Core learning in mathematics: links to the 1999 Framework for teaching mathematics

A blue box on the right shows that there is no equivalent in the new objectives. A blue box on the left shows that there is no equivalent in the 1999 objectives.

A pink box shows that the equivalent objective was in a different year group in the 1999 Framework.

Year 2

Using and applying mathematics

2006 objectives	1999 Framework and Supplement of examples	
• Solve problems involving addition, subtraction, multiplication or division in contexts of numbers, measures or pounds and pence	• Use mental addition and subtraction, and simple multiplication and division, to solve simple word problems involving numbers in 'real life', money or measures, using one or two steps. • Recognise all coins; begin to use £.p notation for money (e.g. know that £4.65 indicates £4 and 65p). Find totals, give change; work out which coins to pay.	Year 2 67, 69
• Identify and record the information or calculation needed to solve a puzzle or problem; carry out the steps or calculations and check the solution in the context of the problem	• Use the +, –, ×, ÷ and = signs to record mental calculations in a number sentence, and recognise the use of a symbol such as □ to stand for an unknown number. • Choose and use appropriate operations and efficient calculation strategies (e.g. mental, mental with jottings) to solve problems. • Check results of calculations, e.g. repeat addition in a different order, check with an equivalent calculation.	Year 2 25, 29, 47, 49 61 59
• Follow a line of enquiry; answer questions by choosing and using suitable equipment and selecting, organising and presenting information in lists, tables and simple diagrams	• Solve a given problem by sorting, classifying and organising information in simple ways. Discuss and explain results.	Year 2 91, 93
• Describe patterns and relationships involving numbers or shapes, make predictions and test these with examples	• Solve mathematical problems or puzzles, recognise simple patterns and relationships, generalise and predict. Suggest extensions by asking 'What if…?' or 'What could I try next?' • Investigate a general statement about familiar numbers or shapes by finding examples that satisfy it.	Year 2 63, 65
• Present solutions to puzzles and problems in an organised way; explain decisions, methods and results in pictorial, spoken or written form, using mathematical language and number sentences	• Explain how a problem was solved orally and, where appropriate, in writing.	Year 2 65

Counting and understanding number

2006 objectives	1999 Framework and Supplement of examples	
• Read and write two- and three-digit numbers in figures and words; describe and extend number sequences and recognise odd and even numbers	• Read and write whole numbers to at least 100 in figures and words. • Describe and extend simple number sequences; recognise odd and even numbers to at least 30.	Year 2 9 3, 5, 7
• Count up to 100 objects by grouping them and counting in tens, fives or twos; explain what each digit in a two-digit number represents, including numbers where 0 is a place holder; partition two-digit numbers in different ways, including into multiples of ten and one	• Count reliably up to 100 objects by grouping them, e.g. in tens, then in fives or twos. • Know what each digit in a two-digit number represents, including 0 as a place holder; partition two-digit numbers into a multiple of ten and ones (TU).	Year 2 3 9, 13
• Order two-digit numbers and position them on a number line; use the greater than (>), less than (<) signs	• Order whole numbers to at least 100, and position them on a number line and 100 square.	Year 2 13, 15
	• Use symbols correctly, including less than (<), greater than (>), equals (=).	**Year 4** **8**
• Estimate a number of objects and round two-digit numbers to the nearest 10	• Give a sensible estimate of at least 50 objects. • Round numbers less than 100 to the nearest 10.	Year 2 17, 19
• Find one half, one quarter and three quarters of shapes and sets of objects	• Begin to recognise and find one half and one quarter of shapes and small numbers of objects. • Begin to recognise that two halves or four quarters make one whole and that two quarters and one half are equivalent.	Year 2 21, 23

Knowing and using number facts

2006 objectives	1999 Framework and Supplement of examples	
• Derive and recall all addition and subtraction facts for each number to at least 10, all pairs with totals to 20 and all pairs of multiples of 10 with totals up to 100	• Know by heart: all addition and subtraction facts for each number to at least 10; all pairs of numbers with a total of 20 (e.g. 13 + 7, 6 + 14); all pairs of multiples of 10 with a total of 100 (e.g. 30 + 70).	Year 2 31
• Understand that halving is the inverse of doubling and derive and recall doubles of all numbers to 20, and the corresponding halves	• Derive quickly doubles of all whole numbers to at least 20 (e.g. 17 × 2), and the corresponding halves (e.g. 36 ÷ 2).	**Year 3** **53**
• Derive and recall multiplication facts for the 2, 5 and 10 times-tables and the related division facts; recognise multiples of 2, 5 and 10	• Know by heart multiplication facts for the 2 and 10 times-tables; begin to know multiplication facts for the 5 times-table. Derive quickly the corresponding division facts.	Year 2 53
	• Know by heart multiplication facts for the 5 times-table.	**Year 3** **53**
• Use knowledge of number facts and operations to estimate and check answers to calculations	• Check results of calculations by repeating addition in a different order, or with an equivalent calculation.	Year 2 59

