


Learning Plan 3		Subject/Pwnc: Mathemateg	Year/Blwyddyn: 9
<p><u>The Four Purposes in Maths and Numeracy:</u></p> <p>Ambitious, capable learners who: set themselves high standards; seek and enjoy challenge; are increasingly knowledgeable and skilful; are questioning; enjoy solving problems; can communicate effectively; can explain the ideas and concepts; can use number effectively; understand how to interpret data and apply mathematical concepts</p> <p>Enterprising, creative contributors who: connect and apply their knowledge and skills to create ideas; think creatively to reframe and solve problems; identify and grasp opportunities; take measured risks</p> <p>Ethical, informed citizens</p> <p>Healthy, confident individuals who: face and overcome challenge; have the skills and knowledge to manage everyday life</p> <p>Knowledge focus/what matters:</p> <p><i>Multiplying and dividing with algebra:</i> <i>Algebra uses symbol systems to express the structure of mathematical relationships.</i></p> <p><i>Time zones, bearings and compound measures:</i> <i>Geometry focuses on relationships involving shape, space and position, and measurement focuses on quantifying phenomena in the physical world.</i></p>			
 <p>CHRIST THE WORD CATHOLIC SCHOOL CRIST Y GAIR</p>			
Learning objective/key question	What will I know and be able to do? I can...	How will I develop my skills? (Success Criteria)	Homework/Gwaith cartref to support progress
Week 1-2 Understanding and visualising shapes	<ul style="list-style-type: none"> Recall and use vocabulary and essential properties of 3-D shapes (including cube, cuboid, cylinder, prism, pyramid, cone, sphere, tetrahedron) Interpret plans and elevations of 3-D shapes Interpret 2-D representations of 3-D shapes on isometric paper Interpret nets of 3-D shapes 	<p>Understanding: I can explain how different representations (nets, isometric drawings, plans and elevations) show the structure of a 3D shape. I can recognise patterns and relationships between 2D and 3D forms.</p> <p>Communicating & Skills: I can use precise geometric vocabulary and clear diagrams to describe 3D shapes. I can choose the most effective representation (net, plan, elevation, isometric sketch) to communicate my ideas.</p> <p>Fluency: I can interpret and construct 3D representations accurately and efficiently. I can apply shape knowledge confidently in new contexts.</p> <p>Reasoning: I can justify how I know a diagram represents a particular 3D shape. I can explain my thinking clearly when comparing or analysing different representations.</p> <p>Problem Solving: I can use 3D reasoning to solve unfamiliar problems, such as interpreting diagrams or visualising shapes. I can work independently through multi-step tasks involving 3D structures.</p>	Wk 1-2 Mathswatch homework Set: Due:

	SYL:			
<p>Week 3-4</p> <p>Constructing and measuring using mathematical equipment</p>	<ul style="list-style-type: none"> • Measure and accurately draw a circle or arc of a circle • Accurately draw, using a ruler and protractor: <ul style="list-style-type: none"> • a perpendicular line bisector • angle bisector • 2D shapes (angles and lengths given) • Accurately draw, using a ruler and pair of compasses: <ul style="list-style-type: none"> • triangles when given 3 sides • the locus of a point that is a given distance from a fixed point or line, or is equidistant from two fixed points or lines • Solve problems involving intersecting loci in two dimensions – this will include the identification of regions that satisfy certain conditions. 	<p>Understanding: I can explain why construction methods work and how geometric relationships guide each step. I can choose representations (diagrams, symbols, digital tools) that make my reasoning clear.</p> <p>Communicating & Skills: I can produce accurate, well-structured constructions using appropriate tools and notation. I can communicate multi-step geometric arguments clearly and logically.</p> <p>Fluency: I can carry out constructions and loci accurately and efficiently. I can apply construction techniques confidently in unfamiliar situations.</p> <p>Reasoning: I can justify each step in a construction or locus using clear mathematical reasoning. I can explain why a region or solution set satisfies given conditions.</p> <p>Problem Solving: I can use loci and constructions to model and solve real or abstract problems. I can work independently through complex geometric tasks and reflect on what worked well.</p>	Wk 3-4	<p>Mathswatch homework</p> <p>Set:</p> <p>Due:</p>

<p>Week 5-6: How does accuracy in measurement affect my calculations?</p>	<ul style="list-style-type: none"> Recognise that measurement is approximate Understand that a measurement expressed to a given unit is in possible error of half a unit Work out the upper and lower bounds of numbers expressed to a given degree of accuracy 	<p>Understanding: I can explain why measurements are approximate and how bounds describe possible values. I can recognise patterns in how accuracy affects calculations and results.</p> <p>Communicating & Skills: I can use symbols and notation for bounds clearly and correctly. I can choose effective representations (number lines, inequalities, tables) to show ranges of values.</p> <p>Fluency: I can calculate upper and lower bounds accurately and apply them in different contexts. I can use calculator functions confidently when working with bounds and approximations.</p> <p>Reasoning: I can explain why a value lies within a particular range and justify the bounds I have calculated. I can use logical reasoning to analyse how errors affect results in unfamiliar problems.</p> <p>Problem Solving: I can apply bounds to real-world situations, such as measurement, error, and estimation problems. I can work independently through multi-step tasks involving accuracy and reflect on the effectiveness of my approach.</p>	<p>Wk 5-6</p>	<p>Mathswatch homework</p> <p>Set:</p> <p>Due:</p>
	<p>Assessment in week 5</p>			