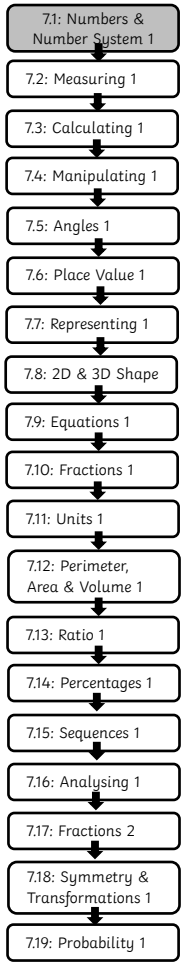
Personalised Learning Checklist (PLC): Year 7 Support



Unit 1 – Numbers and the Number System	Sparx Codes
Find multiples of a number	M227
Find lowest common multiples of numbers	M227
Find factors of a number	M698
Find highest common factor of numbers	M698
Recognise the prime numbers 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, …	M322
Find the prime factors of a number using a calculator	M108
Recognise and use square numbers 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 121, 144, …	M135
Recognise and use cube numbers 1, 8, 27, 64, 125, …	M135
Read, write and evaluate powers	M135
Use a scientific calculator to find powers	M135

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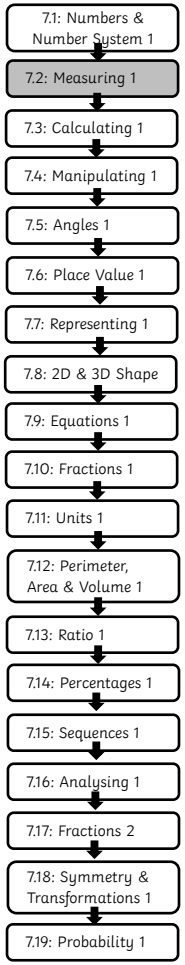

Unit 2 – Measuring	Sparx Codes
Name different types of angles (acute, right, obtuse, reflex)	M502
Estimate the size of different types of angles	M541
Use a protractor to measure and draw angles Know the label for a right angle Understand and use labelling notation for angles	M780 M331
Use a ruler to measure and draw line segments Understand and use labelling notation for lengths Know the label for parallel lines and equal lengths	M985
Use compasses to draw arcs and circles	M196

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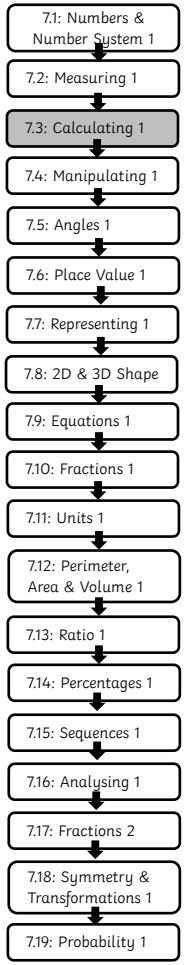

Unit 3 – Calculating 1	Sparx Codes
Add whole numbers and decimals using a written method	M928 M429
Subtract whole numbers and decimals using a written method	M347 M152
Multiply with whole numbers	M187 M113
Divide a whole number by a one or two digit number	M354 M873
Use negative numbers in context (eg temperature)	M527
Order of operations (BIDMAS)	M521
Use a scientific calculator	M757

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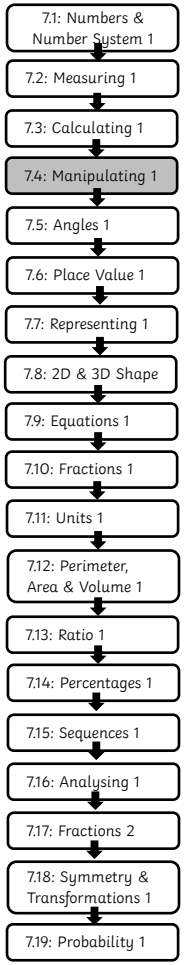

