Year 8 Maths Learning Journey:

Fractions and Decimals

Prior Learning: *What do you know already?*
Concept of Fractions and Decimals , Equivalent fractions, HCF, LCM

Learning Sequence							
Main Learning Steps	Multiplying Decimals	Dividing Decimals	Addition and Subtraction with fractions	Addition and Subtraction with mixed numbers	Multiplication and division with fractions	Multiplication and division with mixed numbers	Problem Solving with fractions and decimals
Keywords: Fraction, decimal, numerator, denominator, equivalent, simplify, mixed number, improper fraction, reciprocal, multiple, factor, lowest common multiple (LCM), highest common factor (HCF), operation, representation, partitioning, comparison, part-whole, fractions of an amount							
Formative assessment	Pink Sheet Question x1 Fractions and Decimals Topic Test						
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point						

Where will we use these ideas again?
Ratio, Percentages, Algebraic Fractions, Probability

Sparx Codes

Multiplying decimals – M803

Dividing Decimals – M262, M491

Addition and Subtracting Fractions – M835

Adding and Subtracting Mixed Numbers – M931

Multiplying Fractions – M157

Multiplying with Mixed Numbers – M197

Reciprocals – M216

Dividing Fractions – M110

Dividing with Mixed Numbers – M265

Mixed Problems – Calculating with fractions – M645

Year 8 Maths Learning Journey:

Ratio, Proportion and Percentages

Prior Learning: *What do you know already?*
Basic fractions and percentages, Money, Plotting basic graphs

Learning Sequence						
Main Learning Steps	Understanding multiplicative relationships	Understanding Ratios	Understanding Percentages	Direct Proportion	Graphing Direct Proportion	Problem solving with Percentages and Proportionality
Keywords: Ratio, proportion, percentage, direct proportion, multiplicative relationships, parts, multiplier, ratio notation, graph, origin						
Formative assessment	Pink Sheet Question x2 Ratio, Proportion and Percentages Topic Test					
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point					

Where will we use these ideas again?
Percentage multipliers, graphs, ratio and equations, direct and inverse proportion

Sparx Codes
Write and simplifying ratios – M885
Using equivalent ratios to find unknown amounts – M801
Solving proportion problems – M478
Graphs of direct proportion – M448
Finding percentages of amounts – M533
Converting between ratios, fractions and percentages – M267

Year 8 Maths Learning Journey:

Statistical Representations, Measures and Analysis

Prior Learning: *What do you know already?*
Simple pie charts, line graphs, pictograms and bar charts
Averages and range

Learning Sequence						
Main Learning Steps	Interpreting and constructing pictograms	*Interpreting and constructing bar charts*	*Interpreting and constructions pie charts*	*Interpreting and constructing scatter graphs*	*Comparing and analyzing statistical representations*	*Statistical problems*
Keywords: *Bar charts, Pictograms, Pie charts, Scatter graphs, data, statistics, analysis, conclusions, summaries, data collection, representations, central tendency, spread, frequency, outlier, line of best fit, correlation*						
Formative assessment	Pink Sheet Question x2 Statistical Representations Topic Test					
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point					

Where will we use these ideas again?
Data interpretation
Box plots, Cumulative Frequency graphs, Histograms

Sparx Codes
Bar charts – M460, M738
Pie charts – M574, M165
Line Graphs – M140, M183
Scatter Graphs – M769, M596
Pictograms – M644
Data analysis – M945, M450

Year 8 Maths Learning Journey:
Probability

Prior Learning: *What do you know already?*
Probability language
Fractions, decimals and percentages

Learning Sequence						
Main Learning Steps	Probability as a measure of chance	Experimental probability	Two-way tables	Venn diagrams	Systematic listing	Theoretical probabilities
Keywords - combined event, conditional probability, dependent and independent events, mutually exclusive events, probability, Venn diagrams, two-way tables, probability tree						
Formative assessment	Pink Sheet Question x2 Probability Topic Test					
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point					

Where will we use these ideas again?
Data analysis, Equations with probability, Complex probability trees

Sparx Codes
Using probability phrases – M655
Writing probabilities as fractions – M941
Writing probabilities as fractions, decimals and percentages – M938
Probabilities of mutually exclusive events – M755
Expected results from repeated experiments – M206
Venn diagrams – M829
Probabilities from Venn diagrams – M419

Year 8 Maths Learning Journey:

Expressions and Equations

Prior Learning: *What do you know already?*
Operations (+ - x ÷), Equivalence
Concept of inverse, Substituting

