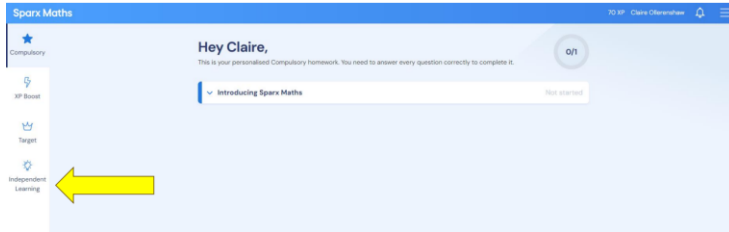


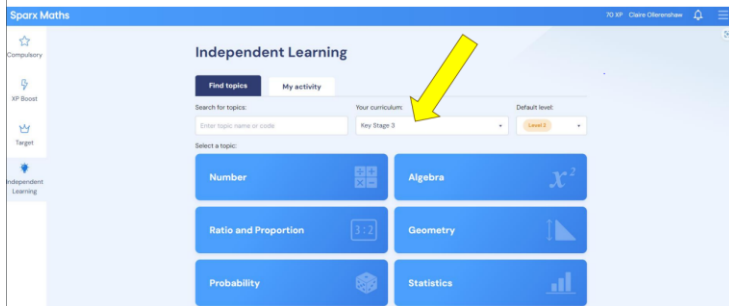
Y8 Knowledge Organisers

SPARX Independent Learning Instructions

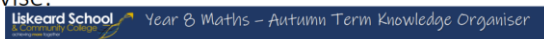
1. Click on the Independent learning icon on the left-hand side of your screen.



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



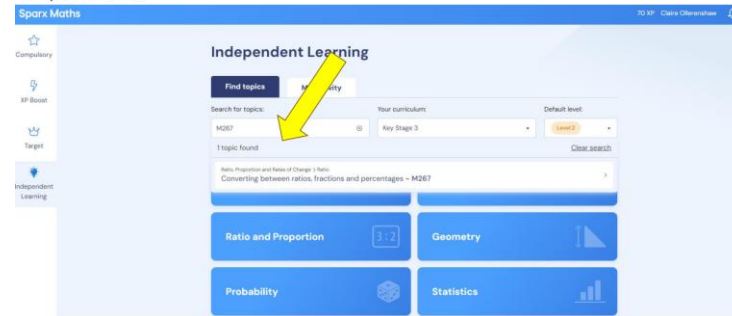
3. Use your Knowledge Organiser to choose the topic that you want to revise:



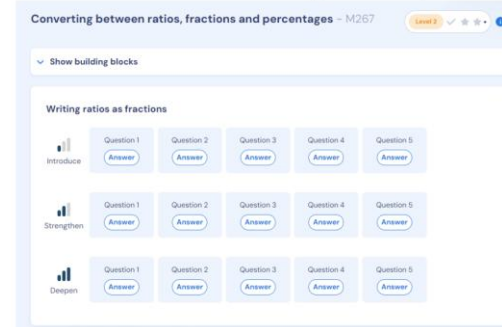
Enter these SPARX codes into the Independent Learning area on SPARX to generate questions to help you revise and consolidate your learning.

