

Numeracy

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Key skills	Pupils at level 1 need to:			
Calculate Use numbers and measurements to support both accurate calculation and an understanding of scale, in order to make reasonable estimations.	Numbers <ul style="list-style-type: none"> Count up to 10 objects Read and write numbers to 10 Order numbers to 10. Use the fraction $\frac{1}{2}$. 	Calculating <ul style="list-style-type: none"> Find the total of two sets of objects, and know this is called addition. Take away objects from a set to find how many are left, and know this is called subtraction. Add or subtract numbers of objects to 10. Know number facts to 10. Solve addition or subtraction facts to 10. 	Algebra <ul style="list-style-type: none"> Begins at Level 2. 	Measure <ul style="list-style-type: none"> Measure and order objects by comparing them. Order events.
	Handle data			
Interpret Interpret and interrogate mathematical data in graphs, spreadsheets and diagrams, in order to draw inferences, recognise patterns and trends, and assess likelihood and risk.	<ul style="list-style-type: none"> Sort and classify objects. Represent work. Demonstrate the criterion used to sort. 			

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Communicate Use mathematics to justify and support decisions and proposals, communicating accurately using mathematical language and conventions, symbols and diagrams. Use mathematics Represent and model situations using mathematics, using a range of tools and applying logic and reasoning in order to predict, plan and try out options.	Shape & space	Using and applying
	<ul style="list-style-type: none">• Describe the properties of 2d and 3d shapes.• Describe the positions of 2d and 3d shapes.	<ul style="list-style-type: none">• Use mathematics in classroom activities.• Record work.• Discuss work.• Draw conclusions.• Recognise simple patterns and relationships.

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Key Skill	Pupils at level 2 need to:			
Calculate Use numbers and measurements to support both accurate calculation and an understanding of scale, in order to make reasonable estimations.	Numbers <ul style="list-style-type: none"> Count accurately. Use place value to 100 to order numbers. Find half of a quantity or shape. Know the 2, 5 and 10 times tables. 	Calculating <ul style="list-style-type: none"> Use subtraction as a way of undoing addition. Use addition as a way of undoing subtraction. Use number facts to 10. Mentally calculate number problems involving money and measures. Choose the appropriate operation when solving addition and subtraction problems. 	Algebra <ul style="list-style-type: none"> Recognise sequences of numbers, including odd and even. 	Measure <ul style="list-style-type: none"> Use standard measures of length and mass. Use numbers to order events or positions (1st, 2nd etc).
	Handle data			
Interpret Interpret and interrogate mathematical data in graphs, spreadsheets and diagrams, in order to draw inferences, recognize patterns and trends, and assess likelihood and risk.	<ul style="list-style-type: none"> Sort objects and classify them with more than one criterion. Use the language of data handling. Collect and sort data to test a hypothesis. Record results in lists, tables, pictograms and block graphs. Describe and communicate findings. 			

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<p>Communicate Use mathematics to justify and support decisions and proposals, communicating accurately using mathematical language and conventions, symbols and diagrams.</p> <p>Use mathematics Represent and model situations using mathematics, using a range of tools and applying logic and reasoning in order to predict, plan and try out options.</p>	<p style="text-align: center;">Shape & space</p> <ul style="list-style-type: none">• Use the correct names for 2d and 3d shapes.• Describe the properties of shapes, including the number of sides and corners.• Describe the position of objects.• Describe straight and turning movements.• Recognise right angles.• Recognise angles as a measure of turn.	<p style="text-align: center;">Using and applying</p> <ul style="list-style-type: none">• Select the most appropriate mathematics to use.• Use mathematical language.• Use symbols and diagrams.• Predict what will come next in a sequence.• Give reasons for answers.
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Key Skill	Pupils at level 3 need to:			
Calculate Use numbers and measurements to support both accurate calculation and an understanding of scale, in order to make reasonable estimations.	Numbers <ul style="list-style-type: none"> Use place value in numbers to 1000. Use place value to make approximations. Use negative numbers in the context of temperatures. Use fractions that are several parts of a whole. Use equivalent fractions. Use decimal notation in the context of money and measures. Know most of the times tables. 	Calculating <ul style="list-style-type: none"> Use knowledge of the times tables to find division facts. Add and subtract two-digit numbers mentally. Add and subtract three-digit numbers using written methods. Multiply and divide two-digit numbers by 2, 3, 4, 5 and 10, with whole number answers and remainders. Use mental recall of number facts to solve problems. 	Algebra <ul style="list-style-type: none"> Recognise sequences in fractions and other contexts. Use the = sign in a range of contexts. 	Measure <ul style="list-style-type: none"> Use standard measures of length, mass, capacity and time. Calculate area.
	Handle data			
Interpret Interpret and interrogate mathematical data in graphs, spreadsheets and diagrams, in order to draw inferences, recognise patterns and trends, and assess likelihood and risk.	<ul style="list-style-type: none"> Gather information. Construct bar charts and pictograms, where the symbol represents a group of units. Use Venn and Carroll diagrams to record sorting and classifying information. Construct and interpret frequency diagrams and line graphs. Extract and interpret information from tables, lists, bar charts and pictograms. 			

