

BISAK
KS3
Schemes of Work
Data handling

Level 4	Data Handling You can collect information and put it into a tally table. You can write the frequencies from the tally table. You can work out the Mode and Range for sets of data. You can put data into groups and draw the frequency diagram (bar chart). You can understand what the diagrams mean. You can draw your own simple versions of line graphs.
Level 5	Data Handling You can work out and understand the Mean of a group of data. Compare two groups of data using Mean, Mode, Median and Range. You can explain what graphs and diagrams mean, including pie charts. Use the probability scale from 0 to 1. You can work out probabilities, understand equally likely outcomes and results from experiments. You should know that if you do an experiment more than once you may get different results.
Level 6	Data Handling Collect and record continuous data. Put data into groups and draw frequency tables. Draw and make comments on frequency diagrams. Draw pie charts. Draw up and comment on scatter graphs and types of correlations. If working with combined probabilities (e.g. rolling a dice and flipping a coin) you can work out and describe all the different outcomes.
Level 7	Data Handling Think up a prediction and then check to see if it is true/untrue by collecting information. Write comments on your findings. When data is in groups, work out the modal class and estimate the mean, median and range. Pick the appropriate one of these for the problem you are solving. Draw lines of best fit onto scatter graphs. Work out and understand relative frequency from experiments.

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<p>Level</p> <p>8</p>	<p>Data Handling</p> <p>Draw up cumulative frequency tables and graphs. Use CF graphs to work out the median and inter quartile range. Use this information to compare two sets of data both numerically and in words.</p>
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Schemes of Work
Number & Algebra

Level 4	Number and Algebra You can use place values to multiply/divide by 10 or 100. Remember multiplication facts up to 10×10 . With pencil and paper you can add, subtract and do short multiplication and division. You can add/subtract and put decimals in order. Recognise and use simple fractions, percentages and proportion. You can recognise and describe simple number patterns, such as multiples, factors and square numbers. Begin to use simple formulae in words. Use and read coordinates with just positive numbers.
Level 5	Number and Algebra Multiply decimals using up to 10, 100, 1000. Use add, subtract, multiply and divide with decimals up to 2 decimal places. Calculate fractions and percentages of a quantity. Multiply and divide a 3 digit number by a 2 digit number (Without a calculator). Order, add, and subtract negative numbers. Use simple estimations. Write and use simple formulae.
Level 6	Number and Algebra Write a number as a fraction/percentage of another. Work out ratios. Show equivalence between fractions, decimals & percentages. Use Trial and Improvement. Describe the rule for the Nth term of a linear sequence. Solve linear equations with whole numbers. Show mappings in all four quadrants.
Level 7	Number and Algebra Round numbers to 1 significant figure. Understand the effect of multiplying/dividing by a number between 0 and 1. Solve numerical problems with a calculator efficiently. Understand proportional change. Solve simple inequalities. Describe the next term or Nth term in a quadratic sequence. Solve simultaneous equations.

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Number & Algebra

<p>Level</p> <p>8</p>	<p>Number and Algebra</p> <p>Calculations with powers, roots and numbers in standard form. Substitution into formulae of decimals, fractions and negative numbers. Manipulate algebraic formulae. Multiply two linear equations. Inequalities with two variables. Graphs of quadratics, cubic and reciprocal functions.</p>
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Schemes of Work
Shape Space & Measures

<p>Level</p> <p style="font-size: 2em;">4</p>	<p>Shape and Space</p> <p>You can draw reflections of shapes in a mirror. You can find out the distance around a shape, called the perimeter. You can work out the area of a shape by counting the squares in it. You can measure different lengths and angles by using the correct equipment and write down the correct units. You can draw well-known shapes in 2-D. You can make 3-D models and know about faces, edges and vertices.</p>
<p>Level</p> <p style="font-size: 2em;">5</p>	<p>Shape and Space</p> <p>You can draw lines and angles accurately to construct shapes and models. You know the angle sum of a triangle is 180 degrees and that angles at a point equal 360 degrees. You know the symmetries of 2-D shapes. Convert units like miles into km. Convert one metric unit to another. You should be able to estimate various everyday measures. Understand and use the formula for the area of a rectangle.</p>
<p>Level</p> <p style="font-size: 2em;">6</p>	<p>Shape and Space</p> <p>Know and use the characteristics of different quadrilaterals. Solve problems with angles on intersecting and parallel lines. Understand and use formulae to work out area and circumference of circles; areas of triangles and trapezia; volumes of cuboids. You can enlarge shapes by positive whole number scale factor. Recognise and use 2-D versions of 3-D shapes. Write simple instructions for a computer to make and change shapes and moving paths.</p>
<p>Level</p> <p style="font-size: 2em;">7</p>	<p>Shape and Space</p> <p>Use Pythagoras. Calculate length, area and volume in 2-D shapes and also in some prisms. Produce enlargements by using a fraction as a scale factor and check the relationship between the two shapes. You can draw the locus of a moving point. Understand and use compound measures such as speed in km per hour. Know that measurements are only as good as the tool used to measure with. Know that limits can be half a unit above or below the stated value.</p>

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Shape Space & Measures

<p>Level</p> <p>8</p>	<p>Shape and Space</p> <p>You should know and use congruency and similarity. Use trigonometry (sin, cos, tan) in right angle triangles to find missing sides and missing angles. By looking at a formula you can say whether it is for length, area or volume.</p>
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