

## Mathematics Curriculum - Year 4

### Autumn 1

- Read and write numbers to at least 10 000.
- Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).
- Find 0.1, 1, 10, 100 or 1000 more or less than a given number.
- Order and compare numbers beyond 1000.
- Identify, represent and estimate numbers using different representations, including the number line.
- Round any number to the nearest 10, 100 or 1000.
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
- Read and write numbers with up to two decimal places.
- Identify the value of each digit to two decimal places.
- Count up and down in hundredths.
- Recognise that hundredths arise when dividing an object by a hundred and dividing tenths by ten.
- Recognise that one hundred 1p coins are equivalent to £1 and that each coin is  $\frac{1}{100}$  of £1.
- Write amounts of money using decimal notation.
- Round decimals with one decimal place to the nearest whole number.
- Order and compare numbers with the same number of decimal places up to two decimal places.
- Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.
- Partition numbers in different ways (for example,  $2.3 = 2 + 0.3$  and  $2.3 = 1 + 1.3$ ).
- Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate.
- Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).
- Select a mental strategy appropriate for the numbers involved in the calculation.
- Estimate and use inverse operations to check answers to a calculation.
- Add and subtract mentally combinations of two and three digit numbers and decimals to one decimal place.
- Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate.
- Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
- Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
- Identify acute and obtuse angles and compare and order angles up to two right angles by size.
- Identify lines of symmetry in 2-D shapes presented in different orientations.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
- Read, write and convert time between analogue and digital 12 and 24-hour clocks.  
Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures.

### Autumn 2

- Recall multiplication and division facts for the 6 times table and 9 times table.
- Use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; multiplying together three numbers.
- Recognise and use factor pairs and commutativity in mental calculations.
- Use partitioning to double or halve any number, including decimals to one decimal place.
- Select a mental strategy appropriate for the numbers involved in the calculation.
- Partition numbers in different ways (for example,  $2.3 = 2 + 0.3$  and  $2.3 = 1 + 1.3$ ).
- Use place value, known and derived facts to divide mentally, including dividing by 1.
- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
- Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).
- Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
- Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, division (including remainders), integer scaling problems and harder correspondence problems such as which n objects are connected to m objects.
- Estimate, compare and calculate different lengths.
- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.
- Convert between different units of measure (e.g. kilometre to metre; hour to minute).

- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

## Spring 1

- Read Roman numerals to 100 (I to C) and know that, over time, the numeral system changed to include the concept of zero and place value.
- Count in multiples of 6, 8, 25 and 1000.
- Count backwards through zero to include negative numbers.
- Order temperatures including those below 0°C.
- Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.
- Understand that a fraction is one whole number divided by another (for example,  $\frac{3}{4}$  can be interpreted as  $3 \div 4$ ).
- Add and subtract fractions with the same denominator.
- Recognise and show, using diagrams, families of common equivalent fractions.
- Recognise and write decimal equivalents of any number of tenths or hundredths.
- Recognise and write decimal equivalents to  $\frac{1}{4}$ ;  $\frac{1}{2}$ ;  $\frac{3}{4}$ .
- Count on and back in steps of unit fractions.
- Compare and order unit fractions and fractions with the same denominator (including on a number line).
- Recognise, find and write fractions of a discrete set of objects including those with a range of numerators and denominators.
- Select a mental strategy appropriate for the numbers involved in the calculation.
- Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
- Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.
- Solve simple measure and money problems involving fractions and decimals to two decimal places.
- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Describe movements between positions as translations of a given unit to the left/right and up/down.
- Plot specified points and draw sides to complete a given polygon.
- Complete a simple symmetric figure with respect to a specific line of symmetry.
- Understand that area is a measure of surface within a given boundary.
- Find the area of rectilinear shapes by counting squares.
- Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate.
- Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).
- Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.

