

Core learning in mathematics: links to the National Curriculum 2000

Underlined text in red indicates new objectives that add detail to the relevant National Curriculum Programme of Study.

Year 2

Using and applying mathematics

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> Solve problems involving addition, subtraction, multiplication or division in contexts of numbers, measures or pounds and pence 	<ul style="list-style-type: none"> Solve whole-number problems (including problems involving money or measures) Develop flexible approaches to problem solving and look for ways to overcome difficulties 	<p>N4a N1b</p>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Choose sensible calculation methods to solve whole-number problems, drawing on their understanding of the operations Make decisions about which operations and problem-solving strategies to use Organise and check their work Check that their answers are reasonable 	<p>N4a N1c N1d N4b</p>
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Approach problems involving number, and data presented in a variety of forms, in order to identify what they need to do Solve a relevant problem by using simple lists, tables and charts to sort, classify and organise information Select and use appropriate mathematical equipment when solving problems involving measures or measurement Select and use appropriate equipment and materials when solving shape and space problems 	<p>N1a N5a S1b S1c</p>
<ul style="list-style-type: none"> Describe patterns and relationships involving numbers or shapes, make predictions and test these with examples 	<ul style="list-style-type: none"> Try different approaches and find ways of overcoming difficulties when solving shape and space problems Create and describe number patterns Recognise simple spatial patterns and relationships and make predictions about them Understand a general statement and investigate whether particular cases match it 	<p>S1a S2b S1e N1h</p>

Framework review

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Present results in an organised way Use the correct language, symbols and vocabulary associated with number and data Use the correct language and vocabulary for shape, space and measures Communicate in spoken, pictorial and written form, using mathematical language and symbols Explain their methods and reasoning when solving problems Use mathematical communication and explanation skills 	<p>N1g</p> <p>N1e</p> <p>S1d</p> <p>N1f</p> <p>N1i</p> <p>N4b</p> <p>S1f</p>
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Counting and understanding number

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> Read and write two- and three-digit numbers in figures and words; describe and extend number sequences and recognise odd and even numbers 	<ul style="list-style-type: none"> Read and write numbers to 100 or beyond Recognise sequences, including odd and even numbers to 30 then beyond 	<p>N2c</p> <p>N2b</p>
<ul style="list-style-type: none"> 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; <u>partition two-digit numbers in different ways, including into multiples of ten and one</u> 	<ul style="list-style-type: none"> Gradually extend counting to 100 and beyond Recognise that the position of a digit gives its value and know what each digit represents, including zero as a place-holder 	<p>N2a</p> <p>N2c</p>
<ul style="list-style-type: none"> Order two-digit numbers and position them on a number line; <u>use the greater than (>), less than (<) signs</u> 	<ul style="list-style-type: none"> Order a set of one and two-digit numbers and position them on a number line and hundred-square 	<p>N2c</p>
<ul style="list-style-type: none"> <u>Estimate a number of objects</u> and round two-digit numbers to the nearest 10 	<ul style="list-style-type: none"> Round any two-digit number to the nearest 10 	<p>N2c</p>
<ul style="list-style-type: none"> Find one half, one quarter and <u>three quarters</u> of shapes and sets of objects 	<ul style="list-style-type: none"> Find one half and one quarter of shapes and small numbers of objects 	<p>N3b</p>

Knowing and using number facts

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Explore and record patterns related to addition and subtraction, explaining the patterns and using them to make predictions Develop rapid recall of number facts: use addition and subtraction facts to 10 to derive facts with totals to 20 	<p>N2b</p>
<ul style="list-style-type: none"> Understand that halving is the inverse of doubling and derive and recall doubles of all numbers <u>to 20</u>, and the corresponding halves 	<ul style="list-style-type: none"> Know doubles of numbers to 10 and halves of even numbers to 20 Recognise the relationship between halving and doubling Understand that halving is the inverse of doubling 	<p>N3c</p> <p>N2b</p> <p>N3b</p>

