

## Matching chart: Year 4 Mathematics

### Using and applying mathematics

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li>Solve one-step and two-step problems involving numbers, money or measures, including time; choose and carry out appropriate calculations, using calculator methods where appropriate</li> </ul>	B1.3 Solving problems		D3.2 Time
<ul style="list-style-type: none"> <li>Represent a puzzle or problem using number sentences, statements or diagrams; use these to solve the problem; present and interpret the solution in the context of the problem</li> </ul>	B1.3 Solving problems		A3.1 Mental methods of addition and subtraction 2 D3.1 Area
<ul style="list-style-type: none"> <li>Suggest a line of enquiry and the strategy needed to follow it; collect, organise and interpret selected information to find answers</li> </ul>		C2.1 Collecting and recording data	C3.2 Investigating habitats
<ul style="list-style-type: none"> <li>Identify and use patterns, relationships and properties of numbers or shapes; investigate a statement involving numbers and test it with examples</li> </ul>			A3.1 Mental methods of addition and subtraction 2 B3.3 3-D shapes
<ul style="list-style-type: none"> <li>Report solutions to puzzles and problems, giving explanations and reasoning orally and in writing, using diagrams and symbols</li> </ul>		C2.2 Capacity	C3.2 Investigating habitats

Objectives are taken from the *Primary Framework for literacy and mathematics* and are Crown copyright. Blue italicized text signifies end-of-year (EOY) objectives within Mathematics.

## Counting and understanding number

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li>Recognise and continue number sequences formed by counting on or back in steps of constant size</li> </ul>	A1.2 Negative numbers	B2.1 Multiplication and division facts 1	
<ul style="list-style-type: none"> <li>Partition, round and order four-digit whole numbers; use positive and negative numbers in context and position them on a number line; state inequalities using the symbols &lt; and &gt; (e.g. <math>-3 &gt; -5</math>, <math>-1 &lt; +1</math>)</li> </ul>	A1.1 Place value and ordering A1.2 Negative numbers B1.2 Rounding and estimating		
<ul style="list-style-type: none"> <li>Use decimal notation for tenths and hundredths and partition decimals; relate the notation to money and measurement; position one-place and two-place decimals on a number line</li> </ul>		A2.1 Decimals	
<ul style="list-style-type: none"> <li>Recognise the equivalence between decimal and fraction forms of one half, quarters, tenths and hundredths</li> </ul>		E2.2 Decimals and fractions	
<ul style="list-style-type: none"> <li><i>Use diagrams to identify equivalent fractions (e.g. <math>\frac{6}{8}</math> and <math>\frac{3}{4}</math>, or <math>\frac{70}{100}</math> and <math>\frac{7}{10}</math>); interpret mixed numbers and position them on a number line (e.g. <math>3\frac{1}{2}</math>)</i></li> </ul>	E1.2 Equivalent fractions	E2.1 Mixed numbers	E3.2 Ordering and comparing fractions
<ul style="list-style-type: none"> <li>Use the vocabulary of ratio and proportion to describe the relationship between two quantities (e.g. 'There are 2 red beads to every 3 blue beads, or 2 beads in every 5 beads are red'); estimate a proportion (e.g. 'About one quarter of the apples in the box are green')</li> </ul>			E3.3 Ratio and proportion

Objectives are taken from the *Primary Framework for literacy and mathematics* and are Crown copyright. Blue italicized text signifies end-of-year (EOY) objectives within Mathematics.

## Knowing and using number facts

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li>Use knowledge of addition and subtraction facts and place value to derive sums and differences of pairs of multiples of 10, 100 or 1000</li> </ul>	B1.1 Mental methods of addition and subtraction		
<ul style="list-style-type: none"> <li>Identify the doubles of two-digit numbers; use these to calculate doubles of multiples of 10 and 100 and derive the corresponding halves</li> </ul>		B2.2 Doubling halves	
<ul style="list-style-type: none"> <li><i>Derive and recall multiplication facts up to <math>10 \times 10</math>, the corresponding division facts and multiples of numbers to 10 up to the tenth multiple</i></li> </ul>		B2.1 Multiplication and division facts 1	B3.1 Multiplication and division facts 2
<ul style="list-style-type: none"> <li>Use knowledge of rounding, number operations and inverses to estimate and check calculations</li> </ul>	B1.2 Rounding and estimating	A2.2 Written methods of addition and subtraction	A3.2 Written methods of multiplication
<ul style="list-style-type: none"> <li>Identify pairs of fractions that total 1</li> </ul>	E1.1 Understanding fractions		

