


Learning Plan 1		Subject/Pwnc: Mathemateg	Year/Blwyddyn: 8		
<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>Directed numbers: <i>The number system is used to represent and compare relationships between numbers and quantities.</i></p> <p>Collecting, representing, interpreting and analysing data: <i>Statistics represent data, probability models chance, and both support informed inferences and decisions.</i></p> <p>Coordinates in 4 quadrants: <i>Algebra uses symbol systems to express the structure of mathematical relationships.</i></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	
<p>Weeks 1-2:</p> <p>Understand, use and calculate with directed numbers</p>	<ul style="list-style-type: none"> Understand, use and order directed numbers. Check methods and solutions using appropriate strategies. Add, subtract, multiply and divide decimals, fractions and negative numbers. Understand and use operations written as number machines. Use a calculator efficiently and effectively 	<p>Understanding: I can explain and justify mathematical thinking with clarity; I can choose the most effective representation for a concept; I can apply my knowledge flexibly across topics and problem types.</p> <p>Communicating and skills: I can choose the best symbols to represent ideas, patterns, or relationships; I can use symbols to describe different types of problems and situations.</p> <p>Fluency: I can apply my knowledge to new and more challenging situations; I'm becoming more skilled and accurate as I practise and learn more.</p> <p>Logical reasoning: I can move from explaining with words or pictures to using symbols and formal methods; I can explain why my solution works in a clear and structured way.</p> <p>Problem solving: I can use maths skills I've learned in new or unfamiliar situations; I can explain how maths helps us understand and solve real-world problems.</p>		Wk 1-2	<p>Mathswatch homework</p> <p>Set:</p> <p>Due:</p>

Weeks 3-4: Understand, plot and interpret coordinates	<ul style="list-style-type: none"> • Use coordinates in 4 quadrants. • Draw, interpret, recognise and sketch the graphs of $x = a$, $y = b$. • Find coordinates identified by given geometrical information including: <ul style="list-style-type: none"> ○ the midpoint of a line ○ the fourth vertex of a parallelogram ○ location determined by distance from a given point and angle made with a given line. 	<p>Understanding: I can choose the most effective representation for a concept; I understand how maths explains patterns and relationships.</p> <p>Communicating and skills: I can choose the best symbols to represent ideas, patterns, or relationships; I can use graphing software to investigate coordinates and graphs.</p> <p>Fluency: I can apply my knowledge to new and more challenging situations; I'm becoming more skilled and accurate as I practise and learn more.</p> <p>Logical reasoning: I can use logical reasoning to solve unfamiliar problems.</p> <p>Problem solving: I can use maths skills I've learned in new or unfamiliar situations; I can work through problems independently and reflect on what worked well.</p>	Wk 3-4	Mathswatch homework Set: Due:
Week 5: Sort, classify and tabulate data	<ul style="list-style-type: none"> • Understand and use tallying methods. • Understand and use frequency tables. • Sort, classify and tabulate qualitative (categorical) data, discrete or continuous quantitative data. • Group discrete or continuous data into class intervals of equal or unequal widths. 	<p>Understanding: I can apply my knowledge flexibly across topics and problem types.</p> <p>Logical reasoning: I can use logical reasoning to solve unfamiliar problems. I can explain why my solution works in a clear and structured way.</p> <p>Problem solving: I can use maths skills I've learned in new or unfamiliar situations. I can explain how maths helps us understand and solve real-world problems.</p>	Wk 5-6	Mathswatch homework Set: Due:
Weeks 6-7: Represent, interpret and analyse data	<ul style="list-style-type: none"> • Construct and interpret pictograms, bar charts and pie charts for qualitative data and for discrete quantitative data. • Construct and interpret vertical line diagrams for discrete data. • Find the mean, median, mode and range of a list of values. • Find the mean, median and mode for a discrete (ungrouped) frequency distribution. • Recognise that graphs may be misleading. 	<p>Understanding: I can choose the most effective representation for a concept; I understand how maths explains patterns and relationships.</p> <p>Communicating and skills: I can choose the best symbols or diagrams to represent ideas, patterns, or relationships; I can use graphing and/or data software to represent and interpret graphs and charts.</p> <p>Fluency: I can solve problems independently using what I've learned; I can apply my knowledge to new and more challenging situations; I'm becoming more skilled and accurate as I practise and learn more.</p> <p>Logical reasoning: I can explain why my solution works in a clear and structured way.</p> <p>Problem solving: I can use maths skills I've learned in new or unfamiliar situations. I can explain how maths helps us understand and solve real-world problems.</p>	Wk 7	Mathswatch homework Set: Due: