




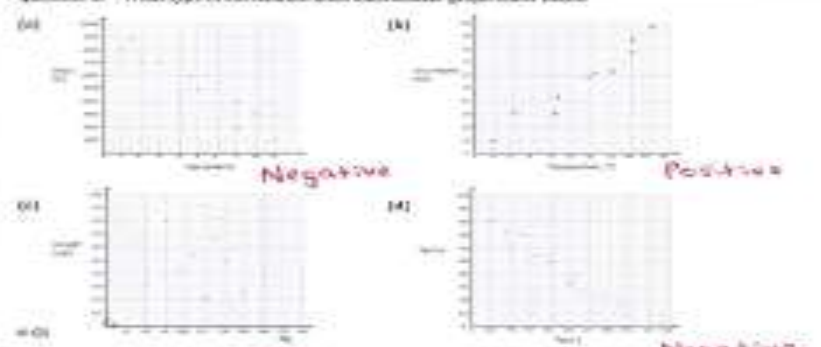
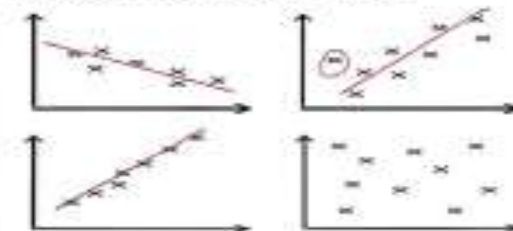



Subject	TYPES OF DATA													
Context	Throughout the course, you will need to see that data is classified to make it easier to process. You will explore the different kinds of data, and how it can be collected in the form of measurements or observations of variables. You will also see how different kinds of data are represented using a variety of diagrams.													
Securing	<p>Match these types of data to their meanings</p> <table border="1" data-bbox="843 315 1251 789"> <tbody> <tr> <td data-bbox="843 315 983 386">Primary Data</td> <td data-bbox="983 315 1098 386" rowspan="6" style="text-align: center; vertical-align: middle;">  </td> <td data-bbox="1098 315 1251 386">Data other people have collected</td> </tr> <tr> <td data-bbox="843 386 983 458">Quantitative Data</td> <td data-bbox="1098 386 1251 458">Data that is described in words (eg. colours)</td> </tr> <tr> <td data-bbox="843 458 983 529">Discrete Data</td> <td data-bbox="1098 458 1251 529">Data you collect yourself</td> </tr> <tr> <td data-bbox="843 529 983 601">Qualitative Data</td> <td data-bbox="1098 529 1251 601">Data which takes any numerical value ie. decimals</td> </tr> <tr> <td data-bbox="843 601 983 672">Secondary Data</td> <td data-bbox="1098 601 1251 672">Data that is in numbers</td> </tr> <tr> <td data-bbox="843 672 983 789">Continuous Data</td> <td data-bbox="1098 672 1251 789">Data that takes certain numerical values (eg. Shoe sizes)</td> </tr> </tbody> </table>	Primary Data		Data other people have collected	Quantitative Data	Data that is described in words (eg. colours)	Discrete Data	Data you collect yourself	Qualitative Data	Data which takes any numerical value ie. decimals	Secondary Data	Data that is in numbers	Continuous Data	Data that takes certain numerical values (eg. Shoe sizes)
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Processing	<p>The PE staff of a school were recording the times and distances in running and throwing events at the school sports day. Which of the following best describes the type of data collected:</p> <p>Primary Secondary Qualitative Continuous</p>													
Exploring	<p>Which best describes the data in the pie chart?</p> <div data-bbox="835 1072 1544 1379" style="text-align: center;"> <p>Pets</p>  <ul style="list-style-type: none"> cat dog rabbit snake <p style="color: red; font-weight: bold; margin-left: 20px;">QUALITATIVE</p> </div>													