Unit 4 – Manipulating 1	Sparx Codes
Recognise: expression, equation, inequality, term, formulae, function	M830
Know and use basic algebraic notation (the 'rules' of algebra): (ab in place of a x b, 3y in place of y + y + y and 3 x y, a^2 in place of a x a, a^3 in place of a x a x a, $^a/_b$ in place of a ÷ b, use of brackets)	M813
Write simple expressions from words	M813
Simplify expressions (collecting like terms)	M795 M531 M949
Simplify expressions using multiply and divide	M120
Expand a single bracket	M237 M792
Substitute positive numbers into expressions and formulae	M327 M208 M979

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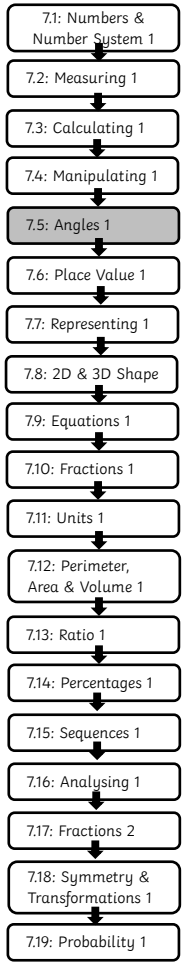

Unit 5 – Angles 1	Sparx Codes
Recognise and use angle rule: vertically opposite angles are equal	M163
Recognise and use angle rule: angles around a point add to 360°	M818
Recognise and use angle rule: angles at a point on a line add to 180°	M818
Estimate the size of angles	M541
Know that the angles in a triangle add to 180 degrees	M351
Know that the angles in a quadrilateral add up to 360 degrees	M679

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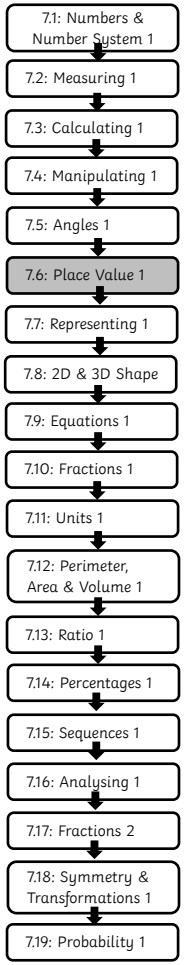

Unit 6 – Place Value 1	Sparx Codes
Use the signs <, ≤, >, ≥, =, ≠ to compare numbers < (less than) ≤ (less than or equal to) > greater than ≥ greater than or equal to = equal to ≠ not equal to Use a compound inequality to compare numbers (e.g. -1<0.5<4)	
Read and write numbers, identify values of given digits	M704 M522
Order a set of integers (whole numbers) and decimals	M553
Multiply an integer or decimal by a power of 10	M113
Divide an integer or decimal by a power of 10	M113
Round a number to the nearest 1000, 100, 10 or whole number	M111

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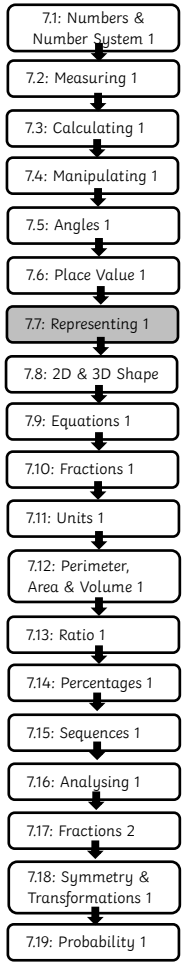

Unit 7 – Representing 1	Sparx Codes
Know the difference between discrete and continuous data • Discrete data is data which can be listed or counted • Continuous data is measured data	
Know the difference between primary and secondary data • Primary data is data you have collected yourself • Secondary data has been collected by someone else	
Know the difference between qualitative and quantitative data • Qualitative data is descriptive • Quantitative data is numerical	
Construct and interpret frequency tables	M597 M899
Construct and interpret pictograms	M644
Construct and interpret bar charts	M460 M738
Construct and interpret vertical line charts	
Construct and interpret pie charts	M574 M165