## Spring 2

- Recall multiplication and division facts for the 7 times table and 11 times table.
- Use place value, known and derived facts to multiply and divide mentally, including:
  - multiplying by 0 and 1;
  - dividing by 1;
  - multiplying together three numbers.
- Recognise and use factor pairs and commutativity in mental calculations.
- Use partitioning to double or halve any number, including decimals to one decimal place.
- Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).
- Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
- Select a mental strategy appropriate for the numbers involved in the calculation.
- Continue to understand division as sharing and grouping and use each appropriately.
- Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
- Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).
- Order and compare numbers beyond 1000.
- Identify, represent and estimate numbers using different representations, including the number line.

- Identify the value of each digit to two decimal places.
- Find 0.1, 1, 10, 100 or 1000 more or less than a given number.
- Round any number to the nearest 10, 100 or 1000.
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
- Count in multiples of 7.
- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
- Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, division (including remainders), integer scaling problems and harder correspondence problems such as which n objects are connected to m objects.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
- Continue to identify horizontal and vertical lines and pairs of perpendicular and parallel lines.
- Identify acute and obtuse angles and compare and order angles up to two right angles by size.
- Identify lines of symmetry in 2-D shapes presented in different orientations.
- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Plot specified points and draw sides to complete a given polygon.
- Add and subtract numbers with up to 4 digits and decimals with one decimal place using the formal written methods of columnar addition and subtraction where appropriate.
- Interpret discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

## Summer 1

- Count in multiples of 6, 7, 8, 25 and 1000.
- Count backwards through zero to include negative numbers.
- Count up and down in hundredths.
- Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.
- Identify the value of each digit to two decimal places.
- Recognise and write decimal equivalents of any number of tenths or hundredths.
- Recognise and write decimal equivalents to  $\frac{1}{4}$  ;  $\frac{1}{2}$  ;  $\frac{3}{4}$  .
- Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.
- Convert between different units of measure.
- Round decimals with one decimal place to the nearest whole number.
- Order and compare numbers with the same number of decimal places up to two decimal places.
- Solve simple measure problems involving fractions and decimals to two decimal places.
- Continue to understand division as sharing and grouping and use each appropriately.
- Understand that a fraction is one whole number divided by another (for example,  $\frac{3}{4}$  can be interpreted as  $3 \div 4$ ).
- Divide numbers up to 3 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.
- Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.
- Estimate, compare and calculate different measures.
- Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.
- Complete a simple symmetric figure with respect to a specific line of symmetry.
- Describe movements between positions as translations of a given unit to the left/right and up/down.
- Describe positions on a 2-D grid as coordinates in the first quadrant.
- Plot specified points and draw sides to complete a given polygon.
- Find the area of rectilinear shapes by counting squares.
- Recall multiplication and division facts for the 12 times table.
- Describe and extend number sequences involving counting on or back in different steps, including sequences with multiplication and division steps.
- Read, write and convert time between analogue and digital 12 and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days and problems involving money and measures.

## Summer 2

- Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones).
- Order and compare numbers beyond 1000.
- Identify, represent and estimate numbers using different representations, including the number line.
- Round any number to the nearest 10, 100 or 1000.
- Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
- Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
- Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
- Add and subtract numbers with up to 4 digits and decimals with one decimal place using the efficient written methods of columnar addition and subtraction where appropriate.
- Choose an appropriate strategy to solve a calculation based upon the numbers involved (recall a known fact, calculate mentally, use a jotting, written method).
- Select a mental strategy appropriate for the numbers involved in the calculation.
- Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.
- Partition numbers in different ways (for example,  $2.3 = 2 + 0.3$  and  $2.3 = 1 + 1.3$ ).
- Use place value, known and derived facts to multiply and divide mentally, including:
  - multiplying by 0 and 1;
  - dividing by 1;
  - multiplying together three numbers.
- Recognise and use factor pairs and commutativity in mental calculations.
- Use estimation and inverse to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
- Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.
- Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, division (including remainders), integer scaling problems and harder correspondence problems such as which  $n$  objects are connected to  $m$  objects.
- Use a variety of sorting diagrams to compare and classify numbers and geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.
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- Identify acute and obtuse angles and compare and order angles up to two right angles by size.
- Identify lines of symmetry in 2-D shapes presented in different orientations.  
Complete a simple symmetric figure with respect to a specific line of symmetry.