

**SUBJECT Maths and Numeracy**  
**Learning Plan 2**

**Set: Year 9 Higher tier**

**Knowledge Focus**

**Number: Negative numbers, equivalence between fractions, decimals and percentages, indices, standard form and using a calculator.**

**Algebra: Sequences, substitution into formulae, the basic conventions of algebra.**

**Geometry and Measure: Standard metric units, Metric/Imperial conversion.**

**Statistics: Graphs and charts.**



**Ysgol Uwchradd  
 Prestatyn  
 High School**

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**Skills, Knowledge and Understanding to be developed:**

- Sort and use discrete and continuous data.
- Add, subtract, multiply and divide negative numbers.
- Use equivalences between fractions, decimals and percentages.
- Use index notation.
- Understand and use reciprocals.
- Express, interpret and use numbers written in standard form.
- Use a calculator effectively.
- Recognise, describe and continue patterns in number.
- Understand the basic conventions of algebra.
- Expand single brackets.
- Find the nth term of a sequence and generate terms when given the nth term.
- Extract common factors.
- Expand and simplify double brackets.
- Know and use the standard metric units of length, mass and capacity.
- Convert between metric and Imperial measures.

**Key Terms to be learned:**

Number: Index, indices, reciprocal, standard form, BIDMAS, expression, numerator, denominator.

Algebra: Ascending, descending, common difference, linear, quadratic, pattern, nth term, product, expand, variable.

Geometry and Measure: Gram, millilitres, milligram, metric, Imperial, square units, cube units, conversion.

Statistics: Discrete, continuous.

<p><b>Week 1 Learning Objectives:</b>  <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> <li>• Group discrete or continuous data into class intervals of equal or unequal widths.</li> <li>• Interpret pie charts and line charts in real life situations to make comparisons.</li> <li>• Construct pie charts.</li> <li>• Work with real life scenarios and select appropriate diagrams to represent particular data and justify reasons for choice.</li> </ul> <p>➤ <a href="#">MathsWatch clips 30, 31, 121.</a></p>		<p><b>Objective assessments:</b></p> <p>Completion of exam style questions on displaying discrete and continuous data including pie charts.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher on displaying discrete and continuous data including pie charts.</p>
<p><b>Week 2 Learning Objectives:</b>  <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> <li>• Add and subtract negative numbers using a number line.</li> <li>• Multiply negative numbers.</li> <li>• Divide with negative numbers.</li> <li>• Manipulate negative numbers in real life contexts</li> <li>• Convert a percentage to a fraction in its simplest form.</li> <li>• Convert a percentage to a decimal and vice versa.</li> <li>• Convert a fraction to a decimal or a percentage.</li> <li>• Convert a decimal to a fraction.</li> <li>• Use knowledge of equivalents to order whole numbers, decimals, fractions and percentages.</li> </ul> <p>➤ <a href="#">MathsWatch clips 19, 58ab, 68, 69.</a></p>		<p><b>Objective assessments:</b></p> <p>Completion of exam style questions on negative numbers and equivalences between fractions, decimals, percentages.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher on negative numbers and equivalences between fractions, decimals, percentages.</p>

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**Algebra: Sequences, substitution into formulae, the basic conventions of algebra.**

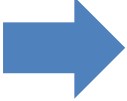
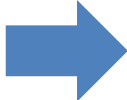
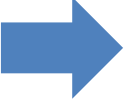
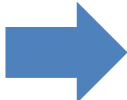

**Geometry and Measure: Standard metric units, Metric/Imperial conversion.**

**Statistics: Graphs and charts.**



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<p><b>Week 3 Learning Objectives:</b> <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> <li>Understand and use index notation for zero, positive, negative and fractional indices.</li> <li>Know and use the rules of indices.</li> <li>Express and use numbers in standard form.</li> <li>Know how a calculator orders its operations.</li> <li>Use a calculator effectively for indices and standard form.</li> </ul> <p>➤ <a href="#">Mathswatch clips 67, 163, 186.</a></p>		<p><b>Objective assessments:</b></p> <p>Completion of exam style questions on indices and standard form.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher on indices and standard form.</p>
<p><b>Week 4 Learning Objectives:</b> <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> <li>Recognise, describe and continue patterns in number.</li> <li>Describe in words and symbols the rule for the next term of a sequence.</li> <li>Form and simplify expressions.</li> <li>Substitute into simple formulae.</li> <li>Expand single brackets.</li> </ul> <p>➤ <a href="#">Mathswatch clips 47, 84, 87, 138a.</a></p>		<p><b>Objective assessments:</b></p> <p>Completion of exam style questions on substitution into formulae and expanding single brackets.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher on substitution into formulae and expanding single brackets.</p>
<p><b>Week 5 Learning Objectives:</b></p> <ul style="list-style-type: none"> <li>Revision of course to date.</li> <li>Completion of Summative Assessment in examination conditions.</li> <li>Bespoke feedback from SA.</li> <li>Topic improvement tasks.</li> </ul>	 <div style="background-color: #FF69B4; padding: 5px; margin-top: 10px; text-align: center;"> <p>Summative Assessment and feedback.</p> </div>	<p><b>Objective assessments:</b></p> <p>Completion of summative assessment.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher.</p>
<p><b>Week 6 Learning Objectives:</b> <u>Additional Content for Mathematics only</u></p> <ul style="list-style-type: none"> <li>Find the nth term for linear and quadratic sequences.</li> <li>Generate sequences from the nth term.</li> <li>Factorise expressions using the common factor method.</li> <li>Expand double brackets.</li> </ul> <p>➤ <a href="#">Mathswatch clips 87, 137, 138b.</a></p>		<p><b>Objective assessments:</b></p> <p>Completion of exam style questions on sequences, factorising and expanding double brackets.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher on substitution into formulae and expanding single brackets.</p>
<p><b>Week 7 Learning Objectives:</b> <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> <li>Know and use the standard metric units of length, mass and capacity.</li> <li>Solve problems converting between metric units used to measure area and volume.</li> <li>Convert between metric and Imperial units.</li> </ul> <p>➤ <a href="#">Mathswatch clips 105abcd.</a></p>		<p><b>Objective assessments:</b></p> <p>Completion of exam style questions on metric/Imperial conversion.</p>	<p><b>Homework:</b></p> <p>Suitable Mathswatch questions set by teacher on metric/Imperial conversion.</p>