

SUBJECT: Maths and Numeracy
Learning Plan 2

Set: Year 9 Intermediate tier

Knowledge Focus

Number: Index notation, standard form, the rules of indices, BIDMAS, negative numbers, equivalence between fractions, decimals and percentages.

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

Geometry and Measure: Standard metric units, metric and Imperial conversion.

Statistics: Graphs and charts.



**Ysgol Uwchradd
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High School**

If you are having trouble completing your MathsWatch homework, speak to your maths teacher as soon as possible. You can do this either in your lesson or through Teams.

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.
- Index notation for zero, positive, negative and fractional indices.
- Write the reciprocal of any number.
- Express and use numbers written in standard form.
- The four operations of number and BIDMAS.
- Use a calculator effectively.
- Recognise, describe and continue sequences.
- Substitute numbers into formulae.
- Form and simplify expressions, collect like terms and expand brackets.
- Find the nth term of sequences.
- Factorise expressions.
- Distinguish in meaning between expression, equation and formula.
- Read and interpret scales.
- The standard metric units of length, mass and capacity.
- Convert between metric and Imperial units.

Key Terms to be learned:

Number

Square, cube, root, power, index, indices, BIDMAS, reciprocal.

Algebra

Expression, ascending, descending, linear, quadratic, sequence, formula, common factor, product, expand, factorise, integer, subject.

Geometry and Measure

Gram (g), milligram (mg), milliliter (ml), Imperial, mass, square units, cube units, conversion.

Statistics

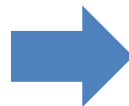
Discrete, continuous.

Week 1 Learning Objectives:

Numeracy and Mathematics:

- Group discrete and continuous data into class intervals of equal or unequal widths.
- Understand and use tallying methods.
- Construct and interpret bar charts, pie charts and vertical line graphs.
- Construct and interpret grouped frequency diagrams and frequency polygons.
- Work with real life scenarios and select appropriate diagrams to represent data and justify reasons for choice.

➤ [MathsWatch clips 30, 31, 121.](#)



Objective assessments:

Completion of exam style questions on displaying data including pie charts, grouped frequency diagrams and frequency polygons.

Homework:

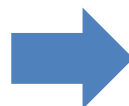
Suitable Mathswatch questions set by teacher on displaying data.

Week 2 Learning Objectives:

Numeracy and Mathematics:

- Use negative numbers in real life situations.
- Order directed numbers.
- Add and subtract negative numbers using a number line.
- Multiply and divide negative numbers.
- Manipulate negative numbers in real life contexts to solve problems.
- Convert a percentage to a fraction in its simplest form. Convert a fraction to a percentage.
- Convert a percentage to a decimal and vice versa.
- Convert a fraction to the decimal and vice versa.
- Use knowledge of equivalents to compare and order whole numbers, fractions, decimals and percentages.

➤ [MathsWatch clips 19, 58ab, 68, 69.](#)



Objective assessments:

Completion of exam style questions on negative numbers, fractions, decimals and percentages.

Homework:

Suitable Mathswatch questions set by teacher on negative numbers and equivalences between fractions, decimals and percentages.

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<p>Week 3 Learning Objectives: <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> Use the terms square, cube, root and reciprocal, Use index notation for zero, positive, negative and fractional indices. Interpret, express and use numbers in standard form. Understand and use the hierarchy of operations. Know how a calculator orders its operations. <p>➤ Mathswatch clips 38, 63, 66, 67, 161.</p>		<p>Objective assessments:</p> <p>Completion of exam style questions on indices and standard form.</p>	<p>Homework:</p> <p>Suitable Mathswatch questions set by teacher on indices and standard form.</p>
<p>Week 4 Learning Objectives: <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> Recognise, describe and continue patterns in number. Describe in words and symbols the rule for the next term of a sequence. Substitute whole numbers, fractions and decimals into simple formulae. Form and simplify expressions. Collect like terms. Expand single brackets. <p>➤ Mathswatch clips 47, 84, 138a.</p>		<p>Objective assessments:</p> <p>Completion of exam style questions on sequences and basic algebraic techniques.</p>	<p>Homework:</p> <p>Suitable Mathswatch questions set by teacher on sequences and basic algebraic techniques.</p>
<p>Week 5 Learning Objectives:</p> <ul style="list-style-type: none"> Revision of course to date. Completion of Summative Assessment in examination conditions. Bespoke feedback from SA. Topic improvement tasks. 	<p style="background-color: #FF69B4; padding: 5px; display: inline-block;">Summative Assessment and feedback</p>	<p>Objective assessments:</p> <p>Completion of summative assessment.</p>	<p>Homework:</p> <p>Suitable Mathswatch questions set by teacher.</p>
<p>Week 6 Learning Objectives: <u>Additional Content for Mathematics only</u></p> <ul style="list-style-type: none"> Find the nth term of a linear or quadratic sequence. Generate linear and quadratic sequences given the nth term. Factorise expressions. Expand and simplify double brackets. <p>➤ Mathswatch clips 47, 87, 135, 137, 138b.</p>		<p>Objective assessments:</p> <p>Completion of exam style questions on nth term, factorising and expanding brackets.</p>	<p>Homework:</p> <p>Suitable Mathswatch questions set by teacher on nth term, factorising and expanding brackets.</p>
<p>Week 7 Learning Objectives: <u>Numeracy and Mathematics</u></p> <ul style="list-style-type: none"> Read and interpret scales. Know and use the standard metric units of length, mass and capacity. Know and use the relationship between the metric units of length, mass, capacity, area and volume. Convert between metric and Imperial units. <p>➤ Mathswatch clips 105abcd.</p>		<p>Objective assessments:</p> <p>Completion of exam style questions on scales and metric/Imperial conversion.</p>	<p>Homework:</p> <p>Suitable Mathswatch questions set by teacher on scales and metric/Imperial conversion.</p>