

## Unit 1 Managing Finance and Statistics

	Topic	National 4	National 5
	Budgeting	<ul style="list-style-type: none"> <li>• Budgeting and planning for personal use or planning a straightforward event.</li> <li>• Balancing straightforward incomings and outgoings from a range of sources.</li> </ul>	<ul style="list-style-type: none"> <li>• Budgeting and planning for personal use or planning an event.</li> <li>• Balancing incomings and outgoings from a range of sources.</li> </ul>
	Income	Investigate and interpret income and deductions for different personal circumstances and career choices. These could include: <ul style="list-style-type: none"> <li>• basic pay, gross/net pay</li> <li>• overtime</li> <li>• bonus</li> <li>• commission</li> <li>• benefits and allowances</li> <li>• National Insurance</li> <li>• income tax</li> </ul>	Income and deductions for different personal circumstances and career choices. These include: <ul style="list-style-type: none"> <li>• basic pay, gross/net pay</li> <li>• overtime</li> <li>• incentive payments, e.g. bonus and commission</li> <li>• benefits and allowances</li> <li>• National Insurance</li> <li>• income tax</li> <li>• pension contributions</li> </ul>
	Comparing Prices	Compare at least three products, given two pieces of information on each (including phone contracts and holiday packages).	Comparing at least three products, given three pieces of information on each
	Foreign Exchange	Comparing costs between two different currencies in either direction	Converting between currencies in either direction; involving the use of at least three currencies in a multi-stage task.
	Banking	These include: <ul style="list-style-type: none"> <li>• loans</li> <li>• savings rate</li> <li>• bank accounts</li> <li>• credit agreements</li> </ul>	These include: <ul style="list-style-type: none"> <li>• loans</li> <li>• savings</li> <li>• credit cards</li> <li>• store cards</li> </ul>

			<ul style="list-style-type: none"> <li>• credit agreements</li> </ul>
	Probability	<p>Investigate the meaning of lifestyle statistics. 2.3 Making and explaining decisions based on probability.</p> <ul style="list-style-type: none"> <li>◆ recognise patterns and trends and use these to state the probability of an event happening</li> <li>◆ make predictions and use these predictions to make decisions</li> <li>◆ use relative frequencies, contingency tables and describe probability through the use of percentages, decimal fractions and fractions to make and explain decisions.</li> </ul>	<ul style="list-style-type: none"> <li>• Using the link between simple probability and expected frequency.</li> <li>• Making and justifying decisions based on probability.</li> <li>• Recognising patterns, trends and relationships and using these to state the probability of an event happening.</li> <li>• Using evidence from the interpretation of probability to justify decisions.</li> <li>• Analysing the probability of combined events, identifying the effects of bias and describing probability through the use of percentages, decimals, fractions and ratio to make and justify decisions.</li> </ul>
	Statistics	<p>Using and presenting straightforward statistical diagrams (technology may be used). These should include:</p> <ul style="list-style-type: none"> <li>• bar graphs</li> <li>• line graphs</li> <li>• pie charts</li> <li>• frequency tables without class intervals</li> <li>• stem and leaf diagrams</li> <li>• Drawing a scattergraph and best fitting straight line by eye, estimating one variable, given the other. The scattergraph should show a high positive or negative correlation</li> </ul> <p>Comparing data sets with mean and range.</p> <p>Extracting and interpreting data from at least two different straightforward graphical</p>	<ul style="list-style-type: none"> <li>• Constructing, interpreting and comparing boxplots, scattergraphs and pie charts.</li> <li>• Calculating mean, median, mode, range, inter-quartile range, and standard deviation.</li> <li>• Drawing a line of best fit from given data (Data presented in tabular form).</li> <li>• Extracting and interpreting data from different graphical forms This includes:</li> <li>• tables with at least five categories of information, charts where all the values are not given or where the scale is not obvious, e.g. comparative/compound bar chart,</li> <li>• graphs where part of the axes are missing or the scale is not obvious, e.g. conversion line graph, diagrams, e.g. pictogram, stem and leaf, scatter diagram or a map</li> </ul>

