The Sutton Academy

Knowledge Rich Curriculum Plan

Year 11 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
To learn how to calculate speed, distance and time	•Students will know that $Speed = \frac{distance}{time}$ •Students will know that $Time = \frac{distance}{speed}$ •Students will know that $Distance = Speed \times Time$ •Students will know the formula triangle for speed, distance and time •Students will know how to solve basic SDT problems where the time is an integer number of hours and all units correspond •Students will know how to make simple conversions for minutes to decimal hours - they will know that 30 minutes is 0.5 hours and 15 minutes is 0.25 hours •Students will know how to calculate speed, distance or time given the two other variables including where the time needs to be converted into a decimal number of minutes or hours •Students will know how to calculate speed, distance or time using two variables where they need to convert time written in hours and minutes to a decimal •Students will know how to calculate average speed given distance and time for multi-stage journeys •Students will need to know how to solve more complex problems involving speed, distance and time	Speed – the rate at which someone or something moves or operates or is able to move or operate.	• Students should already know how to convert from minutes to hours and minutes	
To learn how to draw and interpret distance-time graphs	•Students will know how to draw distance–time graphs. •Students will know how to work out time intervals for graph scales. •Students will know how to find the total time taken of individual sections of a distance-time graph. •Students will know how to find the speed of individual sections of a distance-time graph. •Students will know how to find the total distance in individual sections of a distance-time graph. •Students will know how to interpret information presented in a range of linear and non-linear graphs; •Students will know how to interpret graphs with negative values on axes; •Students will know how to interpret gradient as the rate of change in distance–time and speed–time graphs, graphs of containers filling and emptying, and unit price graphs.	Gradient – the change in height divided by the horizontal distance.	• Students need to know how to find the difference between two times	
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 one part is given •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	
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	

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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	