



Maths – Year 5 Termly Overview

Autumn

Place Value

- Count forwards or backwards in steps of powers of 10 for any number up to 1,000,000.
- Count forwards and backwards with positive and negative whole numbers, including through zero.
- Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.
- Read Roman numerals to 1,000 (M) and recognise years written in Roman numerals.
- Interpret negative numbers in context.
- Round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000.
- Solve number and practical problems that involve all of the above.

Addition and Subtraction

- Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.
- 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.
- Solve addition and subtraction multi-step problems in context, 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.

Multiplication and Division

- 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.
- Recognise and use square numbers and cube numbers and the notation for squared and cubed.
- 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.
- Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000.
- Solve problems involving multiplication and division including using their knowledge of factors, multiples, squares and cubes.
- Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.



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Spring

Statistics

- Complete, read and interpret information in tables, including timetables.
- Solve comparison, sum and difference problems using information presented in a line graph.

Perimeter and Area

- Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.
- Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres and square metres, and estimate the area of irregular shapes.

Fractions

- 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 ($2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$).
- Compare and order fractions whose denominators are all multiples of the same number.
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.
- Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.

Decimals and Percentages

- Recognise the percent symbol (%) and understand that it relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal.
- Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 50.



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Summer

Decimals and Percentages

- Recognise the percent symbol (%) and understand that it relates to 'number of parts per 100', and write percentages as a fraction with denominator 100, and as a decimal.
- Solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 50.

Converting Units

- Solve problems involving the converting between units of time.
- Use all four operations to solve problems involving measures (for example, money).
- Convert between different units of metric measure (for example, km and m; cm and m; cm and mm; g and kg; l and ml).
- Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.
- Use all four operations to solve problems involving measure (for example, length, mass, volume and money) using decimal notation, including scaling.

Decimals

- Read and write decimal numbers as fractions (for example, $0.71 = \frac{71}{100}$).
- Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.
- Round decimals with two decimal places to the nearest whole number and to one decimal place.
- Read, write, order and compare numbers with up to three decimal places.
- Solve problems involving decimals up to three decimal places.

Position and Direction

- 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

Properties of Shape

- Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.
- Use the properties of rectangles to deduce related facts and find missing lengths and angles.
- Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.
- Know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles.
- Draw given angles, and measure them in degrees.
- Identify:
 - Angles at a point and one whole turn (total 360 degrees).
 - Angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180 degrees).
 - Other multiples of 90 degrees.

Volume

- Estimate volume (for example, using 1cm³ blocks to build cuboids (including cubes) and capacity (for example, using water).