Calculating

2006 objectives	1999 Framework and Supplement of examples	
• Add or subtract mentally a single-digit number or a multiple of 10 to or from any two-digit number; use practical and informal written methods to add and subtract two-digit numbers	• *Use mental calculation strategies – several objectives, including:* use known number facts and place value to add/subtract mentally; partition, then recombine; bridge through 10 or 20, then adjust; find a small difference by counting up from the smaller to the larger number. • Extend understanding of the operations of addition and subtraction. • Understand that more than two numbers can be added. Begin to add three single-digit numbers mentally.	Year 2 33–41 25, 29 27
• Understand that subtraction is the inverse of addition and vice versa and use this to derive and record related addition and subtraction number sentences	• Understand that subtraction is the inverse of addition (subtraction reverses addition). • State the subtraction corresponding to a given addition, and vice versa.	Year 2 25, 29 35
• Represent repeated addition and arrays as multiplication, and sharing and repeated subtraction (grouping) as division; use practical and informal written methods and related vocabulary to support multiplication and division, including calculations with remainders	• Understand the operation of multiplication as repeated addition or as describing an array, and begin to understand division as grouping (repeated subtraction) or sharing. • Use known number facts and place value to carry out mentally simple multiplications and divisions.	Year 2 47, 49 57
	• Begin to find remainders after simple division. • Round up or down after division, depending on the context.	**Year 3** **51**
• Use the symbols +, –, ×, ÷ and = to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence, e.g. 30 – ☐ = 24, ☐ ÷ 2 = 6	• Use the +, –, ×, ÷ and = signs to record mental calculations in a number sentence, and recognise the use of a symbol such as ☐ to stand for an unknown number.	Year 2 25, 29 47, 49

Understanding shape

2006 objectives	1999 Framework and Supplement of examples	
• Visualise common 2-D shapes and 3-D solids; identify shapes from pictures of them in different positions and orientations; sort, make and describe shapes, referring to their properties	• Use the mathematical names for common 3-D and 2-D shapes, including the pyramid, cylinder, pentagon, hexagon, octagon. • Relate solid shapes to pictures of them. • Sort shapes and describe some of their features, such as the number of sides and corners, symmetry. • Make and describe shapes, pictures and patterns, e.g. using solid shapes, pinboard and elastic bands, squared paper, a programmable robot, …	Year 2 81, 83
• Identify reflective symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes	• Begin to recognise line symmetry.	Year 2 85

• Follow and give instructions involving position, direction and movement	• Use mathematical vocabulary to describe position, direction and movement, e.g. describe, place, tick, draw or visualise objects in given positions. • Give instructions for moving along a route in straight lines and round right-angled corners, e.g. to pass through a simple maze.	Year 2 87, 89
• Recognise and use whole, half and quarter turns, both clockwise and anti-clockwise; know that a right angle represents a quarter turn	• Recognise whole, half and quarter turns, to the left or right, clockwise or anti-clockwise; know that a right angle is a measure of a quarter turn, and recognise right angles in squares and rectangles.	Year 2 89

Measuring

2006 objectives	1999 Framework and Supplement of examples	
• Estimate, compare and measure lengths, weights and capacities, choosing and using standard units (m, cm, kg, litre) and suitable measuring instruments	• Estimate, measure and compare lengths, masses and capacities, using standard units (m, cm, kg, litre). • Suggest suitable units and equipment for such measurements.	Year 2 73, 75
• Read the numbered divisions on a scale, and interpret the divisions between them, e.g. on a scale from 0 to 25 with intervals of 1 shown but only the divisions 0, 5, 10, 15 and 20 numbered; use a ruler to draw and measure lines to the nearest centimetre	• Read a simple scale to the nearest labelled division, including using a ruler to draw and measure lines to the nearest centimetre, recording estimates and measurements as '3 and a bit metres long' or 'about 8 centimetres' or 'nearly 3 kilograms heavy'.	Year 2 77
	• Read scales to the nearest division (labelled or unlabelled).	**Year 3** **77**
• Use units of time (seconds, minutes, hours, days) and know the relationships between them; read the time to the quarter hour; identify time intervals, including those that cross the hour	• Use units of time and know the relationships between them (second, minute, hour, day, week). • Read the time to the quarter hour on an analogue clock and 12-hour digital clock; understand the notation 7:30. • Solve word problems involving measures. • Suggest suitable units to estimate or measure time.	Year 2 79 71

Handling data

2006 objectives	1999 Framework and Supplement of examples	
• Answer a question by collecting and recording data in lists and tables; represent the data as block graphs or pictograms to show results; use ICT to organise and present data	• Solve a given problem by sorting, classifying and organising information in simple ways, such as: – in a list or simple table; – in a pictogram; – in a block graph. Discuss and explain results.	Year 2 91, 93
• Use lists, tables and diagrams to sort objects; explain choices using appropriate language, including *not*		