Levenshulme High School – Curriculum Map – Maths

		Term	1	T	erm 2	Terr	n 3
	No. of Weeks	Number & Algebra (7)	Algebra (7)	Geometry (6)	Geometry (5)	Proportional Reasoning (6)	Geometry (7)
Year 8	Topic Title and NC link	Number N7, N10, N11, N12 & A1, A2, A3, A4	Algebra A7, A6, A14, A15, A16, G5	Geometry G2, G3, G4, G6, G7, G10, G12, G13	Geometry G11, G1, N15, G5, N10, N11, R8	Geometry G1, G2, G15	Ratio P3, R2, R3, R4, R5, R6, R7, R9, R10
	Pupils should know	 How to square whole numbers How to work out cube numbers How percentage is a fraction out of 100 How to calculate a % of an amount without a calculator How to find a whole given a % part How to represent one value as a % of another When to use a range of imperial and metric units How to convert between metric units of length, mass and capacity How to simplify to index form Algebraic vocabulary 	 How to represent simple equations with algebra tiles and as a bar model How to solve a variety of linear equations with one unknown How to solve a variety of linear equations with one unknown How to expand a single bracket How to expand a single bracket How to find the term-to-term rule or position- to-term rule of an arithmetic sequence How to generate terms of a sequence using the term- to-term rule or position-to- term rule How to recognise a geometric sequence 	 How to measure and draw acute, obtuse and reflex angles How to label a shapes sides and angles with correct notation How to find missing angles on a straight line, at a point and in a triangle or quadrilateral Understand vertically opposite angles How to draw Side, Angle, Side (SAS) and Angle, Side, Angle (ASA) triangle and Side, Side, Side (SSS) triangles 	 How to use different angle facts (straight line, around a point, vertically opposite, angles in a triangle and quadrilateral) to find unknown angles How to find interior and exterior angles of polygons Know the difference between simple & compound interest Know how to find reverse percentages Know how to increase and decrease using multipliers 	 How to sort given data in the Venn diagrams How to identify corresponding, alternate, co- interior angles in parallel lines How to find area of a circle and trapezium 	 How to identify 3D shapes and their properties How to find surface area and volume of cubes, cuboids and triangular prisms How to simplify ratios and identify equivalent ratios How to represent ratios using bar model and divide an amount into given ratios

Pupils should	 How to write basic algebraic notation How to simplify expression by adding and subtracting How to simplify expression by multiplying and dividing How to expand single brackets How to substitute into an expression or formula 	 How to calculate the nth term of a sequence How to generate terms using the nth term of a sequence To investigate special sequences How to represent and interpret Inequality on a number line How to solve an inequality and show the solution on a numberline 	 How to accurately draw quadrilateral How to construct angle and line bisectors What pi is and how it is used to find circumference How to find arc lengths and perimeter of a sector The properties of the three different types of triangle The properties of the different quadrilateral shapes How to find the lines of symmetry on a shape Calculate the order of rotational symmetry 		How to use	How to sketch
be able to do	square numbers and their roots	equations from worded problems	draw acute, obtuse and reflex angles	 Find the interior sum of angles in any polygon 	and interpret the correct notation for	nets of 3D shapes and link their nets to the shapes

 Evaluate with cube and cube roots Estimate non-perfect square/cube roots Convert between percentages, fractions and decimals Represent a percentage on a bar model Calculate a percentage of an amount without a calculator Find the whole given a % part Express one value as a % of another Simplify expression using index notation and rules Recall the basic index laws Simplify expressions Expand a single bracket Substitute into an expression of formula 	 Solve equations with an unknown on one side Solve an equation with multiple steps and involving brackets Solve inequalities Represent inequalities on a number line 	 Label a shapes sides and angles with correct notation Find missing angles on a straight line, at a point and in a triangle or quadrilateral To be able to draw Side, Angle, Side (SAS), side side side (SSS) and Angle, Side, Angle (ASA) triangle To be able to accurately draw quadrilateral To be able to accurately draw quadrilateral To be able to construct angle and line bisectors Find the circumference of a circle Find the diameter of a circle given the circumference Recall the properties of triangles and quadrilaterals 	 Find the missing angle in any polygon Determine how many sides a polygon has from angle clues Find multipliers to increase/ decrease amounts Use reverse percentages to find original amounts How to find simple and compound interest 	Venn diagrams • Find missing angles in parallel lines using angle facts • How to apply knowledge of area of circles and circumference to compound shapes and sectors • How to find areas of trapeziums	 How to apply the knowledge of volume and surface area to problem solving questions How to simplify ratios with different units How to interpret map/model scales as a ratio and work out the distance on the map How to use bar model to solve more complex problem- solving ratio questions How to solve word problems involving ratios using the unitary method

	 Apply the order of operations with algebra 		 Find the lines of symmetry and the order of rotational symmetry 			
Why are we doing this now? How does it build on prior learning and prepare for knowledge and learning still to come?	 This is being studied to further develop students number sense to include percentage and indices. These link to real life application such as sales and interest. Learning includes measures which gives pupils an appreciation of different systems used globally. Prior learning that pupils need to remember are: Recall square numbers up to 15² Multiply and Divide whole numbers by 100 Simple equivalences fractions, %'s and decimals How to find a half and a quarter How percentage is a fraction out of 100 	Learning now moves to link number to more abstract elements of maths. This provides students with the ability to manipulate algebra using the laws of arithmetic. Prior learning that pupils need to remember are: • Know inequality symbols • Inverse operations • Basic algebra notation	 This area of maths is studied to give students an understanding of connections between shapes and properties. This develops skills for pupils in understanding spatial awareness. Prior learning that pupils need to remember are: What different type of angles are i.e. acute, obtuse, reflex and etc. Know how to use a compass and a ruler accurately How to find the perimeter of rectangles, triangles, circles and other regular shapes 	 This is the opportunity to further explore spatial links and number work and build on learning earlier in the key stage. Prior learning that pupils need to remember are: Basic angle facts such as angles on a straight line, opposite angles, around a point Names of polygons with more than 4 sides How to find basic percentages without a calculator 	 This is taught at this point as students have further developed skills in number and bar modelling which underpins learning on ratio. Prior learning that pupils need to remember are: Know what Venn diagrams are Know how to simplify fractions Know what area means Know what a circle is Know how to find areas of shapes such as rectangles, triangles and parallelograms and compound shapes made from these. 	Pupils now apply the rules that they have learnt to non rectilinear shapes in findings area, surface areas and volumes. Prior learning that pupils need to remember are: • Know what a 3D shape is • Know names of basic 3D shapes • Know what a bar model is • Know what inverse operations are

 Order of operations Know what a base and power is 	 Know names of different two- dimensional shapes e.g. triangles. Know what parallel lines and diagonals are 	