



Hamble Primary School Maths Overview

Year 5

This maths overview shows the key statements for our maths curriculum from which teachers work through addressing specific statements each term. The maps are recursive and weighted, meaning that each half term children spend roughly 2 weeks on selected statements from each of the grey highlighted sections and a week on the white sections.

Term	Autumn 1 Spring 1 Summer 1	Autumn 2 Spring 2 Summer 2
Unit	Number and Place Value	Multiplication and Division
	Addition and Subtraction	Fractions
	Geometry (shape)	Geometry (position and direction)
	Measures	
	Statistics	

Number and Place Value

- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
- round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000
- solve number problems and practical problems that involve all of the above
- read Roman numerals to 1000 (M) and recognise years written in Roman numerals.

Addition and Subtraction

- 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.

Measures

- convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)
- understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints
- 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 (cm^2) and square metres (m^2) and estimate the area of irregular shapes
- estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]
- solve problems involving converting between units of time
- use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.

Geometry (properties of shapes)

- 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 ($^\circ$)
 - 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°)
- identify:
 - other multiples of 90°
- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning about equal sides and angles.

Statistics

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

Half Term

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
- 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 1000
- recognise and use square numbers and cube numbers, & 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
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- solve problems involving multiplication and division. including scaling by simple fractions and

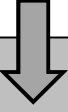
Progression

These statements are organised in a progressive manner and year teams select the statements, with guidance from their Learning Leader and / or the maths coordinator to be taught each half term. To inform this, teams use their assessment from prior teaching and links between areas and other curriculum subjects to ascertain the best and most purposeful structure for a given class. Some statements, such as time, are taught incidentally and more frequently in order to further embed learning. Children also have daily arithmetic time to ensure quick recall and fluency of key mathematical operations.

Children revisit statements outside the maths lessons during revisit and enrich sessions and evidence of maths can be seen in other subjects, including our theme topics and Science.

Fluency, Reasoning and Problem Solving

In the autumn term, there is a heavy focus on fluency based activities, with some reasoning and problem solving being introduced once the initial learning has taken place. As the year progresses, and children gain more knowledge, there is an increasing focus on reasoning and problem solving activities to consolidate and begin mastering the knowledge delivered within the year group. While our children are exposed to the same or similar problems, we scaffold their learning depending on individual needs and the levels of challenge required.



Fractions

- 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 [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]
- add and subtract fractions with the same denominator and denominators that are multiples of the same number [for example, $0.71 = \frac{71}{100}$]
- multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams
- read and write decimal numbers as fractions
- 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 number up to three decimal places
- 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 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 25.



Geometry (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.