Liskeard School & Community College
achieving more together

courage resilience kindness

MATHEMATICS

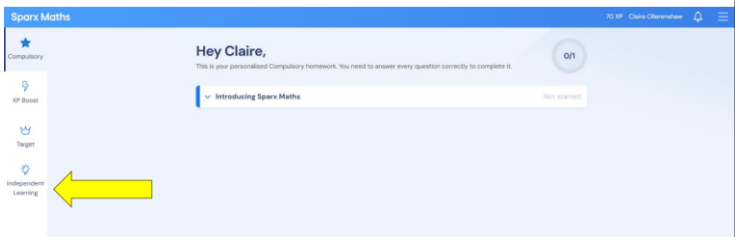
Y7 Knowledge Organisers

#TeamMaths

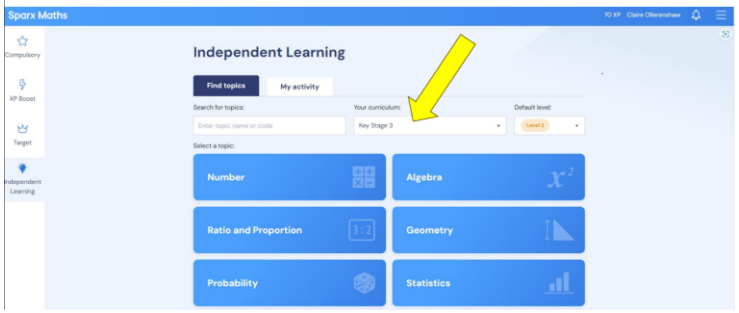
Where every lesson counts.

SPARX Independent Learning Instructions

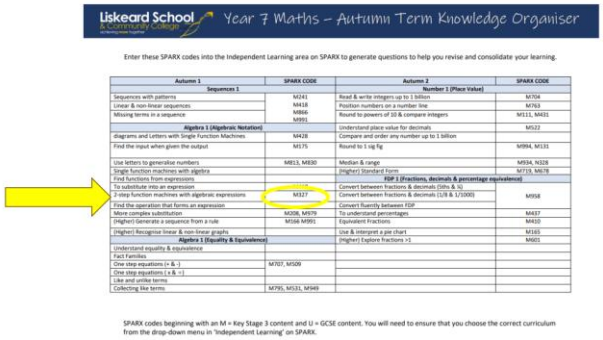
1. Click on the Independent learning icon on the left-hand side of your screen.



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:

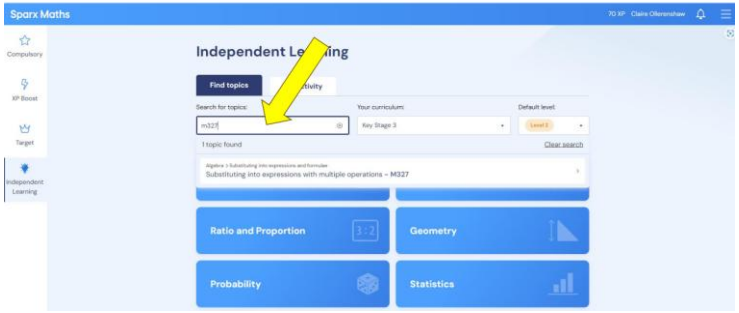

Liskeard School & Community College — Year 7 Maths – Autumn Term Knowledge Organiser

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

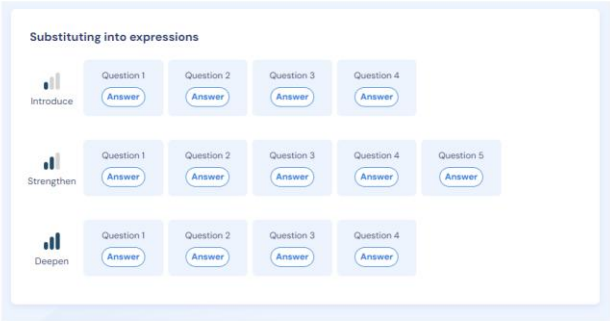
Autumn 1	SPARX CODE	Autumn 2	SPARX CODE
Sequences 1		**Number 1 (Place Value)**	
Sequences with patterns	M241	Read & write integers up to 1 billion	M704
Linear & non-linear sequences	M418	Position numbers on a number line	M763
Missing terms in a sequence	M866 M991	Round to powers of 10 & compare integers	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, ME830	Median & range	M934, N328
Single function machines with algebra		(Higher) Standard Form	M773, M678
Find functions from expressions		**FDP 1 (Fractions, decimals & percentage equivalence)**	
To substitute into an expression	M327	Convert between fractions & decimals (5ths & ½)	M958
2-step function machines with algebraic expressions		Convert between fractions & decimals (1/8 & 1/1000)	
Find the operation that forms an expression		Convert fluently between FDP	
More complex substitution	M308, M979	To understand percentages	M437
(Higher) Generate a sequence from a rule	M166 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		

SPARX codes beginning with an M = Key Stage 3 content and U = GCSE content. You will need to ensure that you choose the correct curriculum from the drop-down menu in 'Independent Learning' on SPARX.

