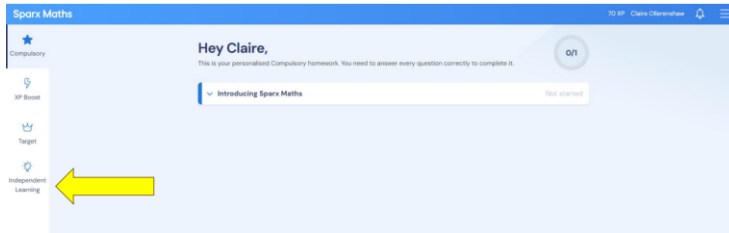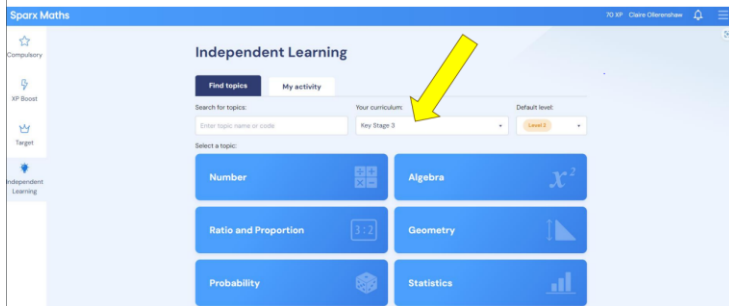# Y7 Knowledge Organisers

SPARX Independent Learning Instructions

1. Click on the Independent learning icon on the left-hand side of your screen.

2. Make sure 'Key Stage 3' is selected under 'Your curriculum'

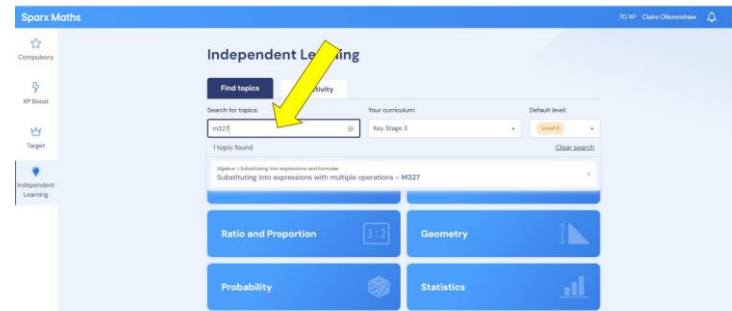3. Use your Knowledge Organiser to choose the topic that you want to revise:

4. Type the corresponding SPARX code into the 'search for topics' box

5. This will give you a set of questions to revise your chosen area of maths. The levels are of increasing difficulty.

Autumn Term

Enter these SPARX codes into the Independent Learning area on SPARX to generate questions to help you revise and consolidate your learning.
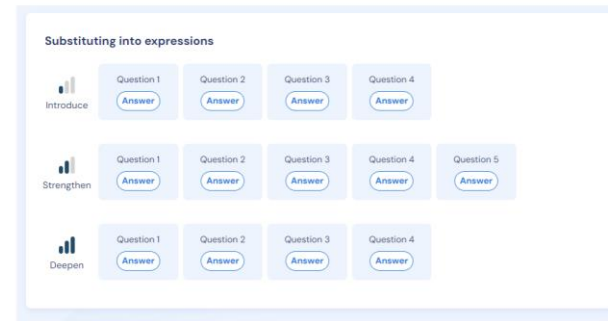
Autumn 1	SPARX CODE	Autumn 2	SPARX CODE
Number 1 (Place Value)		**Calculating 1 (Problem Solving with Multiplication & Division)**	
Read & write integers up to 1 billion	M704	Properties of multiplication & division	
Position numbers on a number line	M763	Factors & Multiples	M698 M227
Round to powers of 10 & compare integers	M111, M431	Multiplying by powers of 10	M113
Understand place value for decimals	M522	Converting metric units	M772, M761
Compare and order any number up to 1 billion		**(Higher)** Multiplying by 0.1 & 0.01	
Round to 1 sig fig	M994, M131	Formal Methods of multiplying integers	M187
Median & range	M934, N328	Formal methods of multiplying decimals	M803
(Higher) Standard Form	M719, M678	Formal methods for dividing integers	M354
Calculating 1 (Problem Solving with Addition & Subtraction)	**SPARX CODE**	Formal methods for dividing decimals	M262
Financial Maths problems	M901	Order of operations (BIDMAS)	M521
Tables & Timetables	M963 M747	Calculating the mean	M940
Bar charts and line graphs	M738 M460 M140	**Sequences 1**	
Frequency Trees		Sequences with patterns	M241 M418 M866 M991
		Linear & non-linear sequences	
		Missing terms in a sequence	
		Algebra 1 (Equality & Equivalence)	
		Understand equality & equivalence	
		Fact Families	
		One step equations (+ & -)	M707, M509
		One step equations (x & ÷)	
		Like and unlike terms	
		Collecting like terms	M795, M531, M949

Autumn Term

Enter these SPARX codes into the Independent Learning area on SPARX to generate questions to help you revise and consolidate your learning.