		<p>forms. Straightforward graphical forms should include:</p> <ul style="list-style-type: none"><li>• a table with at least four categories of information</li><li>• a chart where the values are given or where the scale is obvious, e.g. pie chart, scatter or line graph a diagram, e.g. stem and leaf, map or plan</li></ul> <p>2.2</p> <p>Making and explaining decisions based on the interpretation of data</p> <ul style="list-style-type: none"><li>◆ make decisions based on observations of patterns and trends in data</li><li>◆ make decisions based on calculations involving data</li><li>◆ make decisions based on reading scales in straightforward graphical forms</li><li>◆ offer reasons for the decisions made based on the interpretation of data</li></ul>	
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## Unit 2 Geometry and Measure

	Topic	National 4	National 5
	Formulae	<ul style="list-style-type: none"> <li>Calculating a quantity based on a related measurement. Any required formula or relationship will be given.</li> </ul>	<ul style="list-style-type: none"> <li>Calculating a quantity based on two related pieces of information.</li> </ul>
	Scale Drawing	<ul style="list-style-type: none"> <li>Constructing a scale drawing with a given scale. Scales expressed as a ratio or scaled line</li> </ul>	<ul style="list-style-type: none"> <li>Constructing a scale drawing, including choosing a scale from written information and/or a sketch: lines are to be drawn and measured to the nearest millimetre angles are to be drawn and measured to the nearest degree</li> </ul>
	Navigation	<ul style="list-style-type: none"> <li>Planning a basic navigation course. Use measurement of angles and length to interpret and to plan a straightforward navigation course.</li> </ul>	<ul style="list-style-type: none"> <li>Planning a navigation course</li> <li>Using a given or constructed map or plan.</li> <li>Using bearings and length.</li> </ul>
	Container Packing	Carrying out container packing, using a first-fit algorithm. Filling containers in the order of arrival.	By assigning items to uniform containers to minimise the amount of containers used
	Time Management and Planning	Solving a basic problem in time management Use time intervals to make plans including across midnight.	<ul style="list-style-type: none"> <li>Using precedence tables to plan tasks where some activities can be done simultaneously, whereas others must be done in sequence.</li> <li>Solving a problem involving time management. Planning the timing of activities with some complex features, e.g. working across time zones</li> </ul>
	Tolerance	<ul style="list-style-type: none"> <li>Investigating the need for tolerance in a measurement.</li> <li>Accuracy up to two decimal places.</li> </ul>	<ul style="list-style-type: none"> <li>Considering the effects of tolerance given the tolerance, calculate the limits.</li> <li>Given the accuracy of the methods of production of two fitting components, consider the implications for compatibility.</li> </ul>
	Gradient	Determining the gradient of a slope using 'vertical height' and 'horizontal distance'.	Investigating a situation involving gradient using vertical distances and horizontal distances using coordinates.

	Area & Perimeter	<ul style="list-style-type: none"> <li>• Investigating a situation involving perimeter rectilinear, circular, composite shapes.</li> <li>• Investigating a situation involving area triangles, kite, rhombus, parallelogram, circle, composite shapes.</li> </ul>	<ul style="list-style-type: none"> <li>• Solving a problem involving a composite shape which may include part of a circle</li> </ul>
	Volume	Investigating a situation involving volume prism (including cuboid, cylinder).	Solving a problem involving the volume of a composite solid including simple fractional parts of solids.
	Pythagoras' Theorem	Solving a problem involving the use of Pythagoras' theorem.	Using Pythagoras' theorem within a two-stage calculation.
	Scale Factor	Using a scale factor on the dimensions of a shape. Problems involving increase/decrease in an amount or measurement according to a scale factor.	

