Subject: Mathematics – Lent Term

	Progress objective 1 **Number**	**Progress objective 3:** **Geometry**
Pathway 1	• Recognise fractional equivalent to some recurring decimals. • Change a recurring decimal into a fraction and from a fraction to a decimal. • Calculate percentages. • Work out an original quantity before a % increase or decrease. • Calculate percentage change. • Calculate the effect of repeated percentage changes. • Calculate compound Interest	• Describe and carry out translations. • Describe and carry out reflections. • Describe and carry out rotations. • Enlarge a shape. • Describe an enlargement. • Enlarge a shape using a negative scale factor. • Enlarge a shape using a fractional scale factor. • Transform 2d shapes using a combination of all four transformations. (Leave these open in some cases with no diagrams given) • Identify planes of reflection symmetry in 3d solids. • Find the perimeter and area of 2d shapes after enlargements. • Find the volume of 3d shapes after enlargements.(Be able to move between areas and volumes with relation to enlargements) • Draw triangles accurately using a ruler and protractor. • Draw diagrams to scale. • Draw accurate nets of 3d solids. • Construct triangles using ruler and compasses. • Construct nets of 3d solids using ruler and compasses. • Bisect a line using ruler and compasses. • Construct perpendicular lines using ruler and compasses. • Bisect angles using ruler and compasses. • Draw accurate diagrams to solve problems. • Draw a locus. • Use loci to solve problems.

	Progress objective 1 **Number**	**Progress objective 4** **Ratio and Proportion**	**Progress objective 3:** **Geometry**
Pathway 2	• Round numbers to an appropriate degree of accuracy. • Order positive and negative numbers, including decimals. • Multiply larger numbers. • Multiply decimals with up to two decimal places. • Multiply any number by 0.1 and 0.01. • Add and subtract decimals of any size. • Multiply and divide by decimals. • Divide by 0.1 and 0.01.	• Draw, use and interpret conversion graphs. • Interpret a distance-time graph. • Draw a simple distance-time graph. • Draw and use graphs to solve distance-time problems. • Draw and interpret line graphs. • Interpret information from a complex real-life graph, read values and discuss trends. • Discuss and interpret line graphs of functions from a range of sources. • Plot the graph of a function derived from a real-life problem. • Discuss and interpret linear and non-linear graphs from a range of sources. • Solve real life problems by drawing graphs. • Use ratios involving decimals. • Solve proportion problems. • Solve engineering problems using ratio and proportion. • Use unit ratios.	• Classify quadrilaterals by their geometric properties. • Solve geometric problems using side and angle properties of special quadrilaterals. • Identify alternate angles on a diagram. • Understand a proof that the sum of the angles of a triangle is 180 degrees and a quadrilateral is 360 degrees. • Solve problems using side and angle properties of triangles and quadrilaterals. • Identify corresponding angles. • Solve simple problems using properties of angles in parallel and intersecting lines. • Calculate the sum of the interior and exterior angles of a polygon. • Calculate the interior and exterior angles of a polygon. • Solve problems involving angles by setting up equations. • Solve geometrical problems showing reasoning.

KS3 Assessment – Year 8 Progress Grid

	Progress objective 1 Number	Progress objective 3: Geometry
Pathway 3	• Add and subtract decimal numbers • Multiplying decimals • Round decimal • Order decimals • Solve problems involving decimals • Calculate squares and square roots, mentally and using a calculator. • Calculate cubes and cube roots, mentally and using a calculator. • Do calculations involving brackets and square numbers. • Use the brackets keys on a calculator. • Use index notation. • Find the factors of any whole numbers. • Use LCM and HCF to solve problems. • Write the prime factor decomposition of a number.	• Use a protractor to measure and draw obtuse and reflex angles. • Estimate the size of reflex angles. • Use vertically opposite angles • Work out the size of unknown angles in a triangle and shapes made from triangles. • Accurately draw triangles using a ruler and protractor • Accurately draw a net of a 3d shape • Investigate the sides of a right angled triangle.