Framework review

<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Know multiplication facts for the $\times 2$ and $\times 10$ multiplication tables and derive corresponding division facts Explore patterns of multiples of 2, 5 and 10 explaining the patterns and using them to make predictions 	N3c N2b
<ul style="list-style-type: none"> Use knowledge of number facts and operations to check answers to calculations 	<ul style="list-style-type: none"> Check that their answers are reasonable 	N4b

Calculating

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Develop a range of mental methods for finding, from known facts, those that they cannot recall, including adding and subtracting a multiple of 10 to or from a two-digit number; develop a variety of methods for adding and subtracting, including making use of the facts that addition can be done in any order and that subtraction is the inverse of addition 	N3d
<ul style="list-style-type: none"> Understand that subtraction is the inverse of addition and vice versa and use this to derive and record related addition and subtraction number sentences 	<ul style="list-style-type: none"> Recognise that subtraction is the inverse of addition; give the subtraction corresponding to an addition and vice versa Carry out simple calculations of the form $40 + 30 = ?$, $40 + ? = 100$, $56 - ? = 10$; record calculations in a number sentence, using the symbols $+$, $-$, \times, \div and $=$ correctly 	N3a N3e
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Understand multiplication as repeated addition; begin to understand division as grouping (repeated subtraction); use vocabulary associated with multiplication and division 	N3b
<ul style="list-style-type: none"> Use the symbols $+$, $-$, \times, \div and $=$ to record and interpret number sentences involving all four operations; calculate the value of an unknown in a number sentence, e.g. $30 - \square = 24$, $\square \div 2 = 6$ 	<ul style="list-style-type: none"> Use symbols Solve simple missing number problems [e.g. $6 = 2 + ?$] 	N1e N3a

Understanding shape

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> Visualise common 2-D shapes and 3-D solids and identify them from pictures of them in different positions and orientations; sort, make and describe shapes, referring to their properties 	<ul style="list-style-type: none"> Name and describe the mathematical features of common 2-D and 3-D shapes, including hexagons, pentagons, cylinders, pyramids, cones and spheres Describe properties of shapes that they can see or visualise using the related vocabulary Create 2-D shapes and 3-D shapes 	S2b S2a S2c
<ul style="list-style-type: none"> Identify reflection symmetry in patterns and 2-D shapes and draw lines of symmetry in shapes 	<ul style="list-style-type: none"> Recognise reflective symmetry in familiar 2-D shapes and patterns 	S2d

Framework review

<ul style="list-style-type: none"> Follow and give instructions involving position, direction and movement 	<ul style="list-style-type: none"> Recognise movements in a straight line (translations) and rotations, and combine them in simple ways 	S3b
<ul style="list-style-type: none"> Recognise and use whole, half and quarter turns, both clockwise and anti-clockwise; know that a right angle represents a quarter turn 	<ul style="list-style-type: none"> Understand angle as a measure of turn using whole turns, half-turns and quarter-turns Recognise right angles 	S4b S3b S3c

Measuring

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> Estimate, compare and measure lengths, masses and capacities, choosing and using standard units (m, cm, kg, litre) and suitable measuring instruments 	<ul style="list-style-type: none"> Estimate, measure and weigh objects; choose and use simple measuring instruments Compare and measure objects using a standard unit of length (cm, m), weight (kg), capacity (l) [e.g. 'longer or shorter than a metre rule', 'three-and-a-bit litre jugs'] 	S4c S4a
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Read and interpret numbers and scales to the nearest labelled division. 	S4c
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Compare the durations of events using a standard unit of time 	S4a

Handling data

2006 objectives	National Curriculum 2000 KS1 programme of study	
<ul style="list-style-type: none"> Answer a question by recording data in lists and tables; represent the data as block graphs or pictograms to show results; use ICT to organise and present data 	<ul style="list-style-type: none"> Solve a relevant problem by using simple lists, tables and charts to sort, classify and organise information 	N5a
<ul style="list-style-type: none"> Use lists, tables and diagrams to sort objects against one or two criteria; explain choices using appropriate language, including <i>not</i> 	<ul style="list-style-type: none"> Use simple lists, tables and charts to sort, classify and organise information Discuss what they have done and explain their results 	N5a N5b