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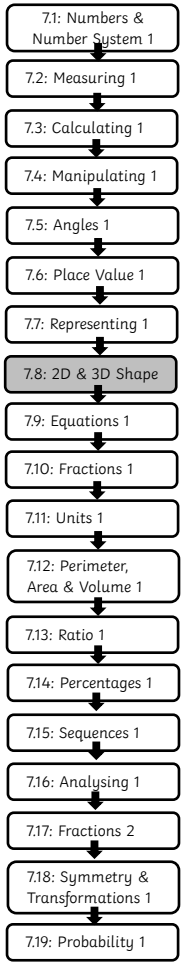

Unit 8 – 2D & 3D Shapes	Sparx Codes
Line symmetry	M523
Rotational symmetry	M523
Properties of scalene/isosceles/equilateral triangles	M276
Names and properties of different quadrilaterals	M276
Names of 2D shapes based on the number of sides	
Vocabulary for circle parts	M595
Know the names and properties of 3D shapes	M767
Number of faces, edges and vertices of a 3D shape	M767
Know the link between faces, edges and vertices in a 3D shape	M767
Nets of 3D shapes (identify shapes from nets or draw nets)	M518

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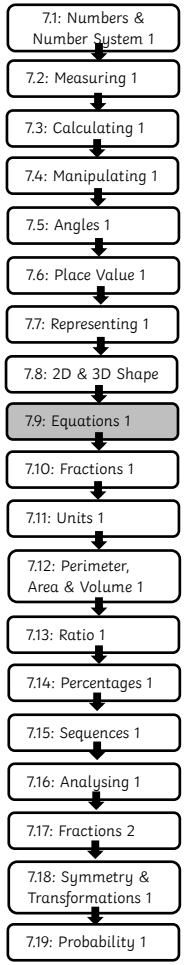

Unit 9 – Equations 1	Sparx Codes
Rewrite problems using algebra notation	M813
Use number machines	M175
Find numbers which satisfy (fit) an equation	
Solve an equation with one step	M707
Solve an equation with two or more steps	M509
Solve equations where the solution is a positive integer	
Solve equations where the unknown is the numerator of a fraction	

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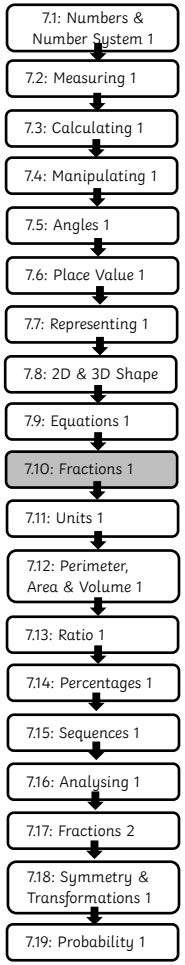

Unit 10 – Fractions 1	Sparx Codes
Shade or interpret fraction diagrams	M158
Construct fractions	M939
Convert between improper and mixed numbers	M601
Equivalent fractions	M410
Simplify fractions	M671
Order fractions using common denominators or by writing as decimals	M335
Know fractions represent division with decimal answers	
Convert between fractions and decimals with or without a calculator	M958
Find a fraction of an amount with or without a calculator	M695 M684

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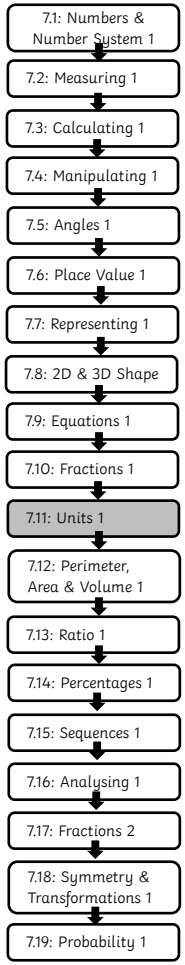

Unit 11 – Units 1	Sparx Codes
Convert between metric units of length (eg mm, cm, m, km)	M772
Convert between metric units of mass (eg mg, g, kg, tonnes)	M530
Convert between metric units of volume and capacity (eg ml, cl, l)	M761
Convert units of length, mass and capacity	M774
Using clocks Convert between times in AM and PM	M892
Convert units of time (eg seconds, minutes, hours)	M515
Use and interpret timetables such as bus and train timetables	M627 M963
Use calendars	M747
Convert between units of money (eg pounds and pence)	

