Levenshulme High School – Curriculum Map – Maths

		Term 1		Term 2		Term 3	
Year 11	**Topic Title and NC link**	**Statistics and Quadratics**	**Volume**	**Other graphs**			
	Pupils should know…	• Shape of a quadratic parabola • Recognise and find key points of quadratic parabolas • Compare data sets using averages/range • Understand sampling • How to use scale factors/similarity • Key facts about bearings (3 rules) • Features of 4 transformations • What information is required to describe transformations	• Concept of surface area and volume • Properties of 3D shapes • Reasoning with volume and surface area • Volume is a unit of space inside a shape	• The shape of a cubic function • Recognise and identify linear, quadratic, cubic and reciprocal functions • Sketch the shape of a function • Match functions to graphs	**Exam preparation and revision**	**Exam preparation and revision**	**Exam preparation and revision**
	Pupils should be able to do…	• Calculate key points of a quadratic • Sketch/plot a quadratic from the equation • Find and interpret mean,	• Calculate the surface area of cones, spheres and cylinders • Calculate surface areas of solids • Recall and apply formulae	• Draw a cubic function • Draw a reciprocal function • Describe a movement using vectors			

		median, mode and range • Find mean and median from grouped frequency table • Interpret and draw scale diagrams • Find missing sides in similar shapes • Work with bearings • Perform 4 transformations • Describe 4 transformations	for cylinders and spheres • Calculate the volume of cylinders and spheres • Solve problem solving questions with volume	• Add/subtract vectors • Multiply vectors by a number • Plan a path using vectors			
	Why are we doing this now? *How does it build on prior learning and prepare for knowledge and learning still to come?*	Simple averages studied at KS3 are now extended to include grouped data and limitations. Transformations that are taught separately are now combined in the knowledge that pupils should be secure at the differences between them. Prior learning that pupils need to remember are: • Roots/indices	KS3 work on 2d and 3d shapes and area and volume is now applied to surface area. This is stretched to include complex shapes. This is supported by strong algebra skills taught in KS3. Prior learning that pupils need to remember are: • Area formulae for rectangle, trapezium, parallelogram, circle and triangle	Graphs are developed now using knowledge of powers, trig, indices. Vector calculations are taught building on number skills and geometry skills like Pythagoras. Prior learning that pupils need to remember are: • The shape of a linear and quadratic graph • How to plot a linear and quadratic graph			

		• Coordinates in 4 quadrants • Substitution into formula • Factorising & solving quadratic equations • Ordering numbers • Four operations • Concept of 'average' • Find midpoint of an interval • Basic ratio & proportion • Accurate measurement with ruler & protractor • Four points of compass • Angle facts, including between parallel lines • Conversion between metric units • Equation of basic lines • Symmetry • Column vectors • Angles and direction	• Circumference of a circle formula • Nets of 3D shapes • Volume of prism • Substitution • Units of length, area and volume • Naming basic 2d shapes	• The concept of a vector as a movement identifying x and y axis • How to plot coordinates • How to multiply by a scale factor • How to find a fraction of an amount			