

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 3

Using and applying mathematics

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> Solve one- and two-step problems involving numbers, money or measures, including time, choosing and carrying out appropriate calculations Represent the information in a puzzle or problem using numbers, images or diagrams; use these to find a solution and present it in context, where appropriate using £.p notation or units of measure 	<ul style="list-style-type: none"> Solve word problems involving numbers in 'real life', money and measures, using one or more steps, including finding totals and giving change, and working out which coins to pay. Explain how the problem was solved. Choose and use appropriate operations (including multiplication and division) to solve word problems, and appropriate ways of calculating: mental, mental with jottings, pencil and paper. Recognise all coins and notes. Understand and use £.p notation (for example, know that £3.06 is £3 and 6p). 	Year 3 67, 69, 71 61
<ul style="list-style-type: none"> Follow a line of enquiry by deciding what information is important; make and use lists, tables and graphs to organise and interpret the information 	<ul style="list-style-type: none"> Solve a given problem by organising and interpreting numerical data in simple lists, tables and graphs. 	Year 3 91, 93
<ul style="list-style-type: none"> Identify patterns and relationships involving numbers or shapes, and use these to solve problems 	<ul style="list-style-type: none"> Solve mathematical problems or puzzles, recognise simple patterns and relationships, generalise and predict. Suggest extensions by asking 'What if...?' Describe and extend number sequences. Investigate a general statement about familiar numbers or shapes by finding examples that satisfy it. 	Year 3 63, 65 3, 5, 7
<ul style="list-style-type: none"> Describe and explain methods, choices and solutions to puzzles and problems, orally and in writing, using pictures and diagrams 	<ul style="list-style-type: none"> Explain methods and reasoning orally and, where appropriate, in writing. 	65

Counting and understanding number

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> Read, write and order whole numbers to at least 1000 and position them on a number line; count on from and back to zero in single-digit steps or multiples of 10 	<ul style="list-style-type: none"> Read and write whole numbers to at least 1000 in figures and words. Order whole numbers to at least 1000, and position them on a number line. 	Year 3 11, 13, 15

Framework review

<ul style="list-style-type: none"> Partition three-digit numbers into multiples of one hundred, ten and one in different ways 	<ul style="list-style-type: none"> Know what each digit represents, and partition three-digit numbers into a multiple of 100, a multiple of ten and ones (HTU). 	Year 3 9
<ul style="list-style-type: none"> Round two- or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences 	<ul style="list-style-type: none"> Round any two-digit number to the nearest 10 and any three-digit number to the nearest 100. 	Year 3 19
	<ul style="list-style-type: none"> Round any positive integer less than 1000 to the nearest 10 or 100. 	Year 4 10, 12
<ul style="list-style-type: none"> Read and write proper fractions, e.g. $\frac{3}{7}$, $\frac{9}{10}$, interpreting the denominator as the parts of a whole and the numerator as the number of parts; identify and estimate fractions of shapes; use diagrams to compare fractions and establish equivalents 	<ul style="list-style-type: none"> Recognise unit fractions such as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$, ... and use them to find fractions of shapes and numbers. Begin to recognise simple fractions that are several parts of a whole, such as $\frac{3}{4}$, $\frac{2}{3}$ or $\frac{3}{10}$. Compare familiar fractions, e.g. know that on the number line one half lies between one quarter and three quarters. Begin to recognise simple equivalent fractions, e.g. five tenths and one half, five fifths and one whole. Estimate a simple fraction. 	Year 3 21, 23

Knowing and using number facts

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100 	<ul style="list-style-type: none"> Know by heart: all addition and subtraction facts for each number to 20; all pairs of multiples of 100 with a total of 1000 (e.g. 300 + 700); all pairs of multiples of 5 with a total of 100 (e.g. 35 + 65). 	Year 3 31
	<ul style="list-style-type: none"> Derive quickly all number pairs that total 100 (e.g. 62 + 38, 75 + 25, 40 + 60). 	Year 4 38
<ul style="list-style-type: none"> Derive and recall multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the corresponding division facts; recognise multiples of 2, 5 or 10 up to 1000 	<ul style="list-style-type: none"> Know by heart multiplication facts for the 2, 5 and 10 times-tables; begin to know the 3 and 4 times-tables. Derive quickly corresponding division facts. Recognise two-digit and three-digit multiples of 2, 5 or 10, and three-digit multiples of 50 and 100. 	Year 3 53 7
	<ul style="list-style-type: none"> Know by heart: multiplication facts for 2, 3, 4, 5 and 10 times-tables. Begin to know multiplication facts for the 6 times-tables. Derive quickly corresponding division facts. 	Year 4 58
<ul style="list-style-type: none"> Use knowledge of number operations and corresponding inverses, including doubling and halving, to estimate and check calculations 	<ul style="list-style-type: none"> Check subtraction with addition, halving with doubling and division with multiplication. Repeat addition or multiplication in a different order. Check with an equivalent calculation. 	Year 3 59

