



Mathematics in Year 5

A guide for parents

‘Without mathematics, there's nothing
you can do.

Everything around you is mathematics.

Everything around you is numbers.’



The purpose of this short booklet is to make you aware of the National Curriculum end of year expectations for the teaching of Maths for your child's specific year group.

With the latest National Curriculum (2014) the mathematical knowledge and understanding that children in KS2 require has become more demanding than any previous curriculum. We hope this booklet will make you aware of the standards required and enable you to support your child in their learning.

Best Wishes

Upper Key Stage 2 Team

You will never have this day again so, with the guidance of God, make it count!



Number – number and place value

Pupils should be taught to:

- 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.

Number – addition and subtraction

Pupils should be taught to:

- 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.

Number – multiplication and division

Pupils should be taught to:

- 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

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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

Number – fractions

Pupils should be taught to:

- 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
- 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
- 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 and those fractions with a denominator of a multiple of 10 or 25.

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Measurement

Pupils should be taught to:

- 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 (cm²) and square metres (m²) and estimate the area of irregular shapes
- estimate volume [for example, using 1 cm³ 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 shape

Pupils should be taught to:

- 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 half a turn (total 180degrees)
- use the properties of rectangles to deduce related facts and find missing lengths and angles
- distinguish between regular and irregular polygons based on reasoning

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about equal sides and angles.

Geometry – position and direction

Pupils should be taught to:

- 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 should be taught to:

- 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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How to help your child:

Spend at least 30 minutes a week completing activities on Mathematics as well as completing mathematics Home Learning tasks.

Spend time learning and recalling multiplication and division facts linking to all times tables up to 12x12.

Name different 2D and 3D shapes when walking to the shops or going to the park. Can you see any patterns in the fencing panels? What shapes can you see in road signs? Discuss the properties of known shapes, how do you know it's a rectangle? Are there any lines of symmetry, Parallel or perpendicular lines? What type of angles can you see?

Help your child read and write numbers up to 1,000,000 encouraging accurate pronunciation and spelling.

Spend two minutes every so often counting on and back from different starting points in a variety of steps passing through zero.

Each day use appropriate language linking to money, solving one step and two step problems mentally. Discuss what coins could be used to buy objects in a shop e.g. comic and sweets. support your child in calculating the cost and change accurately.

Regularly discuss units of measurements estimating the length and mass of objects. Estimate distances and discuss different units of measurements identifying which units of measurement is smaller / larger and how many of a specific measurement make up another e.g. cm – m. Compare metric and imperial units of

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