Autumn 1	SPARX CODE	Autumn 2	SPARX CODE
Sequences 1		**Number 1 (Place Value)**	
Sequences with patterns	M241 M418 M866 M991	Read & write integers up to 1 billion	M704
Linear & non-linear sequences		Position numbers on a number line	M763
Missing terms in a sequence		Round to powers of 10 & compare integers	M111, M431
Algebra 1 (Algebraic Notation)		Understand place value for decimals	M522
diagrams and Letters with Single Function Machines	M428	Compare and order any number up to 1 billion	
Find the input when given the output	M175	Round to 1 sig fig	M994, M131
Use letters to generalise numbers	M813, M830	Median & range	M934, N328
Single function machines with algebra		(Higher) Standard Form	M719, M678
Find functions from expressions		**FDP 1 (Fractions, decimals & percentage equivalence)**	
To substitute into an expression	M417	Convert between fractions & decimals (5ths & ¼)	M958
2-step function machines with algebraic expressions	M327	Convert between fractions & decimals (1/8 & 1/1000)	
Find the operation that forms an expression		Convert fluently between FDP	
More complex substitution	M208, M979	To understand percentages	M437
(Higher) Generate a sequence from a rule	M116 M991	Equivalent Fractions	M410
(Higher) Recognise linear & non-linear graphs		Use & interpret a pie chart	M165
Algebra 1 (Equality & Equivalence)		(Higher) Explore fractions >1	M601
Understand equality & equivalence			
Fact Families			
One step equations (+ & -)	M707, M509		
One step equations (x & ÷)			
Like and unlike terms			
Collecting like terms	M795, M531, M949		

Spring Term

Enter these SPARX codes into the Independent Learning area on SPARX to generate questions to help you revise and consolidate your learning.

Calculating 1 (Problem Solving with Addition & Subtraction)	SPARX CODE	Calculating 1 (Problem Solving with Multiplication & Division) continued	SPARX CODE
Financial Maths problems	M901	Area of shapes	M610, M291
Tables & Timetables	M963 M747	(Higher) Area of a trapezium	M705
Bar charts and line graphs	M738 M460 M140	Multiplying and dividing algebraic expressions.	
Frequency Trees		FDP2 (Fractions & Percentages of an amount)	
Calculating 1 (Problem Solving with Multiplication & Division)		Find a fraction of an amount	M695
Properties of multiplication & division		Find a percentage of an amount - mental methods	M437
Factors & Multiples	M698 M227	Percentage of an amount - calculator methods	M905
Multiplying by powers of 10	M113	(Higher) To solve problems with fractions greater than 1 and percentages greater than 100%.	
Converting metric units	M772, M761	Number 2 (Negative Numbers)	
(Higher) Multiplying by 0.1 & 0.01		Understand and use representations of negative numbers.	
Formal Methods of multiplying integers	M187	Ordering negative numbers	M527
Formal methods of multiplying decimals	M803	Adding directed numbers	M106
Formal methods for dividing integers	M354	Subtracting negative numbers	M106
Formal methods for dividing decimals	M262		
Order of operations (BIDMAS)	M521		
Calculating the mean	M940		

Summer Term

Enter these SPARX codes into the Independent Learning area on SPARX to generate questions to help you revise and consolidate your learning.

Number 2 (Negative Numbers) continued from Spring Term	SPARX CODE	Geometry 1 (Constructing, measuring & using geometric notation) continued	SPARX CODE
Adding & subtracting negative numbers	M106	Construct triangles using SSS, SAS and ASA	M565
Multiplying negative numbers	M288	Interpret pie charts	M165
Dividing negative umbers	M288	**Geometry 2** (Geometric Reasoning)	
Using a calculator for directed number calculations.		Angles around a point and on a straight line	M818
FDP 3 (Adding & Subtracting Fractions)		Vertically opposite angles	M163
Equivalent fractions	M410	Angles in quadrilaterals	M393
Add fractions with different denominators	M835	Complex angles and angles in polygons	M319
Subtract fractions with different denominators	M835	Angles in parallel lines	M606
Fractions in algebraic contexts	M336	**Probability 1** (Sets & Probability)	
Compare fractions	M335	Identify & represent sets	M834
Geometry 1 (Constructing, measuring & using geometric notation)		Interpret and create Venn diagrams	M829
Conventional notation		Venns – intersections, unions & compliments	
Measure & draw angles	M780 M331	Single events	M941, M938
Perpendicular & parallel lines & types of quadrilateral	M814	The probability scale	
Construct triangles using SSS	M565	Sum of probabilities of all possible outcomes	