Holy Trinity CE Academy

Mathematics

Year 1

Key Stage 1
The principal focus of mathematics teaching in Key Stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources (e.g. concrete objects and measuring tools).
At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.
By the end of Year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.
Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at Key Stage 1.

Year 1 Programme of Study	Notes and Guidance
Number - number and place value Pupils should be taught to: § count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number § count, read and write numbers to 100 in numerals, count in multiples of twos, fives and tens § given a number, identify one more and one less § identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least § read and write numbers from 1 to 20 in numerals and words.	**Number – number and place value** Pupils should practise counting (1, 2, 3), ordering (e.g. first, second, third), or to indicate a quantity (e.g. 3 apples, 2 centimetres), including solving simple concrete problems, until they are fluent. Pupils begin to recognise place value in numbers beyond 20 by reading, writing, counting and comparing numbers up to 100, supported by concrete objects and pictorial representations. They should practise counting as reciting numbers and counting as enumerating objects, and counting in twos, fives and tens from different multiples to develop their recognition of patterns in the number system (e.g. odd and even numbers), including varied and frequent practice through increasingly complex questions. They recognise and create repeating patterns with objects and with shapes.
Number - addition and subtraction Pupils should be taught to: § read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs § represent and use number bonds and related subtraction facts within 20 § add and subtract one-digit and two-digit numbers to 20, including zero § solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = **£** - 9	**Number - addition and subtraction** Pupils should memorise and reason with number bonds to 10 and 20 in several forms (e.g. 9 + 7 = 16; 16 – 7 = 9; 7 = 16 - 9). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations. Pupils should combine and increase numbers, counting forwards and backwards. They should discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms: put together, add, altogether, total, take away, distance between, difference between, more than and less than so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.
Number - multiplication and division Pupils should be taught to: § solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	**Number - multiplication and division** Through grouping and sharing small quantities, pupils should begin to understand multiplication and division; doubling numbers and quantities, and finding simple fractions of objects, numbers and quantities. They should make connections between arrays, number patterns, and counting in twos, fives and tens.

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Number - fractions § Pupils should be taught to: § recognise, find and name a half as one of two equal parts of an object, shape or quantity § recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	**Number - fractions** Pupils should be taught ½ and ¼ as 'fractions of' discrete and continuous quantities by solving problems using shapes, objects and quantities. For example, they could recognise and find half a length, quantity, set of objects or shape. Pupils connect halves and quarters to the equal sharing and grouping of sets of objects and to measures, as well as recognising and combining halves and quarters as parts of a whole.
Measurement Pupils should be taught to: § compare, describe and solve practical problems for: 1. lengths and heights (e.g. long/short, longer/shorter, tall/short, double/half) 2. mass or weight (e.g. heavy/light, heavier than, lighter than) 3. capacity/volume (full/empty, more than, less than, half, half full, quarter) 4. time (quicker, slower, earlier, later) § measure and begin to record the following: 1. lengths and heights 2. mass/weight 3. capacity and volume 4. time (hours, minutes, seconds) § recognise and know the value of different denominations of coins and notes § sequence events in chronological order using language (e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening) § recognise and use language relating to dates, including days of the week, weeks, months and years § tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	**Measurement** The pairs of terms: mass and weight, volume and capacity are used interchangeably at this stage. Pupils should move from using and comparing different types of quantities and measures using non-standard units, including discrete (e.g. counting) and continuous (e.g. liquid) measurement, to using manageable common standard units. In order to become familiar with standard measures, pupils begin to use measuring tools such as a ruler, weighing scales and containers. Pupils should use the language of time, including telling the time throughout the day, first using o'clock and then half past.
Geometry - properties of shapes Pupils should be taught to: § recognise and name common 2-D and 3-D shapes, including: 1. 2-D shapes [e.g. rectangles (including squares), circles and triangles] 2. 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres]	**Geometry - properties of shapes** Pupils should handle common 2-D and 3-D shapes, naming these and related everyday objects fluently. They should recognise these shapes in different orientations and sizes, and know that rectangles, triangles, cuboids and pyramids are not always similar to each other.
Geometry – position and direction Pupils should be taught to: § describe position, directions and movement, including whole, half, quarter and three-quarter turns.	**Geometry – position and direction** They should use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside. Pupils should make whole, half, quarter and three-quarter turns in both directions and connect turning clockwise with movement on a clock face.