Levenshulme High School – Curriculum Map – Maths

		Term 1		Term 2		Term 3	
	Topic Title and NC link	**Probability, Measures, Fractions and Indices**	**Standard form, Rounding and Further Linear Graphs**	**Simultaneous Equations, Quadratics and Averages**	**Averages and Real life graphs**	**Sectors and arcs, Trigonometry**	**Proportion and Angles**
Year 10 Foundation	*Pupils should know…*	• What relative probability is • How to multiply and add fractions • When to use AND/OR rules • What compound units are • The difference between rational and irrational numbers • The effect of different powers on numbers • Recognise a need for really big and really small numbers • Measurements are accurate to a limited degree	• The effect of different powers on numbers • Recognise a need for really big and really small numbers • Measurements are accurate to a limited degree • How to find solutions that satisfy a set of rules • How to plot linear graphs • How to write an equation of a graph • How to write an equation of a parallel line	• When and how to form simultaneous equations to solve a problem with two unknowns. • When and how to use and apply quadratic skills • A quadratic equation has up to two solutions • There are a choice of methods to use for solving	• How to draw and interpret a distance time graph • How to use and draw conversion graphs • Work out averages from grouped data • Choose the best average to use • Compare data sets • Limitations of different averages	• How to find area and circumference of a circle • What a composite shape is and be able to split this into known shapes to find the area • **In trigonometry corresponding sides are proportional** • **How to find missing angles and missing sides** • **How to select the correct trig ratio** • **Know the exact trig values** • How to convert between FDP • The effect of compound interest	• The concepts of ratio and that division is not commutative • The difference between direct and indirect proportion • How to form and solve an equation for proportion • How to draw proportion graphs • Know angles are a measure of turn • How to find missing angles

	Pupils should be able to do…	• Find the probability of single events • Construct a tree diagram • Find independent and dependent probabilities from a tree diagram • Use all four operations with fractions • Solve problems involving compound measures	• Calculate effectively with powers • Write in standard form • Calculate in standard form and change between standard form and ordinary numbers • Round numbers to an appropriate degree of accuracy • Interpret graphs and gradients • Plot graphs	• Solve simultaneous equations graphically and algebraically • Expand polynomials • Factorise quadratics and solve • Identify the difference of two squares • Use Wendy's or Emma's way	• Estimate using a graph • Calculate averages from tables • Extrapolate information from conversion graphs	• Name parts of a circle • Recall the formula for the perimeter of a circle • Calculate the perimeter and area of 2D shapes including composite shapes • How to apply knowledge of area of circles and circumference to compound shapes and sectors • **Recall the exact values of given trig ratios** • **Label a triangle** • **Know the trig ratios** • **Use the ratios to find unknown lengths** • **Use the ratios to find unknown angles** • Should be able to convert between FDP	• Use angle facts • How to use direct proportion e.g. recipes and best buys • solve word problems involving ratios using the unitary method • Solve a variety of angle problems

						Find compound interest	
	Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?	Probability is further developed and now introduces Venn diagrams and simple tree diagrams. Compound measures and converting units build on year 8 measures and this will feed into bounds later in this half term. Indices revisits and builds on year 8 index laws and develops skills using reciprocals. This then leads into standard form. Prior learning that pupils need to remember are: • Probability terminology • Probability is out of 1 • Understand the probability scale • The scale ranges from 0-1	Rounding is well embedded at KS3 and developed into looking at bounds. Linear graphs in KS3 is further developed by looking at parallel lines. Prior learning that pupils need to remember are: • How to solve linear equations • How to round effectively • Be able to write powers of 10 • How to multiply and add numbers	Algebra in year 8 and 9 allows for simultaneous equations to be developed. Algebra in year 8 and 9 allows for understanding of quadratics to be developed. At KS3 averages from lists are taught and this further developed in year 10. Prior learning that pupils need to remember are: • Difference between a linear and quadratic equation • Plot coordinates in all four quadrants • How to solve linear equations • How to plot graphs • Factorising quadratics with/out a	Pupils look at distance time/ speed graphs building on compound measures from HT1. This also embeds learning on multiplicative relationships Prior learning that pupils need to remember are: • Find averages from a list • Draw graphs • Interpret graphs	KS3 work on circles is further developed looking at more complex compound shapes and also sectors. **Trigonometry builds on from Pythagoras.** Number work from KS3 is taken and extended to apply to compound situations be that interest or growth. Prior learning that pupils need to remember are: • Percentages of amounts • Substitute into formulae • Find the area and circumference of circles • Find the area and perimeter of squares, triangles, rectangles, parallelograms and trapeziums	Multiplicative relationships now is seen in direct and inverse proportion Prior learning that pupils need to remember are: • Substitution • Solving equations • Angle facts • Angle reasoning

		• Relationships between units of measure		coefficient of x^2		• Find missing lengths in right angled triangles • Calculate simple percentages • All four operations with fractions • Convert between Fractions, decimals and percentages	