

Skill standards	Boardworks presentation
<p><b>Representing</b></p> <ul style="list-style-type: none"> <li>• understand routine and non-routine problems in familiar and unfamiliar contexts and situations</li> <li>• identify the situation or problems and identify the mathematical methods needed to solve them</li> <li>• choose from a range of mathematics to find solutions</li> </ul>	<p>Unit 4: Problem-solving skills; Bar charts, line graphs and pie charts; Calculating averages; Combined probability; Data collection; Experimental probability; Probability; The data handling cycle; Decimal calculations; Formulae; Fractions; Integers; LCM and HCF; Percentages; Ratio; Real-life graphs; Rounding; Working with fractions; 3-D shapes; Area; Circles; Cubes and cuboids; Lines and angles; Measures; Polygons; Symmetry and reflection; Triangles and quadrilaterals</p>
<p><b>Analysing</b></p> <ul style="list-style-type: none"> <li>• apply a range of mathematics to find solutions</li> <li>• use appropriate checking procedures and evaluate their effectiveness at each stage</li> </ul>	<p>Unit 4: Problem-solving skills; Bar charts, line graphs and pie charts; Calculating averages; Combined probability; Data collection; Experimental probability; Probability; The data handling cycle; Decimal calculations; Formulae; Fractions; Integers; LCM and HCF; Percentages; Ratio; Real-life graphs; Rounding; Working with fractions; 3-D shapes; Area; Circles; Cubes and cuboids; Lines and angles; Measures; Polygons; Symmetry and reflection; Triangles and quadrilaterals</p>

## Interpreting

- interpret and communicate solutions to multistage practical problems in familiar and unfamiliar contexts and situations
- draw conclusions and provide mathematical justifications

Unit 4: Problem-solving skills; Calculating averages; Combined probability; Continuous data; Drawing frequency diagrams; Experimental probability; Probability; Stem-and-leaf and scatter graphs; The data handling cycle; Decimal calculations; Factorizing; Formulae; Fractions; Functions; Generating sequences; Graphs of non-linear functions; Integers; Linear equations; Linear graphs; Manipulating formulae; Multiples, factors and prime numbers; Percentages; Proportion; Powers and roots; Ratio; Real-life graphs; Rounding; Simple inequalities; Solving quadratics; Working with brackets; Working with fractions; 3-D shapes; Area; Circles; Congruence and similarity; Construction; Cubes and cuboids; Enlargement; Lines and angles; Measures; Polygons; Pythagoras' Theorem; Symmetry and reflection; Translation and rotation; Triangles and quadrilaterals

Coverage and range	Boardworks presentation
<ul style="list-style-type: none"> <li>understand and use positive and negative numbers of any size in practical contexts</li> </ul>	Decimals; Decimal calculations; Rounding; Ratio; Proportion; Percentages; Percentage changes; Integers; LCM and HCF; Formulae; Simple inequalities; Fractions; Working with fractions; Number and Algebra 1; Number and Algebra 2; Number and Algebra 3; Number and Algebra 4; Measures; More measures; Enlargement; Polygons; Triangles and quadrilaterals; 3D shapes; Cubes and cuboids; Pythagoras' Theorem; Applying Pythagoras' Theorem; Trigonometry; Trigonometry graphs and rules; Further trigonometry; Applying trigonometry; Circles; Circle calculations; Vectors; Using vectors; Symmetry and reflection; Translation and rotation; Lines and angles; Loci
<ul style="list-style-type: none"> <li>carry out calculations with numbers of any size in practical contexts, to a given number of decimal places</li> </ul>	Decimals; Decimal calculations; Rounding; Ratio; Proportion; Percentages; Percentage changes; Integers; LCM and HCF; Formulae; Number and Algebra 1; Number and Algebra 2; Number and Algebra 3; Number and Algebra 4; More measures; Enlargement; Polygons; Triangles and quadrilaterals; 3D shapes; Cubes and cuboids; Pythagoras' Theorem;

# KS4 Maths Functional Skills mapping grid



	Applying Pythagoras' Theorem; Trigonometry; Trigonometry graphs and rules; Further trigonometry; Applying trigonometry; Circles; Circle calculations
<ul style="list-style-type: none"> <li>understand, use and calculate ratio and proportion, including problems involving scale</li> </ul>	Ratio; Proportion; Enlargement
<ul style="list-style-type: none"> <li>understand and use equivalences between fractions, decimals and percentages</li> </ul>	Fractions; Working with fractions; Decimals; Decimal calculation; Percentages; Percentage changes
<ul style="list-style-type: none"> <li>understand and use simple formulae and equations involving one- or two-step operations</li> </ul>	Formulae; Linear equations; 3D shapes; Circles; Circle calculations; Pythagoras' Theorem; Applying Pythagoras' Theorem; Triangles and quadrilaterals; Trigonometry graphs and rules
<ul style="list-style-type: none"> <li>recognise and use 2D representations of 3D objects</li> </ul>	3D shapes; Cubes and cuboids
<ul style="list-style-type: none"> <li>find area, perimeter and volume of common shapes</li> </ul>	Area; 3D shapes; Cubes and cuboids; Circles; Circle calculations; Polygons; Triangles and quadrilaterals
<ul style="list-style-type: none"> <li>use, convert and calculate using metric and, where appropriate, imperial measures</li> </ul>	Measures; More measures
<ul style="list-style-type: none"> <li>collect and represent discrete and continuous data, using information and communication technology (ICT) where appropriate</li> </ul>	The data handling cycle; Data collection; Continuous data; Bar charts, line graphs and pie charts; Drawing

# KS4 Maths Functional Skills mapping grid



	frequency diagrams; Stem-and-leaf and scatter graphs; Calculating averages; Statistics and Probability 1
<ul style="list-style-type: none"><li>• use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using information and communication technology (ICT) where appropriate.</li></ul>	The data handling cycle; Data collection; Continuous data; Bar charts, line graphs and pie charts; Drawing frequency diagrams; Stem-and-leaf and scatter graphs; Calculating averages; Statistics and Probability 1
<ul style="list-style-type: none"><li>• use statistical methods to investigate situations</li></ul>	Sampling methods
<ul style="list-style-type: none"><li>• use probability to assess the likelihood of an outcome</li></ul>	Probability; Combined probability; Experimental probability; Statistics and Probability 2