Knowledge Rich Curriculum Plan

Year 8 Prime – Ratio and Proportion

Lesson Objective	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to write, simplify and compare ratio	• Students will know how to express a situation in a ratio • Students will know how to write a ratio in its simplest form • Students will know how to simplify ratios in the form of 1 : n or n : 1. • Students will know how to convert fractions into ratios and vice versa. • Students will know how to compare ratios by converting to fractions.	Ratio - the quantitative relation between two amounts showing the number of times one value contains or is contained within the other Simplify – make (something) simpler or easier to do or understand.	• Students should already know how to simplify a ratio	Mini-Assessment 7
To learn how to share an amount into a ratio	• Students will know how to represent a ratio using boxes or bars • 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. **Opportunities for Challenge:** • Students will know how to find quantities within a ratio when the value of one part is given. • Students will know how to find quantities within a ratio when the difference between two parts is given.	Share – split up between parts	• Students need to know how to use the bus stop method	Mini-Assessment 7
To learn how to solve ratio problems	• Students will know how to find quantities within a ratio when the value of one part is given. • Students will know how to find quantities within a ratio when the difference between two parts is given. **Opportunities for Challenge:** • Students will know how to solve more complex, worded problems including those involving fractions, percentages, money etc.		• Students need to know how to simplify ratios. • Students need to know how to share an amount using a ratio.	Mini-Assessment 7
To learn how to scale up recipes	• Students will know how to scale up simple recipes. For example, take a recipe for two people and make it for four people or take a recipe for 8 people and make it for 2 people etc. **Opportunities for Challenge:** • Students will know how to solve more complex problems involving recipes	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	Mini-Assessment 7
To learn how to identify best buys	• 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. **Opportunities for Challenge:** • 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	Mini-Assessment 7

Lesson Objective	Intended Knowledge: *Students will know that…*	Tiered Vocabulary	Prior Knowledge: *In order to know this, students need to already know that…*	Assessment
To learn how to convert 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 and divide by decimals	Mini-Assessment 7
To learn how to draw and use conversion graphs	• Students will know how to convert currencies using a conversion graph by drawing lines from a given currency on one axis to the line on the graph and then across/down to convert to the other currency • Students will know how to convert currencies using a conversion graph for currencies that are not necessarily marked on the axes of the graph. They will know that to do this they need to find a factor of the amount that they wish to convert, read this off the graph and then scale it up to determine the conversion for the actual amount.		• Students will need to know how to plot coordinates and draw straight line graphs	Mini-Assessment 7
To learn how to solve real life problems involving inverse proportion	• Students will know the difference between direct and inverse 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	Mini-Assessment 7
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	Mini-Assessment 7