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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Compound Measures** |
| 1. Metric System | A system of measures based on:   * the metre for length * the kilogram for mass * the second for time   **Length: mm, cm, m, km**  **Mass: mg, g, kg**  **Volume: ml, cl, l** |  |
| 2. Imperial System | A system of weights and measures originally developed in England, usually based on human quantities  **Length: inch, foot, yard, miles**  **Mass: lb, ounce, stone**  **Volume: pint, gallon** |  |
| 3. Metric and Imperial Units | Use the **unitary method** to convert between metric and imperial units. |  |
| 4. Speed, Distance, Time | **Speed = Distance ÷ Time**  **Distance = Speed x Time**  **Time = Distance ÷ Speed**  Image result for speed distance time triangle  Remember the correct units. | Speed = 4mph  Time = 2 hours  Find the Distance. |
| 5. Density, Mass, Volume | **Density = Mass ÷ Volume**  **Mass = Density x Volume**  **Volume = Mass ÷ Density**  Image result for dmv triangle  Remember the correct units. | Density = 8kg/m³  Mass = 2000g  Find the Volume. |
| 6. Pressure, Force, Area | **Pressure = Force ÷ Area**  **Force = Pressure x Area**  **Area = Force ÷ Pressure**  Image result for pressure triangle  Remember the correct units. | Pressure = 10 Pascals  Area = 6cm²  Find the Force |
| 7. Enlargement | The shape will get **bigger or smaller**. Multiply each side by the **scale factor**. | Scale Factor = 3 means ‘3 times larger = multiply by 3’  Scale Factor = ½ means ‘half the size = divide by 2’ |

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| **Topic/Skill** | **Definition/Tips** | **Example**  **Topic: Calculating with Percentages** |
| 1. Increase or Decrease by a Percentage | Non-calculator: **Find the percentage** and **add** or **subtract** it from the **original** amount.  Calculator: Find the **percentage multiplier** and multiply. | Increase 500 by 20% (Non Calc):  10% of 500 = 50  so 20% of 500 = 100  500 + 100 = 600  Decrease 800 by 17% (Calc):  100%-17%=83%  83% ÷ 100 = 0.83  0.83 x 800 = 664 |
| 2. Percentage Multiplier | The **number** you **multiply** a quantity by to **increase or decrease** it by a **percentage**. | The multiplier for increasing by 12% is 1.12  The multiplier for decreasing by 12% is 0.88  The multiplier for increasing by 100% is 2. |
| 3. Reverse Percentage | Find the **correct percentage given in the question**, then work backwards to **find 100%**  Look out for words like ‘**before’** or ‘**original’** | A jumper was priced at £48.60 after a 10% reduction. Find its original price.  100% - 10% = 90%  90% = £48.60  1% = £0.54  100% = £54 |
| 4. Simple Interest | Interest calculated as a **percentage of the original** amount. | £1000 invested for 3 years at 10% simple interest.  10% of £1000 = £100  Interest = |

**Knowledge Organiser**