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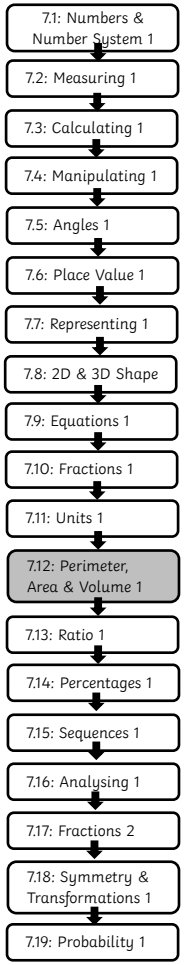

Unit 12 – Perimeter, Area & Volume 1	Sparx Codes
Find the perimeter of a shape or composite shape	M920 M635 M690
Area of a rectangle (Area = length x width)	M390
Area of a triangle (Area = $\frac{1}{2}$ x base x height)	M610
Area of a parallelogram (Area = base x height)	M291
Area of a trapezium (Area = $\frac{1}{2}$(a + b) x height)	M705
Volume of a cuboid (V = length x width x height)	M765

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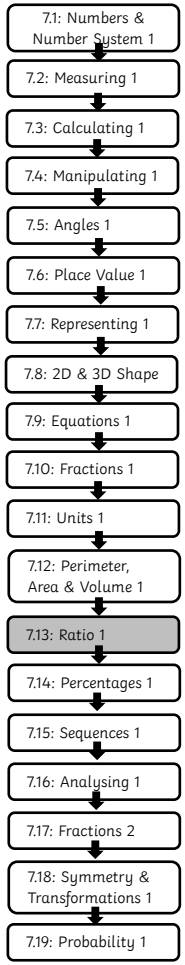

Unit 13 – Ratio 1	Sparx Codes
Use ratio notation to describe the comparison of quantities	M885
Simplify ratios, including those with units	M885
Convert between ratios and fractions	M267
Be familiar with a ratio table and multipliers	

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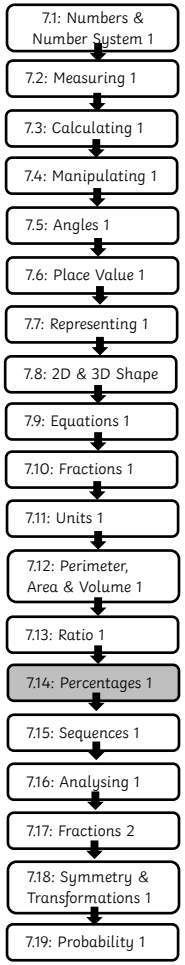

Unit 14 – Percentages 1	Sparx Codes
Know that percentage means parts per hundred	
Write a percentage as a fraction and decimal	M264
Know simple conversions between fractions, decimals and percentages	
Convert between fractions, decimals and percentages with a calculator	
Know the calculator converter function keys	
Find a percentage of an amount without a calculator	M437
Calculate the percentage of an amount with a calculator using a decimal or fraction multiplier	M905

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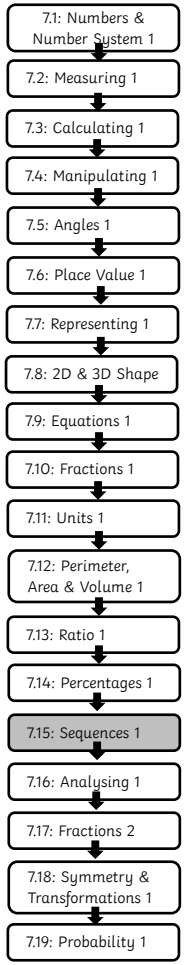