## Numeracy Unit

	Topic	National 4	National 5
	Notation and Units	<ul style="list-style-type: none"> <li>• Selecting and using appropriate numerical notation and units</li> <li>• Numerical notation should include: =, +, −, /, ÷, &lt;, &gt;, ( ), %, colon and decimal point</li> </ul> <p>Units should include:</p> <ul style="list-style-type: none"> <li>• money (pounds and pence)</li> <li>• time (months, weeks, days, hours, minutes, seconds)</li> <li>• measurement of length (millimetre, centimetre, metre, kilometre, mile); weight</li> <li>• (gram, kilogram); volume (millilitre, litre) and temperature (Celsius or Fahrenheit)</li> </ul>	<p>Including: =, +, −, ×, /, ÷, &lt;, &gt;, ( ), %, colon, decimal point and simple formulae.</p> <p>Selecting and using appropriate units for money, time and measurement (length, weight, volume and temperature)</p>
	Carrying out calculations	<ul style="list-style-type: none"> <li>• add and subtract whole numbers including negative numbers</li> <li>• multiply whole numbers of any size, with up to four digit whole numbers</li> <li>• divide whole numbers of any size, by a single digit whole number, by 10 or 100</li> <li>• round answers to the nearest significant figure or two decimal places</li> <li>• find simple percentages and fractions of shapes and quantities, e.g. 50%, 10%, 20% and 25%, 33⅓%; ½, ⅓, ¼, 1/10, 1/5</li> <li>• calculate percentage increase and decrease</li> </ul>	<ul style="list-style-type: none"> <li>• Adding and subtracting numbers given to two decimal places</li> <li>• Multiplying or dividing a number (given up to two decimal places) by a single digit whole number.</li> <li>• Multiplying or dividing a number (given up to two decimal places) by multiples of 10, 100 and 1000</li> <li>• Rounding answers to the nearest specified significant figure or three decimal places.</li> <li>• Finding percentages and fractions of shapes and quantities</li> <li>• Recognising and using mixed fractions</li> <li>• Adding and subtracting simple fractions</li> <li>• Finding the number of fractional parts in a</li> </ul>

		<ul style="list-style-type: none"> <li>• convert equivalences between common fractions, decimal, fractions and percentages</li> <li>• calculate rate: e.g. miles per hour or number of texts per month</li> <li>• calculate distance given speed and time</li> <li>• calculate time intervals using the 12-hour and 24-hour clock</li> <li>• calculate volume (cube and cuboid), area (rectangle and square) and perimeter (shapes with straight lines)</li> <li>• calculate ratio and direct proportion.</li> <li>• use measuring instruments with straightforward scales to measure length, weight, volume and temperature</li> <li>• read scales to the nearest marked, unnumbered division with a functional degree of accuracy.</li> <li>• use appropriate checking methods, e.g. check sums and estimation</li> <li>• interpret results of measurements involving time, length, weight, volume and temperature</li> <li>• recognise the inter- relationship between units in the same family, e.g. mm/cm, cm/m, g/kg, and ml/l</li> <li>• use vocabulary associated with measurement to make comparisons for length, weight, volume and temperature.</li> </ul>	<ul style="list-style-type: none"> <li>• mixed number</li> <li>• Calculating compound percentage increase and decrease. Expressing a quantity as a percentage of another quantity</li> <li>• Converting equivalences between fractions, decimals and percentages</li> <li>• Calculating speed, time and distance</li> <li>• Calculating volume (cylinder, triangular prism)</li> <li>• Calculating area (triangles and composite shapes)</li> <li>• Calculating perimeter and circumference</li> <li>• Calculating ratio including dimensions from scale drawings, e.g. scale of:1 10</li> <li>• Calculating direct and indirect proportion</li> <li>• Recording measurements using a scale on an instrument</li> <li>• To the nearest marked, minor unnumbered division on an instrument for length, angle, weight, volume and temperature.</li> <li>• Interpreting measurements and the results of calculations to make decisions.</li> <li>• Identifying relevant measurements and results of calculations to make a decision.</li> <li>• Justifying decisions by using the results of measurements and calculations.</li> </ul>
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