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<p>Communicate Use mathematics to justify and support decisions and proposals, communicating accurately using mathematical language and conventions, symbols and diagrams.</p> <p>Use mathematics Represent and model situations using mathematics, using a range of tools and applying logic and reasoning in order to predict, plan and try out options.</p>	<p style="text-align: center;">Shape & space</p> <ul style="list-style-type: none">• Classify 2D and 3D shapes according to their properties, including reflective symmetry.• Classify triangles according to their angles.• Recognise and use nets of 3D shapes.• Reflect shapes in a vertical or horizontal mirror line.• Describe position and movement.	<p style="text-align: center;">Using and applying</p> <ul style="list-style-type: none">• Select mathematics to use in classroom situations.• Try out different approaches to solving problems.• Organise and check work for accuracy.• Use mathematical symbols and diagrams.• Find examples of general statements.• Review work and give reasons for decisions.
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Key skills	Pupils at level 4 need to:			
Calculate Use numbers and measurements to support both accurate calculation and an understanding of scale, in order to make reasonable estimations.	Numbers <ul style="list-style-type: none"> Describe number patterns. Recognise and use multiples, factors and square numbers. Use place value to multiply or divide whole numbers by 10 or 100. Use fractions and percentages to represent proportions of a whole. Order decimals to three decimal places. Use ratio. Know all multiplication facts to 10 x 10. 	Calculating <ul style="list-style-type: none"> Mentally calculate using all operations. Use multiplication facts to quickly derive division facts. Be fluent in written calculation skills for all operations. Multiply a decimal by a single digit. Solve problems with and without a calculator. Check the reasonableness of answers. 	Algebra <ul style="list-style-type: none"> Use formulae. Use and interpret coordinates in the first quadrant. 	Measure <ul style="list-style-type: none"> Choose and use appropriate measures. Read measures from a variety of measuring instruments. Calculate perimeter.
Interpret Interpret and interrogate mathematical data in graphs, spreadsheets and diagrams, in order to draw inferences, recognise patterns and trends, and assess likelihood and risk.	Handle data			
	<ul style="list-style-type: none"> Collect and record data. Group data into equal class intervals. Continue to use Venn and Carroll diagrams. Construct and interpret frequency diagrams and line graphs. Understand and use the mode and range to describe sets of data. 			

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<p>Communicate Use mathematics to justify and support decisions and proposals, communicating accurately using mathematical language and conventions, symbols and diagrams.</p> <p>Use mathematics Represent and model situations using mathematics, using a range of tools and applying logic and reasoning in order to predict, plan and try out options.</p>	<p style="text-align: center;">Shape & space</p> <ul style="list-style-type: none">• Use the properties of 2D and 3D shapes to make models and diagrams.• Reflect shapes in a mirror line.• Translate shapes horizontally or vertically.• Rotate a shape about its centre or a vertex.	<p style="text-align: center;">Using and applying</p> <ul style="list-style-type: none">• Develop strategies for solving problems.• Present results in a clear and organised way.• Search for a solution by trying out different approaches.
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Key skills	Pupils at level 5 need to:			
Calculate Use numbers and measurements to support both accurate calculation and an understanding of scale, in order to make reasonable estimations.	Numbers <ul style="list-style-type: none"> Use place value to multiply and divide whole numbers and decimals by 10, 100 and 1000. Round decimals to the nearest decimal place. Order negative numbers. Use equivalence between fractions. Order decimals and fractions. Understand ratio. 	Calculating <ul style="list-style-type: none"> Calculate using brackets. Use a calculator to calculate fractions, percentages ratio and proportion. Use written methods to solve problems involving multiplying and dividing three-digit numbers by two-digit numbers. Solve multi-step problems involving all operations. Apply the inverse operation to check answers. 	Algebra <ul style="list-style-type: none"> Use formulae involving one or two operations. Use and interpret coordinates in all four quadrants. 	Measure <ul style="list-style-type: none"> Measure and draw angles to the nearest degree. Read and interpret scales on a range of measuring instruments, explaining what each division represents. Convert metric units. Estimate measures in a range of contexts. Understand and use the formula for the area of a rectangle and distinguish area from perimeter.
	Handle data			
Interpret Interpret and interrogate mathematical data in graphs, spreadsheets and diagrams, in order to draw inferences, recognise patterns and trends, and assess likelihood and risk.	<ul style="list-style-type: none"> Ask questions; plan how to answer them and collect the data required. Understand and use the probability scale from 0 to 1. Carry out investigations to understand probability. Use the mean of discrete data. Use the range, mean, mode to compare two sets of data. Understand that different outcomes may arise from an experiment. Interpret graphs and diagrams, including pie charts, and draw conclusions. Create and interpret line graphs, where the intermediate values have meaning. 			

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Communicate	Shape & space	Using and applying
<p>Use mathematics to justify and support decisions and proposals, communicating accurately using mathematical language and conventions, symbols and diagrams.</p> <p>Use mathematics Represent and model situations using mathematics, using a range of tools and applying logic and reasoning in order to predict, plan and try out options.</p>	<ul style="list-style-type: none">• Use the properties of 2D and 3D shapes to describe them.• Identify all the symmetries of 2D shapes.• Use language associated with angle.• Know and use the sum of angles in a triangle.• Transform shapes, using appropriate language to describe the transformation.	<ul style="list-style-type: none">• Identify and obtain necessary information.• Check results, considering if they are reasonable.• Solve word problems and investigations from a range of contexts.• Describe situations by describing them mathematically.• Draw conclusions and explain reasoning.