

Y8 Maths Mastery Curriculum

Core knowledge to be mastered Y8 maths	Core skills to be mastered Y8 maths
- Recall prime numbers and know the terms HCF and LCM - Recall square and cube numbers up to 15^2 and 10^3 - Understand how to place values into Venn Diagrams - Recall the symbols for subset, zero set, union, intersection and complement - Know multiplication and division of fractions does not need a common denominator - Understand negative numbers on a number line - Recognise and know the inequality symbols - Know the difference between expressions, identities etc - Understand the use of inverse operation to solve linear equations - Recognise a linear (arithmetic) sequence and find a common difference d and first term a, term number n, general term u_n	- Be able to carry out a prime factor decomposition - Be able to write an integer as the product of its prime factors - Be able to find the HCF and LCM of integers using a Venn diagram or otherwise - Be able to find different enumerating sets from a Venn diagram - Be able to multiply and divide fractions - Be able to apply knowledge to solve problems with fractions in context - Be able to order positive and negative numbers - Be able to carry out all operations with negative numbers - Be able to use the correct inequality signs - Be able to write an expression/ equation from a given context - Be able to form and solve a linear equation to find a missing value - Be able to use and find the nth term of a linear sequence
- Know how to construct triangles and quadrilaterals with a protractor/compass - Know and recognise the three angle types for parallel lines - Recall different units for lengths and area and know the relationships - Recall the formula for area and perimeter of 2D shapes (not circle circumference) - Recall the formula for the area of a circle - Recall the formula for the area of a trapezium - Know the equivalence relationship of fractions, decimals and percentages - Know how to find a percentage of an amount	- Be able to measure accurately lines and angles - Be able to find unknown angles in parallel lines - Be able to convert between length units and area units - Be able to solve problems involving area and perimeter of composite figures - Be able to apply the formula for the area of a circle to solve problems - Be able to solve problems involving trapeziums - Be able to convert between fractions, decimals and percentages - Be able to order fractions, decimals and percentages

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• Be able to state a multiplier given a percentage increase/decrease • Know that a ratio compares quantities to each other, not the whole • Understand the meaning of the values in a ratio link to the number of equal shares • Understand ratio and link to converting units • Know the relationship between speed, distance and time • Know how to put half an hour, quarter of an hour into a calculator and how to interpret a time on a calculator • Understand the units for speed	• Be able to increase/decrease an amount given a percentage change • Be able to find the whole amount given the part and the percentage • Be able to simplify ratios • Be able to share a quantity given a ratio • Be able to solve problems with ratio in context • Be able to convert between units/ currencies using conversions graphs understanding the units are in ratio • Be able to solve problems involving speed, distance and time.
• Understand place value chart • Know how to find a given decimal place or significant figure • Understand why estimation is used • Recall the formula for the circumference and area of a circle • Be able to recognise and name 3D shapes • Be able to draw/recognise the nets for 3D shapes • Recall the formula for the volume of a cuboid, prism, cylinder and composite solids • Know that to collect data we can draw two way tables and tally charts, frequency diagrams • Know which type of graph to draw for different statistical values and reasons. • Recall how to find Mean, median and mode averages • Recall how to find the range and know what an outlier is.	• Be able to round to a given degree of accuracy • Be able to find an approximate value • Be able to justify if an estimate is smaller / larger than the actual result • Be able to solve problems involving circumference and area of a circle • Be able to name different 3D solids and draw/recognise the nets for each. • Be able to apply formulae to solve problems involving volume • Knowing the volume, can we find a missing length? • Be able to design and complete two way tables, tally charts and frequency tables • Be able to draw and interpret statistical representations and write a detailed comparison of the data • Be able to calculate and interpret averages. • Be able to solve 'reverse' problems with averages. • Be able to comment on the range and its significance to the data collected. • Understand the affect of outliers on the range