

Matching chart: Year 5 Mathematics

Using and applying mathematics

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies, including calculator use 	B1.3 Written methods of addition and subtraction E1.2 Written multiplication methods		A3.2 Division and remainders B3.2 Mental methods of addition and subtraction
<ul style="list-style-type: none"> Represent a puzzle or problem by identifying and recording the information or calculations needed to solve it; find possible solutions and confirm them in the context of the problem 			B3.1 Investigating patterns
<ul style="list-style-type: none"> Plan and pursue an enquiry; present evidence by collecting, organising and interpreting information; suggest extensions to the enquiry 		C2.2 Bar charts – healthy eating	
<ul style="list-style-type: none"> Explore patterns, properties and relationships and propose a general statement involving numbers or shapes; identify examples for which the statement is true or false 		B2.2 2-D shapes	B3.1 Investigating patterns
<ul style="list-style-type: none"> Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols 		C2.2 Bar charts – healthy eating	C3.1 Interpreting charts – food miles C3.2 Line graphs

Counting and understanding number

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their position on a number line 		A2.1 Sequences and number lines	
<ul style="list-style-type: none"> <i>Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers</i> 	A1.1 Place value and partitioning	A2.2 Ordering numbers E2.2 Fractions and decimals	A3.1 Rounding
<ul style="list-style-type: none"> Express a smaller whole number as a fraction of a larger one (e.g. recognise that 5 out of 8 is $\frac{5}{8}$); find equivalent fractions (e.g. $\frac{7}{10} = \frac{14}{20}$, or $\frac{19}{10} = 1\frac{9}{10}$); relate fractions to their decimal representations 	E1.3 Equivalent fractions	E2.1 Improper fractions and mixed numbers E2.2 Fractions and decimals	

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		E2.3 Fractions of numbers	
<ul style="list-style-type: none"> Understand percentage as the number of parts in every 100 and express tenths and hundredths as percentages 			E3.2 Understanding percentages
<ul style="list-style-type: none"> Use sequences to scale numbers up or down; solve problems involving proportions of quantities (e.g. decrease quantities in a recipe designed to feed six people) 			E3.1 Scaling, ratio and proportion

Knowing and using number facts

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> <i>Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences and doubles and halves of decimals (e.g. 6.5 ± 2.7, half of 5.6, double 0.34)</i> 	E1.1 Mental methods of multiplication and division		B3.2 Mental methods of addition and subtraction
<ul style="list-style-type: none"> Recall quickly multiplication facts up to 10×10 and use them to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts 	B1.1 Multiplication and division facts E1.1 Mental methods of multiplication and division		
<ul style="list-style-type: none"> Identify pairs of factors of two-digit whole numbers and find common multiples (e.g. for 6 and 9) 	B1.2 Factors and multiples		
<ul style="list-style-type: none"> Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations 	B1.3 Written methods of addition and subtraction E1.2 Written multiplication methods		A3.1 Rounding

Calculating

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> Extend mental-methods for whole-number calculations, for example to multiply a two-digit by a one-digit number (e.g. 12×9), to multiply by 25 (e.g. 16×25), to subtract one near-multiple of 1000 from another (e.g. $6070 - 4097$) 	E1.1 Mental methods of multiplication and division		B3.2 Mental methods of addition and subtraction
<ul style="list-style-type: none"> <i>Use efficient written methods to add and subtract whole numbers and decimals with up to two places</i> 	B1.3 Written methods of addition and subtraction		
<ul style="list-style-type: none"> Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 or 1000 	A1.2 Multiplying and dividing by 10, 100 and 1000		

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<ul style="list-style-type: none"> Refine and use efficient written methods to multiply and divide $HTU \times U$, $TU \times TU$, $U.t \times U$ and $HTU \div U$ 	E1.2 Written multiplication methods		A3.2 Division and remainders
<ul style="list-style-type: none"> Find fractions using division (e.g. $\frac{1}{1000}$ of 5 kg), and percentages of numbers and quantities (e.g. 10%, 5% and 15% of £80) 		E2.3 Fractions of numbers	E3.3 Percentages of quantities
<ul style="list-style-type: none"> Use a calculator to solve problems, including those involving decimals or fractions (e.g. find $\frac{3}{4}$ of 150 g); interpret the display correctly in the context of measurement 			A3.2 Division and remainders

Understanding shape

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> Identify, visualise and describe properties of rectangles, triangles, regular polygons and 3-D solids; use knowledge of properties to draw 2-D shapes, and to identify and draw nets of 3-D shapes 		B2.2 2-D shapes B2.3 3-D shapes	
<ul style="list-style-type: none"> <i>Read and plot coordinates in the first quadrant; recognise parallel and perpendicular lines in grids and shapes; use a set-square and ruler to draw shapes with perpendicular or parallel sides</i> 		D2.1 Parallel and perpendicular lines D2.2 Co-ordinates	
<ul style="list-style-type: none"> Complete patterns with up to two lines of symmetry; draw the position of a shape after a reflection or translation 		B2.1 Line symmetry and reflection	B3.3 Translation
<ul style="list-style-type: none"> Estimate, draw and measure acute and obtuse angles using an angle measurer or protractor to a suitable degree of accuracy; calculate angles in a straight line 			D3.1 Angles

Measuring

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> Read, choose, use and record standard metric units to estimate and measure length, weight and capacity to a suitable degree of accuracy (e.g. the nearest centimetre); convert larger to smaller units using decimals to one place (e.g. change 2.6 kg to 2600 g) 	C1.2 Measurement and reading scales	D1.1 Standard metric units	
<ul style="list-style-type: none"> Interpret a reading that lies between two unnumbered divisions on a scale 	C1.2 Measurement and reading scales		
<ul style="list-style-type: none"> <i>Draw and measure lines to the nearest millimetre; measure and calculate the perimeter of regular and irregular polygons; use the formula for the area of a rectangle to calculate the rectangle's area</i> 	D1.2 Perimeter and area		

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<ul style="list-style-type: none"> Read timetables and time using 24-hour clock notation; use a calendar to calculate time intervals 			D3.2 Time
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Handling data

2006 objectives	Autumn lessons	Spring lessons	Summer lessons
<ul style="list-style-type: none"> Describe the occurrence of familiar events using the language of chance or likelihood 		C2.1 Chance and likelihood	
<ul style="list-style-type: none"> Answer a set of related questions by collecting, selecting and organising relevant data; draw conclusions, using ICT to present features, and identify further questions to ask 		C2.2 Bar charts – healthy eating	C3.2 Line graphs
<ul style="list-style-type: none"> <i>Construct frequency tables, pictograms and bar and line graphs to represent the frequencies of events and changes over time</i> 	C1.1 Collecting and presenting data – favourite food	C2.2 Bar charts – healthy eating	C3.1 Interpreting charts – food miles C3.2 Line graphs
<ul style="list-style-type: none"> Find and interpret the mode of a set of data 	C1.1 Collecting and presenting data – favourite food		C3.1 Interpreting charts – food miles

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