

National 4 Expressions and Formulae 1.1	NS	OT	VG
<u>Substitution</u>			
I can substitute numbers into an expression and calculate an answer			
TJ Nat 4-2 Ch 14			
<u>Expanding Brackets</u>			
I can collect like terms in expressions such as $3a + 4b - a + 6c$			
I can expand brackets in the form $5(a \pm 2c)$ or $3(4x \pm 2)$			
I can expand brackets in the form $x(2x \pm 3)$			
TJ Nat 4-1 Ch 7, TJ Nat 4-2 Ch 17			
<u>Factorising</u>			
I can remove common factors from expressions in the form			
$9c + 27, 6a - 8, x^2 - 3x$			
TJ Nat 4-2 Ch 17			
<u>Patterns and Formulae</u>			
I can extend a straightforward number pattern (1,3,5,7,...)			
I can determine the formula for a number pattern			
I can evaluate a pattern formula for a given value			
TJ Nat 4-1 Ch 16, TJ Nat 4-2 Ch 15			
<u>Gradient</u>			
I can calculate gradient as V/H			
TJ Nat 4-2 Ch 4			
National 4 Expressions and Formulae 1.2	NS	OT	VG
<u>Perimeter, Circumference and Area</u>			
I can calculate the perimeter and area of a composite shape			
I can calculate the area of a parallelogram, kite and trapezium			
I can calculate the circumference of a circle			
I can calculate the area of a circle			
TJ Nat 4-1 Ch 8, TJ Nat 4-2 Ch 11			
<u>Surface Area and Volume</u>			
I can draw the net of a prism			
I can calculate the surface area of a prism			
I can calculate the volume of a cylinder and other prisms if given the area of the base			
TJ Nat 4-2 Ch 6 and 8			
<u>Symmetry</u>			
I can reflect a shape in the x and y-axes			
I can reflect a shape in the line $y = x$			
I can rotate a shape through 90° and 180°			
I can create a shape with rotational symmetry of order 4 and order 2			
TJ Nat 4-2 Ch 3			

National 4 Expressions and Formulae 1.3	NS	OT	VG
<u>Mean, Median and Mode</u>			
I can calculate mean, median, mode and range from a data sample			
I can use mean, median, mode and range to compare data sets			
TJ Nat 4-1 Ch 12 and Ch 24			
<u>Frequency Tables</u>			
I can calculate construct a frequency table from raw data			
I can use a frequency table to calculate mode, mean and median			
TJ Nat 4-2 Ch 16			
<u>Graphs and Charts</u>			
I can interpret Scattergraphs and Pie Charts			
I can draw Scattergraphs, Bar Charts and Pie Charts			
TJ Nat 4-1 Ch 12 and Ch 24			
<u>Probability</u>			
I can calculate the probability of an event happening			
TJ Nat 4-1 Ch 17			

National 4 Relationships 1.1	NS	OT	VG
<u>Equations</u>			
I can solve linear equations in the form $2x + 1 = 11$			
I can solve linear equations with brackets $2(x - 3) = 14$			
I can solve inequations			
TJ Nat 4-1 Ch7 and Ch 22, TJ Nat4-2 Ch 4			
<u>Equations of Straight Lines</u>			
I can draw a graph of $y = mx + c$ for given values of x			
In the equation of a straight line $y = mx + c$, I understand the meaning of m and c			
I can recognise and draw the straight lines $y = a$ and $x = b$			
TJ Nat 4-2 Ch 4			
<u>Changing the subject of a formula</u>			
I can change the subject of $G = x + 4$ to x			
I can change the subject of $H = 5c$ to c			
I can change the subject of $E = 3w - 5$ to w			
TJ Nat 4-2 Ch 14			
National 4 Relationships 1.2	NS	OT	VG
<u>Pythagoras' Theorem</u>			
I can use Pythagoras' Theorem to calculate the hypotenuse			
I can use Pythagoras' Theorem to calculate the shorter sides			
I can use Pythagoras' Theorem to calculate the length of a line if I am given two coordinates			
TJ Nat 4-1 Ch 13 and Ch 25			
<u>Similarity</u>			
I can enlarge and reduce shapes if given a scale factor			
TJ Nat 4-1 Ch 5 and Ch 21			
<u>Angle Properties in Straight Lines and Triangles</u>			
I know the angle properties associated with straight lines			
I know the angle properties associated with triangles			
I know the angle properties associated with quadrilaterals			
I know the angle properties associated with parallel lines			
I can use my knowledge of angles to solve problems			
TJ Nat 4-1 Ch 2			
<u>Angle Properties in Circles</u>			
I can find the size of angles in triangles within semi-circles and circles			
I can find the size of angles in triangles which contain a tangent to a circle			
TJ Nat 4-2 Ch7 and Ch 13			
National 4 Relationships 1.3 Trigonometry	NS	OT	VG
I can use the tan ratio to calculate a side and an angle			
I can use the sin and cos ratios to calculate sides and angles			
I can use SohCahToa to choose the correct trig ratio			
TJ Nat 4-2 Ch 5 and Ch 9			
National 4 Relationships 1.4 Scattergraphs	NS	OT	VG
I can plot points onto a scattergraph			
I can draw a line of best fit			
I can use my line of best fit to estimate values			
TJ Nat 4-1 Ch 12			

National 4 Numeracy 1 – Calculation & Interpretation	NS	OT	VG
<u>Whole numbers and negative numbers</u>			
I can add, subtract, multiply and divide with whole numbers			
I can add, subtract, multiply and divide with negative numbers			
I can calculate the difference between temperatures			
<u>Calculations</u>			
I can calculate a percentage of an amount without a calculator			
I can calculate a percentage of an amount with a calculator (VAT)			
I can find a fraction of an amount without a calculator			
I can use exchange rates to convert between different currencies			
I can calculate the costs involved in credit agreements			
<u>Time, Distance and Speed</u>			
I can use a formula to calculate distance travelled			
I can use a formula to calculate average speed			
I can use a formula to calculate time taken			
I can use the relationship between time, distance and speed to solve problems			
I can use distance-time graphs			
<u>Ratio and Proportion</u>			
I can use proportion to solve problems			
I can divide a quantity in a given ratio			
<u>Scale, Length and Measurement</u>			
I can calculate the perimeter of a composite shape			
I can read scales on a range of measuring instruments			
I can measure length, angle and capacity			

National 4 Numeracy 2 – Extraction & Explanation	NS	OT	VG
<u>Graphs, Charts and Tables</u>			
I can read, extract and interpret data from charts (pie, bar etc)			
I can read, extract and interpret data from graphs (line, scatter)			
I can read, extract and interpret data from diagrams (stem & leaf)			
I can read, extract and interpret data from tables			
<u>Probability</u>			
I can calculate probability as a fraction			
I can compare probabilities using decimals or equivalent fractions			
I can make and explain decisions based on comparison of probabilities			