## Calculating

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li><i>Add or subtract mentally pairs of two-digit whole numbers (e.g. <math>47 + 58</math>, <math>91 - 35</math>)</i></li> </ul>			A3.1 Mental methods of addition and subtraction 2
<ul style="list-style-type: none"> <li>Refine and use efficient written methods to add and subtract two-digit and three-digit whole numbers and <math>\pounds.p</math></li> </ul>		A2.2 Written methods of addition and subtraction	
<ul style="list-style-type: none"> <li>Multiply and divide numbers to 1000 by 10 and then 100 (whole-number answers), understanding the effect; relate to scaling up or down</li> </ul>	D1.1 Measurement and metric units		
<ul style="list-style-type: none"> <li><i>Develop and use written methods to record, support and explain multiplication and division of two-digit numbers by a one-digit number, including division with remainders (e.g. <math>15 \times 9</math>, <math>98 \div 6</math>)</i></li> </ul>			A3.2 Written methods of multiplication E3.1 Written methods of division
<ul style="list-style-type: none"> <li>Find fractions of numbers, quantities or shapes (e.g. <math>\frac{1}{5}</math> of 30 plums, <math>\frac{3}{8}</math> of a 6 by 4 rectangle)</li> </ul>	E1.3 Fractions of shapes	E2.3 Fractions of amounts	
<ul style="list-style-type: none"> <li>Use a calculator to carry out one-step and two-step calculations involving all four operations; recognise negative numbers in the display, correct mistaken entries and interpret the display correctly in the context of money</li> </ul>	B1.3 Solving problems		

Objectives are taken from the *Primary Framework for literacy and mathematics* and are Crown copyright. Blue italicized text signifies end-of-year (EOY) objectives within Mathematics.

## Understanding shape

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li>Draw polygons and classify them by identifying their properties, including their line symmetry</li> </ul>		B2.3 2-D shapes 1	B3.2 2-D shapes 2
<ul style="list-style-type: none"> <li>Visualise 3-D objects from 2-D drawings; make nets of common solids</li> </ul>			B3.3 3-D shapes
<ul style="list-style-type: none"> <li>Recognise horizontal and vertical lines; use the eight compass points to describe direction; describe and identify the position of a square on a grid of squares</li> </ul>	D1.2 Position, direction and movement		
<ul style="list-style-type: none"> <li><i>Know that angles are measured in degrees and that one whole turn is 360°; compare and order angles less than 180°</i></li> </ul>		D2.1 Angles	

## Measuring

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li><i>Choose and use standard metric units and their abbreviations when estimating, measuring and recording length, weight and capacity; know the meaning of 'kilo', 'centi' and 'milli' and, where appropriate, use decimal notation to record measurements (e.g. 1.3 m or 0.6 kg)</i></li> </ul>	C1.1 Length C1.2 Weight D1.1 Measurement and metric units	C2.2 Capacity D2.2 Measuring lines and finding perimeters	
<ul style="list-style-type: none"> <li>Interpret intervals and divisions on partially numbered scales and record readings accurately, where appropriate to the nearest tenth of a unit</li> </ul>		D2.2 Measuring lines and finding perimeters	C3.1 Interpreting scales
<ul style="list-style-type: none"> <li>Draw rectangles and measure and calculate their perimeters; find the area of rectilinear shapes drawn on a square grid by counting squares</li> </ul>		D2.2 Measuring lines and finding perimeters	D3.1 Area
<ul style="list-style-type: none"> <li>Read time to the nearest minute; use am, pm and 12-hour clock notation; choose units of time to measure time intervals; calculate time intervals from clocks and timetables</li> </ul>			D3.2 Time

## Handling data

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <li><i>Answer a question by identifying what data to collect; organise, present, analyse and interpret the data in tables, diagrams, tally charts, pictograms and bar charts, using ICT where appropriate</i></li> </ul>		C2.1 Collecting and recording data	C3.2 Investigating habitats

Objectives are taken from the *Primary Framework for literacy and mathematics* and are Crown copyright. Blue italicized text signifies end-of-year (EOY) objectives within Mathematics.

<ul style="list-style-type: none"><li>• Compare the impact of representations where scales have intervals of differing step size</li></ul>			C3.1 Interpreting scales
--	--	--	--------------------------