

Year 5 Maths Curriculum Overview

Number

Pupils will learn how to:

- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers through zero
- solve number problems and practical problems that involve all of the above
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 11/5$)
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- read and write decimal numbers as fractions (e.g. $0.71 = 71/100$)
- round decimals with two decimal places to the nearest whole number and to one decimal place
- recognise the per cent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator hundred, and as a decimal fraction
- solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those with a denominator of a multiple of 10 or 25



- recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents
- add and subtract fractions with the same denominator and multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read, write, order and compare numbers with up to three decimal places
- solve problems involving number up to three decimal places
- add and subtract fractions with the same denominator and multiples of the same number
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams

Calculation

Pupils will learn how to:

- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- multiply and divide numbers mentally drawing upon known facts
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- add and subtract numbers mentally with increasingly large numbers
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers
- establish whether a number up to 100 is prime and recall prime numbers up to 19



- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes
- add and subtract numbers mentally with increasingly large numbers
- add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
- multiply and divide numbers mentally drawing upon known facts
- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
- multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers
- divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context
- solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates
- use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)
- solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes

Measure

Pupils will learn how to:

- convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- understand and use equivalences between metric units and common imperial units such as inches, pounds and pints
- solve problems involving converting between units of time
- estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water)
- use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling
- measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres
- calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes
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Geometry

Pupils will learn how to:

- identify 3-D shapes, including cubes and other cuboids, from 2-D representations
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles
- know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles
- draw given angles, and measure them in degrees ($^{\circ}$)
- identify:
 - ◆ angles at a point and one whole turn (total 360°)
 - ◆ angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)
 - ◆ other multiples of 90°
- identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed

Statistics

Pupils will learn how to:

- complete, read and interpret information in tables
- solve comparison, sum and difference problems using information presented in a line graph
- complete, read and interpret information in tables, including timetables



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- complete, read and interpret information in tables, including timetables

ASSESSMENTS:

- Headstart Primary End of Unit assessments
- Puma End of Term Assessments