Liskeard School
& Community College
achieving **more** together

courage resilience kindness
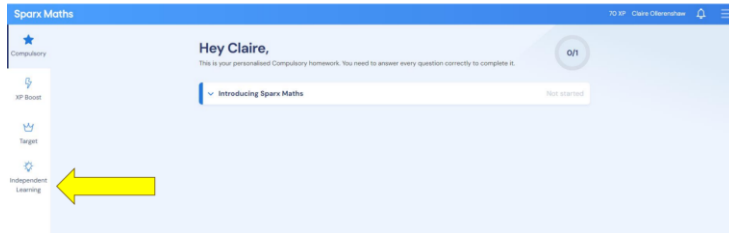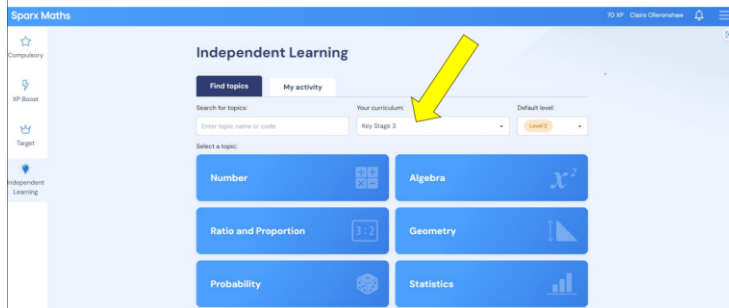
Y8 Knowledge Organisers

#TeamMaths

Where **every** lesson counts.

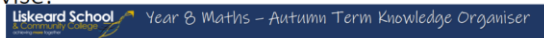# SPARX Independent Learning Instructions

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

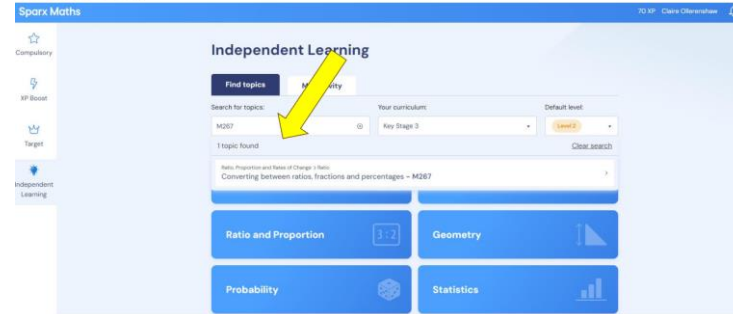2. Make sure 'Key Stage 3' is selected under 'Your curriculum'

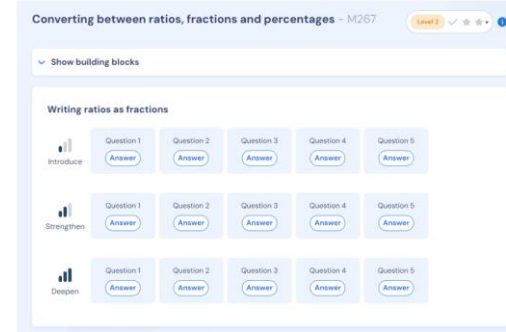3. Use your Knowledge Organiser to choose the topic that you want to revise:

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.

When will you sit a test?

w/c 13th Nov	Multiplicative Change Topic Test (30 mins)
w/c 4th Dec	Multiplying & Dividing Fractions Topic Test (30 mins)
w/c 1st Jan	Year 8 End of Term Test (60mins)
w/c 15th Jan	Cartesian Plan Topic Test (30 mins)
w/c 5th Feb	Tables & Probability Topic Test (30 mins)
w/c 4th Mar	Brackets, Equations & Inequality Topic Test (30 mins)
w/c 15th April	Indices Topic Test (30 mins)
w/c 22nd April	Fraction & Percentages Topic Test (30 mins)
w/c 13th May	Year 8 End of Term Test (60mins)
w/c 17th June	Parallel Lines Topic Test (30 mins)

