Year 4 Mathematics Curriculum Overview

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

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Autumn Term

Topic	Skills
Number - Number and place value	• Read and write numbers to 1000 • Partition three-digit numbers into hundreds, tens, ones • Explain how the digits change when counting in tens or hundreds • Order a set of numbers to 1000 • Solve number problems and reason mathematically
Number - Addition and subtraction	• Add and subtract a pair of two-digit numbers • Add and subtract a three-digit number and ones • Add and subtract a three-digit number and tens
Geometry - Properties of shape	• Recognise, name and describe prisms • Visualise the skeletal outline of a 3-D shape
Number - Multiplication and division, including Number and place value	• Find 10 more or less than a given number • Identify two multiplication and two division facts from a given set of three numbers • Describe the relationship between multiplication and division • Recall the multiplication and division facts for the 3 multiplication table • Solve word problems and reason mathematically
Number - Fractions	• Find a unitary amount of a set of objects • Recognise a unit fraction as one item in a set of objects, e.g. 1/10 • Recognise a non-unit fraction as more than one item in a set of objects, e.g. 3/10 • Add fractions with the same denominator that total one whole
Measurement (mass)	• Measure mass in kilograms and grams • Compare mass in kilograms and grams • Add and subtract mass in kilograms and grams
Number - Addition and subtraction	• Add a three-digit number and ones • Add a three-digit number and tens • Add a three-digit number and hundreds • Solve word problems and reason mathematically
Number - Addition and subtraction	• Subtract a three-digit number and ones • Subtract a three-digit number and tens

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	• Subtract a three-digit number and hundreds • Solve word problems and reason mathematically
Geometry - Properties of shape	• Identify right angles in 2-D shapes • Make and describe right-angled turns • Give and follow directions to make turns • Recognise whether angles are equal to, greater than or less than a right angle
Number - Multiplication and division, including Number and place value	• Count on and back in steps of 4 • Recognise the multiples of 4 • Recall the multiplication facts for the 4 multiplication table • Recall the division facts for the 4 multiplication table • Multiply a multiple of 10 by 4
Number - Multiplication and division, including Number and place value	• Count on and back in steps of 8 • Recognise the multiples of 8 • Recall the multiplication facts for the 8 multiplication table • Recall the division facts for the 8 multiplication table • Multiply a multiple of 10 by 8 • Solve word problems and reason mathematically
Measurement (time)	• Tell and write the time on a 12-hour clock with hands • Tell and write the time on a 24-hour clock with hands • Use a time line and read words related to time • Estimate and measure time to the nearest minute

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Spring Term

Topic	Skills
Number - Number and place value	• Identify the value of each digit in a four-digit number • Use the value of the digits to compare and order numbers • Round any number to the nearest 10 or 100 • Count backwards through zero to include negative numbers
Number - Addition and subtraction	• Subtract mentally counting back in hundreds, tens and ones depending on the calculation • Make jottings to support mental calculations • Use the formal written method of columnar subtraction • Estimate and check answers to a calculation • Solve word problems and reason mathematically
Geometry - Properties of shape	• Recognise, name and draw 2-D shapes, including: pentagon, hexagon and octagon • Make composite shapes with two or more shapes • Identify the number of right angles in a composite or irregular shape • Describe shapes in terms of angles, sides and vertices
Number - Multiplication and division, including Number and place value	• Recognise multiples of 25, 100 and 1000 • Make a reasonable estimate for the answer to a calculation • Partition two-digit numbers into tens and ones • Multiply a one-digit number by a multiple of 10 • Use a written method to calculate multiplication of TO x O • Multiply a two-digit number by a one-digit number using the most efficient method • Solve word problems and reason mathematically
Number - Fractions	• Count on in hundredths from any hundredths fraction • Understand that hundredths arise when dividing an object by one hundred • Understand that hundredths arise when dividing tenths by ten • Use place value to find 1/10 or 1/100 of an amount, then multiply the answer by the numerator • Solve word problems and reason mathematically
Measurement (length)	• Convert between kilometres and metres • Convert between metres and centimetres • Convert between metres and millimetres

