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Curriculum Planning Template

Subject: Maths Year 8 Ability Mixed

Half Term 3 / weeks	**Week 1-2**	**Week 3-6**	
Topic	Unit 5 – 2D Geometry	Unit 6 – Length and Area	Reteach and Retention
Topic overview **Pupils will learn…**	To develop knowledge of 2D shapes and angles and area.	To recall and develop perimeter and area of 2D shapes.	Focus on the process of reteach and retention, knitting together the learning in reaction to the assessments completed
Components	• To recognise the different types of angles and estimate angle sizes • To accurately draw and measure angles • To know the properties of different triangles and accurately construct triangles • To know the properties of different quadrilaterals and accurately construct quadrilaterals • To be able to find angles in a right angle, on a straight line and around a point • To be able to find angles in triangles and quadrilaterals • Use the various properties of angles to find unknown angles • Identify and find corresponding angles, alternate angles and co-interior (allied) angles in parallel lines • Higher students can be extended into angles of polygons.	• Convert between cm^2 and m^2 • Find the area and perimeter of a figure made up of some of the following shapes: square, rectangle, triangle • Find the areas of parallelograms and trapezia • Find the areas and perimeters of composite plane figures • Convert between different units of Area (metric) Extend to converting units of volume • Problem solving with substitution using decimals or fractions.	Staff complete a program of adaptive reteaching on specific topics based on the individual/class needs within their groups. Regular assessments are used to identify gaps in learning. Any gaps found are then addressed in lessons to help support learning and retention. Clear areas for improvement are monitored by individual staff and at a departmental level.
What pupils should already know (prior learning components)	Students should be able to: • Accurately measure angles using a protractor • Recognise different types of angles • Recognise angles that meet at a point, on a straight line, or are vertically opposite and use these skills to find missing angles. • Understand what parallel lines are.	• Recall different length units • Understand the concept of perimeter and area • Recognise different shapes and recall some properties. • Have some understanding height is referencing perpendicular height. • How to substitute into a formula. • Recall formulas for area of shape.	All the half term content will have been covered by this point. Staff will use departmental tracking documents to analyse the gaps in learning from the most recent assessments and all previous assessments. The ability to structure and breakdown a problem-solving question as exemplified in the TFI questions throughout the course.
Transferrable knowledge (skills)	This topic builds on previous knowledge gained in YR7 Unit 6 when units of measure and shape were first introduced to students at Thornhill. This topic will be used throughout KS4 and is the basis of many different topics. For example, skills developed with	This topic builds on previous knowledge gained in YR7 Unit 5 when units of measure and shape were first introduced to students at Thornhill. Skills developed in YR8 Unit 4 will be applied in this unit when students will be required to substitute unknowns into formulae.	This activity should serve to highlight and address areas of weakness in teaching and learning or retention. This early intervention to understand specific key areas for improvement or development. This should help to build confidence and improve students' ability to answer these and directly sequential problems.

	angles will be used to form and solve equations for any polygons, bearings, construction and further developed at higher in circle theorems. Throughout this unit we will continue to develop fine motor skills which will be required throughout maths and transfer into other subjects.	This topic will be extended further at KS4 where more challenging forming and solving questions are used. We further extend this into other 2D shapes, for example segments, compound shapes with circles and sectors.	
Key vocabulary pupil will know and learn	Construct, scalene, equilateral, isosceles, right angle, acute, obtuse, reflex, quadrilateral, parallelogram, rhombus, trapezium, corresponding, alternate, interior, transversal, exterior properties, geometrical, plane, symmetrical	Rectangle, Triangle, Parallelogram, Trapezium, Area, Radius, Diameter, Compound, Surface area, Volumes	
Assessment activities	Homework- Unit 5 – 2D shapes Year 8 Test 3	Homework- Unit 4 – Algebra and Sequences Year 8 Test 3	AFL and adaptive teaching will continue to support staff to assess the address areas.
Resources available	Maths watch clips G14, G13, G16, G17, G18, G20a-d, G24, R2	Maths watch clips A11a, A11b, A11c A6, A7, A8, A9, A18, A10, A12, A19, A17	Before any assessments are completed, revision and guidance materials are provided for students to assist in independent study.
Notes **Why this topic is important…**	At the beginning of this unit we recap missing angles within straight lines and right angles which was previously covered in Unit 6 in year 7. We introduce triangles by naming different types and their properties as well as constructing them. This helps develop fine motor skills in our students which is an essential skill within maths and other subject areas. After exploring shape properties, we begin to calculate missing angles in triangles. After mastering triangles, we extend this knowledge into constructing and finding angles within quadrilaterals. This gradually builds students confidence with shape and forming and solving equations to find missing angles. We then recap angles around a point and vertically opposite angles, which is then extended into angles in parallel lines. Finally, all areas of the unit are recapped when students form and solve equations from their knowledge of angles.	At the beginning of this unit we ensure students are confident at converting between different units of length. This is then extended to calculating perimeters and areas of 2D shapes. These skills will be developed further when problem solving questions involving money are introduced. Skills involving substituting into a formula will be devolved as students are introduced to different shapes. This test whether they can apply transferable skills. At higher this will be extended to more challenging substitution involving fractions and decimals further testing students recall ability. Area questions within KS4 will be extended to involve problem solving aspects and require strong communication skills to gain access to full marks.	This is an important point in the curriculum plan that enables individual teachers to review the gaps in learning for the classes they teach. The half-termly assessments are used to track students' progress and enable teachers to react quickly to any gaps in knowledge and prepare students for the next assessment. The feedback and modelling of the exam answers enables students to pick up exam techniques and the ability to communicate effectively.