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
Ratio 1 (Ratio & Scale)		**FDP 4 (Multiplying & dividing fractions) continued**	
Use Ratio Notation	M885	Dividing an integer by a fraction	M110
To solve problems involving ratio in form 1:n and n:1	M543	Reciprocals	
To solve problems involving ratio in form m:n		Dividing any pairs of fractions	M265
To divide an amount into a given ratio	M525	(H) Multiplying mixed and improper fractions	M197
Simplifying a ratio		(H) Multiplying & dividing algebraic fractions	U457
(H) Write a ratio in the form 1:n		**Graphs 1 (Working in the Cartesian Plane)**	
To compare ratios and fractions	M267	Coordinates in all 4 quadrants	M618
Understand pi as a ratio (circumference of a circle)	M169	Identify & draw vertical and horizontal lines	M797
(H) Gradient as a ratio		$y=x$	
Ratio 2 (Multiplicative Change)		$y=kx$	
Solve problems involving direct proportion (scaling recipes)	M478	Explore gradient of $y=kx$	
Conversion Graphs	M771	Link $y=kx$ to direct proportion	
Currency conversions		$y=x+c$	M932
Explore direct proportion (graphs & tables)		Explore graphs with negative gradients	M888
Similar Shapes and Scale Factors	M377	Link graphs to linear sequences	
Scale factors as multipliers	M324	**Statistics 1 (Representing Data)**	
Scale Diagrams	M112	Scatter Graphs	M596, M769
Interpret Maps		Identify non-linear relationships	
Area and Volume Scale Fcators	U110		
FDP 4 (Multiplying & dividing fractions)		Types of data	
Representing multiplication of fractions		Ungrouped Frequency tables	M945, M899
Mixed & Improper fractions	M601	Grouped Frequency Tables	M441
Multiplying fractions	M157	Two-way tables	

Spring Term

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

Probability 2 (Negative Numbers) continued from Spring Term	SPARX CODE	Calculating 2 (Indices)	SPARX CODE
Sample space diagrams	M718	Operations with expressions with indices (no laws)	M608
Probabilities from two-way tables		Addition law	M120
Probability from Venn diagrams	M419	Subtraction Law	
(H) Product rule for counting	U369	(H) Exploring powers of powers	
Algebra 2 (Brackets, Equations & Inequalities)		**FDP 5** (Fractions & Percentages)	
Algebraic expressions	M531 M795	Convert fluently between fractions and decimals	M958
Using directed number with algebra		Calculate FDP of an amount without a calculator	M437 M695
Multiplying out a single bracket	M237 M792	Calculate FDP of an amount with a calculator	M905 M684
Factorising into a single bracket	M100	Fractions of an amount	
(H) Expand a pair of binomials	M960	% increase & decrease (non calc)	M478
Solving equation with brackets	M509	Convert between FDP including >100%	M264
Solving linear inequalities	M118	% increase & decrease using multipliers	M533
(H) Solving equations and inequalities with unknowns on both sides	M732	Express one number as a fraction or % of another (non-calc)	M235
(H) Expression, equation, identity?		Express one number as a fraction or % of another (calc)	
Sequences 2		% change	
Generate a sequence from a given rule	M241	(H) Reverse percentages	U286
Generate a sequence from an algebraic rule	M166		
Generate a sequence from a complex algebraic rule	M418		
nth term (linear sequence)	M991		
nth term (simple quadratic sequence)	M418, M241, M866		

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 3 (Standard Form)	SPARX CODE	Shape 1 (Area of trapezia & circles) continued	SPARX CODE
Powers of 10 and number greater than 10		Perimeter and area of compound shapes	M269 M996
Negative powers of 10 & numbers between 0 & 1		Area of a circle (in terms of pi)	
Compare numbers written in standard form	M719	Area of a circle (calculator)	M231
Mental calculations with numbers in standard form.		Area of parts of a circle.	M430
Operations with standard form	**U290 U264**	(Higher) Area & perimeter of compound shapes involving circles	
Using a calculator to work with numbers in standard form		**Statistics 2 (Measures of location**	
(H) Negative indices	M678 U534	Mean, median & mode	M940 M934 M841
Geometry 3 (Angles in parallel lines & polygons)		Choose the most appropriate average	
Angles in parallel lines – transversal, vertically opposite, alternate, co-interior & corresponding.	M606	Mean from ungrouped frequency tables	M127
Properties of special quadrilaterals	M393	Mean from grouped frequency tables	M287
Interior & Exterior angles	M653 U427	Identify outliers & compare distributions	
Shape 1 (Area of trapezia & circles)		**Geometry 4 (Line symmetry & reflection)**	
Areas of rectangles, triangles, parallelograms (Y7 recap)	Q 170 M610 M291	Line symmetry	M523
Area of a trapezium	M705	Reflect a shape in vertical & horizontal lines	
		Reflect a shape in a diagonal line	