Subject	PERCENTAGES
Context	<p>In Core Maths, we often work with percentages. Being able to fluently manipulate percentages is essential to solving a variety of financial problems that will be encountered in the course. Simple interest, compound interest, mortgages, taxation, AER and APR are just a few topics that will require confidence with the use of percentages!</p>
Securing	<p>Question 1: Write down the multipliers that are equivalent to the following percentages</p> <p>(a) 50% 0.5 (b) 80% 0.8 (c) 10% 0.1 (d) 25% 0.25 (e) 45% 0.45 (f) 95% 0.95 (g) 5% 0.05 (h) 3% 0.03 (i) 7% 0.07 (j) 36% 0.36 (k) 71% 0.71 (l) 44% 0.44 (m) 0% 0 (n) 175% 1.75 (o) 104% 1.04 (p) 160% 1.6 (q) 7.5% 0.075 (r) 1.2% 0.012 (s) 0.8% 0.008 (t) 0.01% 0.0001</p> <p>Question 2: Work out</p> <p>(a) 20% of 90cm 18cm (b) 70% of 3km 2.1km (c) 15% of \$4500 $\\$675$ (d) 57% of £58650 $\pounds 33430.50$ (e) 3.9% of 40cm 1.56cm (f) 100% of 8km 8km</p>
Processing	<p>Question 3: Write down the multipliers that are used to calculate a:</p> <p>(a) 4% increase 1.04 (b) 15% increase 1.15 (c) 30% increase 1.3 (d) 62% increase 1.62</p> <p>Question 4: Work out each of the following</p> <p>(a) 60ml increased by 70% 102ml (b) £940 increased by 8% $\pounds 1015.20$ (c) 143g increased by 19% 170.17g</p> <p>Question 5: Write down the multipliers that are used to calculate a:</p> <p>(a) 2% decrease 0.98 (b) 8% decrease 0.92 (c) 12% decrease 0.88 (d) 15% decrease 0.85</p> <p>Question 6: Work out each of the following</p> <p>(a) 80ml decreased by 4% 76.8ml (b) £480 decreased by 13% $\pounds 417.60$ (c) 143g decreased by 40% 85.8g</p>
Exploring	<p>Sam invests £1800 in the bank for four years. It earns compound interest of 4% each year. Calculate the total amount Sam has in the bank at the end of four years.</p>  <p>$\pounds 1800 \times 1.04^4 = \underline{\underline{\pounds 2105.75}}$</p>

Subject	ROUNDING AND ESTIMATING
Context	During Core Maths, you will recognise that mathematics in the real world does not come as neat little questions, but as larger challenges that are solved by making appropriate assumptions. The ability to round and estimate effectively is therefore essential in dealing with these types of problems.
Securing	<p>(a) Write 5725 to the nearest 100.</p> <p style="text-align: center;">5700</p> <p>(b) Write 83.07718 correct to two decimal places.</p> <p style="text-align: center;">83.08</p> <p>(c) Write 6.35 correct to 1 decimal place.</p> <p style="text-align: center;">6.4</p> <p>(d) Write 129.34952 correct to 1 decimal place.</p> <p style="text-align: center;">129.3</p> <p>(e) Write 65.047 correct to 2 decimal places.</p> <p style="text-align: center;">65.05</p>
Processing	<p>(a) Round 41962 to one significant figure</p> <p style="text-align: center;">40000</p> <p>(b) Round 8812 to one significant figure</p> <p style="text-align: center;">9000</p> <p>(c) Round 0.0761 to one significant figure</p> <p style="text-align: center;">0.08</p> <p>(d) Round 9.99 to one significant figure</p> <p style="text-align: center;">10</p>
Exploring	<p>Question 4: Work out estimates to the following.</p> <p>(a) $\frac{291 + 602}{102}$ (b) $\frac{8019}{711 - 508}$ (c) $\frac{7.14 + 16.88}{10.96 - 4.85}$</p> <p style="text-align: center;"> $\frac{300 + 600}{100}$ $\frac{8000}{700 - 500}$ $\frac{7 + 20}{10 - 5}$ </p> <p style="text-align: center;"> ≈ 9 ≈ 40 ≈ 5.4 </p>

Subject	SCATTER GRAPHS
Context	<p>In GCSE you have learnt to plot and draw scatter graphs. In Core Maths, you will build on these skills. You will recognize when pairs of data are uncorrelated and correlated, and understand the idea of an outlier. You will fully appreciate the correlation does not necessarily imply causation. It is essential you are fluent with all GCSE skills related to Scatter Graphs.</p>
Securing	<p>Question 1: What type of correlation does each scatter graph show below?</p> 
Processing	<p><u>Line of Best Fit Task</u></p> <p>Draw a line of best fit, where possible, for each of the following scatter graphs.</p> 
Exploring	<p>Some highly skilled sales staff work on commission, where the amount they receive is based on the sales they generate. A sales staff member has a target of £200.</p> <p>The scatter graph compares the results:</p>  <p>(a) What type of correlation does the scatter graph show? Negative</p> <p>(b) Draw a line of best fit on the scatter graph. Draw values 40 on Time 2.</p> <p>(c) Calculate the value on Time 1. £140</p>