Calculating

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> Add or subtract mentally combinations of one- and two-digit numbers 	<ul style="list-style-type: none"> Use mental calculation strategies – several objectives, including: <ul style="list-style-type: none"> use known number facts and place value to add/subtract mentally; add and subtract mentally a ‘near multiple of 10’; add mentally three or four small numbers; find a difference by counting up. 	Year 3 37, 39, 41 33, 35
<ul style="list-style-type: none"> Develop and use written methods to record, support or explain addition and subtraction of two- and three-digit numbers 	<ul style="list-style-type: none"> Use informal pencil and paper methods to support, record or explain $HTU \pm TU$, $HTU \pm HTU$. Begin to use column addition and subtraction for $HTU \pm TU$ where the calculation cannot easily be done mentally. 	Year 3 43, 45
<ul style="list-style-type: none"> Multiply one- and two-digit numbers by 10 or 100, and describe the effect 	<ul style="list-style-type: none"> Multiply mentally by 10/100 by shifting the digits one/two places to the left. 	Year 3 55
<ul style="list-style-type: none"> Use practical and informal written methods to support multiplication and division of two-digit numbers (e.g. 13×3, $30 \div 4$); round remainders up or down, depending on the context 	<ul style="list-style-type: none"> Use known number facts and place value to carry out mentally simple multiplications and divisions. Begin to find remainders after simple division; round up or down after division, depending on the context. 	Year 3 51, 57
<ul style="list-style-type: none"> Understand that division is the inverse of multiplication and vice versa and use to derive and record related multiplication and division number sentences 	<ul style="list-style-type: none"> Recognise that division is the inverse of multiplication, and that halving is the inverse of doubling. Say or write a division statement corresponding to a given multiplication statement. 	Year 3 49 55
<ul style="list-style-type: none"> Find unit fractions of numbers and quantities, e.g. $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$ and $\frac{1}{6}$ of 12 litres 	<ul style="list-style-type: none"> Recognise unit fractions such as $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{1}{10}$, ... and use them to find fractions of shapes and numbers. 	Year 3 21, 23

Understanding shape

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise, classify, draw and make the shapes 	<ul style="list-style-type: none"> Relate solid shapes to pictures of them. Classify and describe 3-D and 2-D shapes, including the hemisphere, prism, semi-circle, quadrilateral... referring to properties such as reflective symmetry, the number or shapes of faces, the number of sides/edges and vertices, whether sides/edges are the same length, whether or not angles are right angles... Make and describe shapes and patterns, e.g. explore the different shapes that can be made from four cubes. 	Year 3 81, 83

Framework review

<ul style="list-style-type: none"> Draw and complete shapes with reflective symmetry and draw the reflection of a shape in a mirror line along one side 	<ul style="list-style-type: none"> Identify and sketch lines of symmetry in simple shapes, and recognise shapes with no lines of symmetry. Sketch the reflection of a simple shape in a mirror line along one edge. 	Year 3 85
<ul style="list-style-type: none"> Read and record the vocabulary of position, direction and movement, using the four compass directions to describe movement about a grid 	<ul style="list-style-type: none"> Read and begin to write the vocabulary related to position, direction and movement, e.g. describe and find the position of a square on a grid of squares with the rows and columns labelled. Recognise and use the four compass directions N, S, E, W. 	Year 3 87
<ul style="list-style-type: none"> Use a set-square to draw right angles and to identify right angles in 2-D shapes; compare angles with a right angle; recognise that a straight line is equivalent to two right angles 	<ul style="list-style-type: none"> Identify right angles in 2-D shapes and the environment. Recognise that a straight line is equivalent to two right angles. Compare angles with a right angle. 	Year 3 89

Measuring

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres; choose and use appropriate units to estimate, measure and record measurements 	<ul style="list-style-type: none"> Measure and compare using standard units (km, m, cm, kg, g, l, ml) Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres. Begin to use decimal notation for metres and centimetres. Suggest suitable units and measuring equipment to estimate or measure length, mass or capacity. 	Year 3 73, 75
<ul style="list-style-type: none"> Read, to the nearest division and half-division, scales that are numbered or partially numbered; use the information to measure and draw to a suitable degree of accuracy 	<ul style="list-style-type: none"> Read scales to the nearest division (labelled or unlabelled); record estimates and measurements to the nearest whole or half unit (e.g. 'about 3.5 kg'), or in mixed units (e.g. '3 m and 20 cm'). Use a ruler to draw and measure lines to the nearest half centimetre 	Year 3 77
<ul style="list-style-type: none"> Read the time on a 12-hour digital clock and to the nearest five minutes on an analogue clock; calculate time intervals and find start or end times for a given time interval 	<ul style="list-style-type: none"> Read the time to 5 minutes on an analogue clock and 12-hour digital clock; use the notation 9:40. Solve word problems involving measures. 	Year 3 79 71
	<ul style="list-style-type: none"> Read the time to the nearest minute from a 12-hour digital clock. 	Year 4 98, 100

Handling data

2006 objectives	1999 Framework and Supplement of examples	
<ul style="list-style-type: none"> • Answer a question by collecting, organising and interpreting data; use tally charts, frequency tables, pictograms and bar charts to represent results and illustrate observations; use ICT to create a simple bar chart • Use Venn diagrams or Carroll diagrams to sort data and objects using more than one criterion 	<ul style="list-style-type: none"> • Solve a given problem by organising and interpreting numerical data in simple lists, tables and graphs, e.g. <ul style="list-style-type: none"> – simple frequency tables; – pictograms; – bar charts; – Venn and Carroll diagrams (one criterion). 	<p>Year 3 91, 93</p>
	<ul style="list-style-type: none"> • Solve a given problem by organising and interpreting numerical data in Venn and Carroll diagrams (two criteria). 	<p>Year 4 116</p>