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	• Convert between centimetres and millimetres • Use decimal notation to tenths to record lengths in kilometres and in metres • Use decimal notation to tenths to record length in metres and in centimetres • Round numbers on measuring tapes to the nearest 10 cm and 100 cm
Number - Addition and subtraction	• Add mentally counting on in hundreds, tens and ones depending on the calculation • Subtract mentally counting back in hundreds, tens and ones depending on the calculation • Use the formal written method of columnar addition • Estimate and check answers to a calculation • Solve word problems and reason mathematically
Number - Addition and subtraction	• Use the formal written method of columnar addition • Use the formal written method of columnar subtraction • Estimate and check answers to a calculation • Solve word problems and reason mathematically
Statistics	• Interpret and present data using pictograms • Interpret and present data using scaled bar charts • Interpret and present data using simple time graphs
Number - Multiplication and division	• Make a reasonable estimate for the answer to a calculation • Partition three-digit numbers into hundreds, tens and ones • Multiply a one-digit number by a multiple of 10 and 100 • Use a written method to calculate multiplication of HTO x O • Solve word problems and reason mathematically
Number - Decimals	• Recognise the link between fractions and decimal fractions • Understand decimals with two decimal places • Compare and order decimals with two decimal places • Understand the effect of dividing a number by 10 or 100
Measurement (perimeter and area)	• Measure and calculate the perimeter of rectilinear figures in centimetres and metres • Use the rule P = 2(a+b) to calculate perimeter (P) • Find the area of rectilinear shapes by counting squares • Find the area of a shape in square centimetres by multiplying the number of squares in a row by the number of columns

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Summer Term

Topic	Skills
Number - Number and place value	• Identify the value of each digit in a four-digit number • Use the value of the digits to compare and order numbers • Round any number to the nearest 10, 100 or 1000 • Count backwards through zero to include negative numbers • Understand Roman numerals and know the values of I, V, X, L and C and use these to work out numbers from 1 to 100 (I to C)
Number - Addition and subtraction, including Measurement (money)	• Use the formal written method of columnar addition • Use the formal written method of columnar subtraction • Estimate and check answers to a calculation • Add amounts of money mentally and using the formal written method • Solve problems and reason mathematically
Geometry - Properties of shape	• Use properties and sizes to classify equilateral, isosceles and scalene triangles • Use properties and sizes to classify named quadrilaterals: square, rectangle, parallelogram, rhombus, trapezium and kite • Use properties and sizes to classify irregular quadrilaterals
Number - Multiplication and division	• Make a reasonable estimate for the answer to a calculation • Partition three-digit numbers into hundreds, tens and ones • Multiply a one-digit number by a multiple of 10 and 100 • Use the formal written method to calculate multiplication of HTO x O • Multiply a three-digit number by a one-digit number using the most efficient method • Solve word problems and reason mathematically
Number - Fractions	• Recognise equivalent fractions and identify the simplest fraction • Add fractions with the same denominator • Subtract fractions with the same denominator • Know if a fraction is more or less than one whole • Solve problems involving fractions
Measurement (volume and capacity)	• Convert from larger to smaller standard units of capacity using multiplication • Find the value of each interval on a scale and use this to give approximate values of readings between divisions

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	• Calculate capacities in litres and in millilitres using decimals to two places
Number - Addition and subtraction, including Measurement (money)	• Use the formal written method of columnar addition • Use the formal written method of columnar subtraction • Estimate and check answers to a calculation • Subtract amounts of money mentally and using the formal written method • Solve problems and reason mathematically
Number - Decimals	• Recognise the link between fractions and decimals • Write the fraction or decimal that is of equal value • Compare and order decimals with up to two decimal places • Round decimals with one decimal place to the nearest whole number • Understand the effect of dividing a number by 10 or 100 • Solve problems and reason mathematically
Geometry - Position and direction	• Plot specific points on a coordinate grid in the first quadrant • Draw sides to complete a given polygon
Number - Multiplication and division	• Make a reasonable estimate for the answer to a calculation • Partition two-digit numbers into tens and ones • Partition three-digit numbers into hundreds, tens and ones • Divide a multiple of 10 by a one-digit number • Use a written method to calculate division of TO ÷ O • Use a written method to calculate division of HTO ÷ O
Number - Multiplication and division	• Make a reasonable estimate for the answer to a calculation • Partition three-digit numbers into hundreds, tens and ones • Divide a multiple of 10 by a one-digit number • Use a written method to calculate division of HTO ÷ O • Solve word problems and reason mathematically
Statistics	• Interpret and present data in scaled pictograms, scaled bar charts and tables • Solve problems using data presented in scaled pictograms, scaled bar charts and tables • Interpret and present data in simple time graphs • Solve problems using data presented in simple time graphs