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**Knowledge Rich Curriculum Plan**

Year 10 Foundation + Ratio and Proportion



| **Lesson/Learning Sequence** | **Intended Knowledge:**  *Students will know that…* | **Tiered Vocabulary** | **Prior Knowledge:**  *In order to know this, students need to already know that…* | **Assessment** |
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| **To learn how to share in a ratio** | * Students will know how to share a quantity into a two-part given ratio. * Students will know how to share a quantity into a three-part given ratio. * Students will know how to find quantities within a ratio when the difference between two parts is given. * Students will know how to solve ratio problems with context. |  | * Students need to know how to use the bus stop method * Students will know how to simplify ratios in their simplest form. * Students will know how to simplify ratios in the form of 1 : n or n : 1. |  |
| **To learn how to solve harder ratio problems.** | * Students will know how to combine ratios and use them for comparison between three parts. |  | * Students will know how to combine ratios and use them for comparison between three parts. |  |
| **To learn how to scale up recipes** | * Students will know that proportion is the relationship between two quantities. * Students will know that the link between ratio and proportion is while ratio is a comparison of two quantities, proportion is the equivalence of two ratios. * Students will know how to scale up recipes. Students will know that to scale up recipes they should find the recipe for one person and then scale up; or they will find the recipe for a common factor of people and then scale up. | **Proportion –** a part, share, or number considered in comparative relation to a whole  **Direct Proportion –** If two things are directly proportional then if one increases, so does the other, if one decreases, then so does the other | * Students will need to know how to multiply and divide |  |
| **To learn how to identify the best buy** | * Students will know how to find the best buy by either finding the value of one item for each option or finding the value of a common multiple of each item. * Students will know how to find the best buy in more complex scenarios where percentage discounts or fractions are also involved | **Value** – how much money something is worth | * Students will need to know how to find the lowest common multiple of two numbers |  |
| **To learn how to convert between different currencies** | * Students will know how to convert between different currencies. | **Currency** – a system of money in general use in a particular country.  **Convert** –change/ swap to | * Students will need to know how to multiply decimals * Students will need to know how to divide decimals |  |
| **To learn how to solve problems involving real life graphs** | * Students will know how to draw straight line graphs for real-life situations, including ready reckoner graphs for example; conversion graphs, fuel bills graphs, fixed charge and cost per unit etc... * Students will know how to use and interpret ready reckoner graphs. |  | * Students will need to know how to calculate gradient and identify the y-intercept of a given graph |  |
| **To learn how to solve real life problems involving direct and inverse proportion** | * Students will know the difference between direct and inverse proportion * Students will know how to solve real life problems involving direct proportion * Students will know how to solve real life problems involving inverse proportion without using algebra (e.g. number of worker problems etc.) | **Inverse** – Opposite  **Inverse Proportion** – If two things are inversely proportional then as one increases the other decreases or vice versa | * Students will need to know how to multiply and divide |  |
| **To learn how to solve algebraic direct proportion problems** | * Students will know how to solve algebraic direct proportion problems by writing an algebraic statement in the form y = kx before substituting in given values to find the value of k and then using the resultant formula to find further missing values. * Students will know that k is known as the constant of proportionality | **Direct Proportion –** If two things are directly proportional then if one increases, so does the other, if one decreases, then so does the other  **Constant** – a quantity or parameter that does not change its value whatever the value of the variables | * Students will need to know how to substitute numbers into formulae * Students will need to know how to solve simple one step equations in the form a = bx |  |