improper fractions to mixed numbers
- Convert mixed numbers to improper fractions
- Compare fractions less than 1
- Order fractions less than 1
- Compare and order fractions greater than 1
- Add and subtract fractions with the same denominator
- Add fractions within 1
- Add fractions with total greater than 1
- Add to a mixed number
- Add two mixed numbers
- Subtract fractions
- Subtract from a mixed number
- Subtract from a mixed number – breaking the whole Small steps
- Subtract two mixed number

**Multiplication and division B**

- Multiply up to a 4-digit number by a 1-digit number
- Multiply a 2-digit number by a 2-digit number (area model)
- Multiply a 2-digit number by a 2-digit number
- Multiply a 3-digit number by a 2-digit number
- Multiply a 4-digit number by a 2-digit number
- Solve problems with multiplication
- Short division
- Divide a 4-digit number by a 1-digit number
- Divide with remainders
- Efficient division
- Solve problems with multiplication and division

**Fractions B**

- Multiply a unit fraction by an integer
- Multiply a non-unit fraction by an integer
- Multiply a mixed number by an integer
- Calculate a fraction of a quantity
- Fraction of an amount
- Find the whole
- Use fractions as operators

**Decimals and percentages**

- Decimals up to 2 decimal places
- Equivalent fractions and decimals (tenths)
- Equivalent fractions and decimals (hundredths)
- Equivalent fractions and decimals
- Thousandths as fractions
- Thousandths as decimals
- Thousandths on a place value chart
- Order and compare decimals (same number of decimal places)
- Order and compare any decimals with up to 3 decimal places
- Round to the nearest whole number
- Round to 1 decimal place
- Understand percentages
- Percentages as fractions
- Percentages as decimals
- Equivalent fractions, decimals and percentages

**Perimeter and area**

- Perimeter of rectangles
- Perimeter of rectilinear shapes
- Perimeter of polygons
- Area of rectangles
- Area of compound shapes
- Estimate area

**Statistics**

- Draw line graphs
- Read and interpret line graphs
- Read and interpret tables
- Two-way tables
- Read and interpret timetables

**Shape**

- Understand and use degrees
- Classify angles
- Estimate angles
- Measure angles up to  $180^\circ$
- Draw lines and angles accurately
- Calculate angles around a point
- Calculate angles on a straight line
- Lengths and angles in shapes
- Regular and irregular polygons Step 10 3-D shapes

**Position and direction**

- Read and plot coordinates
- Problem solving with coordinates
- Translation
- Translation with coordinates
- Lines of symmetry
- Reflection in horizontal and vertical lines

**Decimals**

- Use known facts to add and subtract decimals within 1
- Complements to 1
- Add and subtract decimals across 1
- Add decimals with the same number of decimal places
- Subtract decimals with the same number of decimal places
- Add decimals with different numbers of decimal places
- Subtract decimals with different numbers of decimal places
- Efficient strategies for adding and subtracting decimals
- Decimal sequences
- Multiply by 10, 100 and 1,000
- Divide by 10, 100 and 1,000 Step 12 Multiply and divide decimals – missing values

**Negative numbers**

- Understand negative numbers
- Count through zero in 1s
- Count through zero in multiples
- Compare and order negative numbers
- Find the difference

**Converting units**

- Kilograms and kilometres
- Millimetres and millilitres
- Convert units of length
- Convert between metric and imperial units
- Convert units of time
- Calculate with timetables

**Volume**

- Cubic centimetres
- Compare volume
- Estimate volume
- Estimate capacity

## Year 6

### Number and Place Value

- Numbers to 1,000,000
- Numbers to 10,000,000
- Read and write numbers to 10,000,000
- Powers of 10
- Number line to 10,000,000
- Compare and order any integers
- Round any integer Step 8 Negative numbers

### Addition, subtraction, multiplication and division

- Add and subtract integers
- Common factors
- Common multiples
- Rules of divisibility
- Primes to 100
- Square and cube numbers
- Multiply up to a 4-digit number by a 2-digit number
- Solve problems with
- Short division
- Division using factors
- Introduction to long division
- Long division with remainders
- Solve problems with division
- Solve multi-step problems
- Order of operations
- Mental calculations and estimation
- Reason from known facts

### Fractions A

- Equivalent fractions and simplifying
- Equivalent fractions on a number line
- Compare and order (denominator)
- Compare and order (numerator)
- Add and subtract simple fractions
- Add and subtract any two fractions
- Add mixed numbers
- Subtract mixed numbers
- Multi-step problems

**Fractions B**

- Multiply fractions by integers
- Multiply fractions by fractions
- Divide a fraction by an integer
- Divide any fraction by an integer
- Mixed questions with fractions
- Fraction of an amount
- Fraction of an amount – find the whole

**Converting units**

- Metric measures
- Convert metric measures
- Calculate with metric measures
- Miles and kilometres
- Imperial measure

**Ratio**

- Add or multiply?
- Use ratio language
- Introduction to the ratio symbol
- Ratio and fractions
- Scale drawing
- Use scale factors
- Similar shapes
- Ratio problems
- Proportion problems
- Recipes

**Algebra**

- 1-step function machines
- 2-step function machines
- Form expressions
- Substitution
- Formulae
- Form equations
- Solve 1-step equations
- Solve 2-step equations
- Find pairs of values
- Solve problems with two unknowns



**Decimals**

- Place value within 1
- Place value – integers and decimals
- Round decimals
- Add and subtract decimals
- Multiply by 10, 100 and 1,000
- Divide by 10, 100 and 1,000
- Multiply decimals by integers
- Divide decimals by integers
- Multiply and divide decimals in context

**Fractions, decimals and percentages**

- Decimal and fraction equivalents
- Fractions as division
- Understand percentages
- Fractions to percentages
- Equivalent fractions, decimals and percentages
- Order fractions, decimals and percentages
- Percentage of an amount – one step
- Percentage of an amount – multi-step Small steps
- Percentages – missing values

**Area, perimeter and volume**

- Shapes – same area
- Area and perimeter
- Area of a triangle – counting squares
- Area of a right-angled triangle
- Area of any triangle
- Area of a parallelogram
- Volume– counting cubes
- Volume of a cuboid

**Statistics**

- Line graphs
- Dual bar charts
- Read and interpret pie charts
- Pie charts with percentages
- Draw pie charts
- The mean

**Shape**

- Measure and classify angles
- Calculate angles
- Vertically opposite angles
- Angles in a triangle
- Angles in a triangle – special cases
- Angles in a triangle – missing angles
- Angles in a quadrilateral
- Angles in polygons
- Circles
- Draw shapes accurately
- Nets of 3-D shapes

**Position and direction**

- The first quadrant
- Read and plot points in four quadrants
- Solve problems with coordinates
- Translations
- Reflection