Levenshulme High School – Curriculum Map – Maths

		Term 1		Term 2		Term 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**	**Geometry G3, G4, G5, G6, G7, G10, G12, G13**	**Geometry G11, G1, N15, G2, G5, N10, N11, R8**	**Ratio P3, R2, R3, R4, R5, R6, R7, R9, R10**	**Geometry G1, G2, G15**
	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 write in index form • 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 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	• 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 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	• What pi is and how it is used to find circumference • How to find arc lengths and perimeter of a sector • 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 • How to identify corresponding, alternate, co-interior angles in parallel lines • Know the difference between simple & compound interest • Know how to find reverse percentages	• How to sort given data in the Venn diagrams • How to simplify ratios and identify equivalent ratios • How to represent ratios using bar model and divide an amount into given ratios	• 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 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	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 accurately draw quadrilateral • How to construct angle and line bisectors	• Know how to increase and decrease using multipliers		
	Pupils should be able to do…	• Calculate with square numbers and their roots • Evaluate with cube and cube roots • Estimate non-perfect square/cube roots • Convert between percentages,	• Form & solve equations from worded problems • Solve equations with an unknown on one side • Solve an equation with multiple steps and involving brackets • Solve inequalities	• Recall the properties of triangles and quadrilaterals • Find the lines of symmetry and the order of rotational symmetry • Measure and draw acute, obtuse and reflex angles • Label a shapes sides	• Find the circumference of a circle or parts of a circle • Find the diameter of a circle given the circumference • Find the interior sum of angles in any polygon • Find the missing angle in any polygon • Determine how many sides a	• How to use and interpret the correct notation for Venn diagrams • How to simplify ratios with different units • How to interpret map/model scales as a	• How to apply knowledge of area of circles and circumference to compound shapes and sectors • How to find areas of trapeziums • How to sketch nets of 3D shapes and link their nets to the shapes

		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 • Apply the order of operations with algebra	• Represent inequalities on a number line	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 construct angle and line bisectors	polygon has from angle clues • Find missing angles in parallel lines using angle facts • Find multipliers to increase/ decrease amounts • Use reverse percentages to find original amounts • How to find simple and compound interest	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	• How to apply the knowledge of volume and surface area to problem solving questions
	Why are we doing this now? *How does it build on prior learning and prepare for*	This is being studied to further develop students number sense to include percentage and indices. These link to real life application	Learning now moves to link number to more abstract elements of maths. This provides students with the ability to	This area of maths is studied to give students an understanding of connections between shapes and properties.	This is the opportunity to further explore spatial links and number work and build on learning earlier in the key stage.	This is taught at this point as students have further developed skills in number and bar modelling	Pupils now apply the rules that they have learnt to non rectilinear shapes in findings area,

	knowledge and learning still to come?	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 15^2 • 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 • Order of operations • Know what a base and power is •	manipulate algebra using the laws of arithmetic. Prior learning that pupils need to remember are: • Know inequality symbols • Inverse operations • Basic algebra notation	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 names of different two-dimensional shapes e.g. triangles. • Know what parallel lines and diagonals are • Know how to use a compass and a ruler accuratley	Prior learning that pupils need to remember are: • How to find the perimeter of rectangles, triangles, circles and other regular shapes • 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	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 a bar model is • Know what inverse operations are	surface areas and volumes. Prior learning that pupils need to remember are: • 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. • Know what a 3D shape is • Know names of basic 3D shapes