Learning Sequence							
Main Learning Steps	Simplifying Expressions	Manipulating Expressions	Factorising	Solving Linear Equations with one unknown	Solving Linear Equations with two or more steps	Solving Linear Equations involving brackets	Problem Solving with Linear Equations
Keywords - Coefficient, equation, linear, solution, unknown, variable , equivalence, expanding, factorising, inverse, expression							
Formative assessment	Pink Sheet Question x2 Expressions and Equations Topic Test						
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point						

Where will we use these ideas again?
Changing the subject, Graphs, Directed numbers, Factorising quadratic equations

Sparx Codes
Algebraic notation – M813
Algebraic terminology – M830
Simplifying expressions – M795, M531, M949
Expanding single brackets – M237, M792
Factorising into one bracket – M100
Solving equations – M707, M634
Solving equations with brackets – M902

Year 8 Maths Learning Journey:

Graphical representations of Linear Relationships

Prior Learning: *What do you know already?*
Plotting coordinates in four quadrants, Directed numbers, Equations, Substitution

Learning Sequence					
Main Learning Steps	Connect coordinates, equations and graphs	Exploring Linear Relationships	Rate of Change from a Graph	Equation of a Straight line	Problem solving with linear relationships
Keywords - Cartesian coordinate system, gradient, intercept, linear, equation, origin, quadrant, rate of change, x-axis, y-axis					
Formative assessment	Pink Sheet Question x2 Linear Relationships Topic Test				
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point				

Where will we use these ideas again?
Quadratic equations, equations of circles and tangents, graphing inequalities

Sparx Codes

Reading and plotting coordinates – M618
Plotting straight line graphs – M797, M932
Equations of straight line graphs – M544, M88
Real life graphs – M843, M771, M205

Year 8 Maths Learning Journey:

Perimeter, area and volume

Prior Learning: *What do you know already?*
Area of basic shapes
Recognition of shapes

Learning Sequence							
Main Learning Steps	Area of a Trapezium	Recognise parts of a circle	Find the circumference and area of a circle	Find the area and perimeter of composite shapes	Recognise a prism	Surface area of cuboids and prisms	Volume of Prisms and cylinders
Keywords - Rectilinear, trapezium, compound, area, circumference, radius, diameter, arc, perpendicular, volume, surface area, prism, cubes, cuboids, cylinders, pi (π)							
Formative assessment	Pink Sheet Question x2 Perimeter, Area and Volume Topic Test						
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point						

Where will we use these ideas again?
Surface area of cylinders
Spheres, cones and frustrums

Sparx Codes

Circumference of circles – M169
Area of circles – M231
Area of trapeziums – M705
Area of compound shapes – M269
Perimeter of compound shapes – M690
Surface area of cubes and cuboids – M534
Surface area of prisms – M661

Volume of cubes and cuboids – M765

Volume of prisms – M722

Volume of cylinders – M697

Year 8 Maths Learning Journey:

Angle properties of parallel lines

Prior Learning: *What do you know already?*
Basic angle facts, Parallel lines, 4 operations

Learning Sequence					
Main Learning Steps	Formal Angle notation	Corresponding angles	Alternate angles	Co-interior angles	Mixed practice
Keywords - alternate angles, congruent (figures), corresponding angles, interior angle, supplementary angle, transversal					
Formative assessment	Pink Sheet Question x1 Geometrical Properties Topic Test				
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point				

Where will we use these ideas again?
Exterior and interior angles in polygons
Circle theorems

Sparx Codes

Types of angles – M502
Combining angle facts – M319
Angles on parallel lines – M606

Year 8 Maths Learning Journey:
Transformations

Prior Learning: *What do you know already?*
Identifying reflections and translations
Solving problems involving a scale factor
Coordinates

Learning Sequence					
Main Learning Steps	Understand and use translations	Understand and use rotations	Understand and use reflections	Understand and use enlargements	Mixed Transformations
Keywords *- Translate, vector, reflect, rotate, enlarge, direction, centre of enlargement, mirror line, scale factor, multiple, coordinates, origin, congruent, similar, turn, clockwise, anticlockwise, move, right, left, symmetry, centre of rotation, direction, displacement*					
Formative assessment	Pink Sheet Question x1 Transformation Topic Test				
Summative assessment	Cumulative Assessments 1 and 2 will test all topics taught up to that point				

Where will we use these ideas again?
Similarity, Congruence, graphs, negative enlargement

Sparx Codes

Translation – M139
Reflection – M290
Rotation – M910
Enlargement – M178
Mixed Transformations – M881