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)	
Position numbers on a number line	M763	Area of triangles	M610
Round to powers of 10	M111	Area of trapezium (E)	M705
Compare integers	M431	Estimation calculations	M878
Understand place value for decimals	M522	Unit conversion	M772, M530, M465
Compare and order any number up to 1 billion	M704	Multiplication in standard form (E)	M719, M678
Rounding to decimal places		**Sequences 1**	
Round to 1 significant figure	M994, M131	Sequences with patterns	M241
Standard Form	M719, M678	Linear & non-linear sequences	M418
Calculating 1 (Problem Solving with Addition & Subtraction)		Missing terms in a sequence	M866
Financial Maths problems	M901	Introduction to nth term	M991 M166 M381
Tables & Timetables	M963, M747	**Algebra 1 (Algebraic Notation)**	
Frequency Trees	M899	Diagrams and Letters with Single Function Machines	M175, M428
Perimeter	M635, M690	Find the input when given the output	M175
Addition of standard form	M719, M678	Use letters to generalise numbers	M813, M830
Calculating 1 (Problem Solving with Multiplication & Division)		Single function machines with algebra	M428
Formal methods of multiplication and division	M187, M803, M354, M262	Find functions from expressions	M428
Factors & Multiples	M698, M227	To substitute into an expression	M417, M208, M979
Formal methods of multiplication		2-step function machines with algebraic expressions	M327
Multiplying by 0.1 & 0.01	M113	Find the operation that forms an expression	M428
Multiplying decimals		Generate a sequence from a rule	M116, M991
Dividing by integers and decimals	M521	Recognise linear & non-linear graphs	M418
Order of operations (BIDMAS)	M521	Multiplication with algebra (E)	M237, M792
Area of rectangles and parallelograms	M291	Algebraic Sequences (E)	M428

Spring Term

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

Spring 1	SPARX CODE	Spring 2	SPARX CODE
Algebra 1 (Equality & Equivalence)		**FDP2** (Fractions & Percentages of an amount)	
One step equations (+ & -)	M707, M509	Find a fraction of an amount	M695
One step equations (x & ÷)		Find a percentage of an amount – Non-Calculator	M437
Like and unlike terms	M795	Percentage of an amount - Calculator	M905
Collecting like terms	M795, M531, M949	Reverse fraction of an amount	M684
Shape and algebra	M635	Percentage increase and decrease	M533, M476
Two step equations	M509	Repeated percentage change (E)	M533
Simplifying complex expression (E)	M949, M120	**Number 2 (Negative Numbers)**	
Forming and solving equations (E)	M957	Ordering and comparing negative numbers	M527
FDP 1 (Fractions, decimals & percentage equivalence)		Adding directed numbers	M106
Ordering fractions	M335	Subtracting negative numbers	M106
Convert fluently between FDP	M958, M264	Multiplying negative numbers	M288
Convert between mixed numbers and improper	M601	Dividing negative umbers	M288
To understand percentages	M437	Using a calculator for directed number calculations.	
Equivalent Fractions	M410	Negative numbers with algebra	M795, M327
Write one number as % of another	M235	Negative numbers and solving equations (E)	M855
Recurring decimals (E)	M922, M701	Expanding brackets involving negatives (E)	M792
		FDP 3 (Adding & Subtracting Fractions)	
		Compare fractions	M335
		Add and subtract fractions with different denominators	M835
		Add and subtract mixed numbers	M835
		Algebraic fractions (E)	M336

Summer Term

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

Summer 1	SPARX CODE	Summer 2	SPARX CODE
Geometry 1 (Constructing, measuring & using geometric notation)		**Probability 1 (Sets & Probability)**	
Conventional notation	M276	Using probability phrases	M655
Measure & draw angles	M780 M331	Writing probabilities as fractions	M941
Perpendicular & parallel lines & types of quadrilateral	M814	Writing probabilities as fractions, decimals and percentages	M938
Construct triangles using SSS	M565	Probabilities of mutually exclusive events	M755
Construct triangles using SSS, SAS and ASA	M565	Sample space diagrams	M718
Geometry 2 (Geometric Reasoning)		Systematic listing	M206
Angles around a point and on a straight line	M818	**Statistics 1 (Averages and pie charts)**	
Vertically opposite angles	M163	Calculating the median	M934
Angles in a triangle	M351	Calculating the mean	M940
Angles in quadrilaterals	M393	Calculating the mode	M841
Interior angles	M653	Calculating the range	M328
Exterior angles	M653	Interpreting pie charts	M165
Complex angles and angles in polygons (E)	M319, M393	**Number 3 (Prime numbers and proof)**	
Angles in parallel lines	M606	Find and use multiples	M108, M227
		Identify factors	M108, M227
		Identify prime numbers	M322
		Recognise square and triangular numbers	M981, M135
		Finding highest common factor	M698
		Finding lowest common multiples	M227
		Write as a product of primes	M108
		Use Venn diagrams to find HCF and LCM (E)	M365