Unit 15 – Sequences 1	Sparx Codes
Know that a sequence is a list of terms formed from a rule	
Use a term-to-term rule to generate a linear or non-linear sequence	M381
Find term-to-term rules and continue sequences	M381
Understand the features of an arithmetic sequence and be able to recognise one (term-to-term rule involves addition or subtraction)	
Recognise a sequence of diagrams and draw the next	M241

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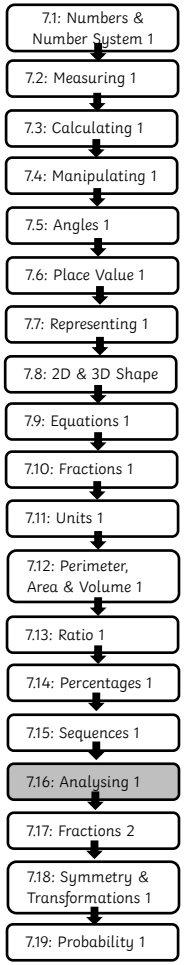

Unit 16 – Analysing 1	Sparx Codes
Understand that measures of central tendency (averages) offer a summary of a set of data	
Find the mode of a list of data	M841
Find the mode from a bar chart or pictogram	
Find the median of a list of n values, where n can be odd or even	M934
Calculate the mean of a list of data values	M940
Understand the range as a measure of spread (or consistency)	M328
Calculate the range from a set of data	
Calculate the range from a bar chart or pictogram	
Be familiar with the term outlier and the effect on range	

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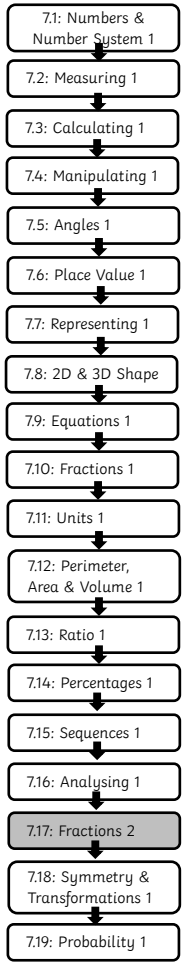

Unit 17 – Fractions 2	Sparx Codes
Add and subtract fractions with different denominators	M835
Multiply an integer by a fraction Multiply two fractions together	M157
Divide an integer by a fraction Divide a fraction by an integer Divide a fraction by a fraction	M110
Use a calculator to complete fraction calculations	

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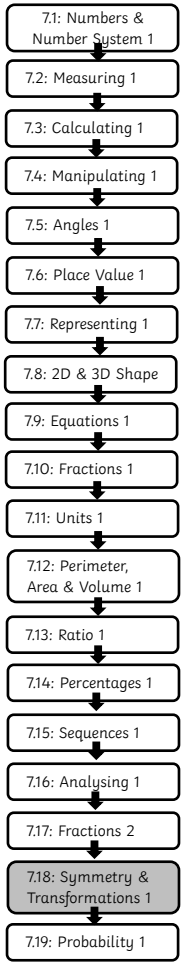

Unit 18 – Symmetry & Transformations 1	Sparx Codes
To be able to plot coordinates in all 4 quadrants	M618
To be able to solve problems relating to coordinates	M230
Draw reflections of 2D shapes	M290
Draw translations of 2D shapes	M139

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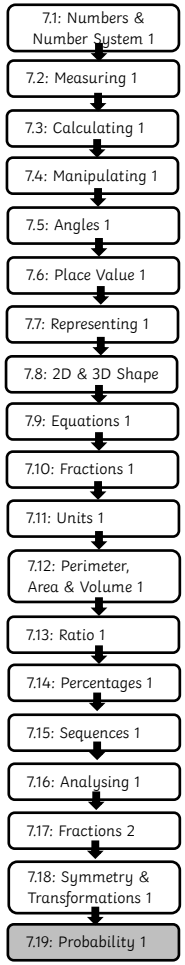

Unit 19 – Probability 1	Sparx Codes
Understand probability phrases	M655
Understand the 0 – 1 probability scale	
Understand randomness, fairness and bias	
Understand equally or unequally likely events	
Calculate probability and write it as a fraction, decimal or percentage	M941 M938

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Notes