Autumn 1	SPARX CODE	Autumn 2	SPARX CODE
Ratio 1 (Ratio & Scale)		FSP 4 (Multiplying & dividing fractions) continued	
To solve problems involving ratio in form a:b and c:d	M885	Dividing an integer by a fraction	M110
To solve problems involving ratio in form 1:n and 1:1	M543	Multiples	
To solve problems involving ratio in form a:b		Dividing any pair of fractions	M265
To divide an amount into a given ratio	M625	(M) Multiplying mixed and improper fractions	M197
Swapping ratios		(M) Multiplying & dividing algebraic fractions	M437
(M) Write a ratio in the form 1:n		Graphs 1 (Plotting in the Cartesian Plane)	
To compare ratios and fractions	M267	Coordinates to all 4 quadrants	M618
Equivalent or an exact representation of a fraction		Identify & draw vertical and horizontal lines	M787
(M) Gradient as a ratio	M269	2:n	
Ratio 2 (Multiplicative Change)			
Solve problems involving direct proportion involving money	M478	Higher gradient of a line	
Constructive Graphs	M771	Link 2:ks to direct proportion	
Currency conversion		2:n	M912
Explain direct proportion: graphs & tables		Explain graphs with negative gradients	M888
Similar Solids and Similar Figures	M837	Link graphs to linear responses	
Scale factors on multiplication	M124	Statistics 1 (Representing Data)	
Scale Diagrams	M112	Scatter Graphs	M709, M709
Intercept Maps		Identify non-linear relationships	
FSP 4 (Multiplying & dividing fractions)			
Representing multiplication of fractions		Engaged Frequency tables	M748, M899
Mixed & Improper fractions	M602	Grouped Frequency Tables	M441
Multiplying fractions	M157	Two-way tables	

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
Ratio 1 (Ratio & Scale)		FDP 4 (Multiplying & dividing fractions) continued	
Use Ratio Notation	M885	Reciprocals	
To solve problems involving ratio in form 1:n and n:1	M543	Dividing any pairs of fractions	M265
To solve problems involving ratio in form m:n		Multiplying mixed and improper fractions	M197
To divide an amount into a given ratio	M525	Multiplying algebraic fractions	U457
Simplifying a ratio		Dividing algebraic fractions (E)	U457
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
Equivalent Ratios	M801	Identify & draw vertical and horizontal lines	M797
Ratio 2 (Multiplicative Change)		Completing a table of values	M932
Solve problems involving direct proportion (scaling recipes)	M478	Recognise $y = x$ and plot graphs in the form $y = mx$	
Conversion Graphs	M771	Plot graphs in the form $y = mx + c$ & identify the y –intercept	
Currency conversions		Gradients of straight lines	M544
Explore direct proportion (graphs & tables)		Mid-point of a line segment	M622
Similar Shapes and Scale Factors	M377	Statistics 1 (Representing Data)	
Scale factors as multipliers	M324	Types of data	
Convert between metric units	M772, M728, M465, M761, M774	Averages & range	M940, M934, , M841, M328
Scale Diagrams	M112	Scatter Graphs	M596, M769
Interpret Maps (E)		Ungrouped Frequency tables including finding averages	M945, M899
FDP 4 (Multiplying & dividing fractions)		Grouped Frequency Tables – reading & representing data	M441
Mixed & Improper fractions	M601	Grouped Frequency Tables – finding the mean (E)	U569
Multiplying fractions	M157		
Dividing an integer by a fraction	M110		

An (E) after a topic = extension topic

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	SPARX CODE	Sequences 2	SPARX CODE
Probabilities from two-way tables	M899	Generate a sequence from a given rule	M241
Probabilities from frequency trees	U280	Generate a sequence from an algebraic rule	M166
Venn diagrams	M829	Generate a sequence from a complex algebraic rule	M418
Probabilities from Venn diagrams	M419	nth term (linear sequence)	M991
Algebra 2 (Brackets, Equations & Inequalities)		nth term (simple quadratic sequence)	M418, M241, M866
Algebraic expressions	M531 M795	FDP 5 (Fractions & Percentages)	
Using directed number with algebra		Convert fluently between fractions and decimals	M958
Multiplying out a single bracket	M237 M792	Calculate FDP of an amount without a calculator	M437 M695
Factorising into a single bracket	M100	Calculate FDP of an amount with a calculator	M905 M684
Expand a pair of binomials	M960	Fractions of an amount	
Solving equation with brackets	M509	% increase & decrease (non calc)	M478
Solving linear inequalities	M118	Convert between FDP including >100%	M264
Solving equations and inequalities with unknowns on both sides	M732	% increase & decrease using multipliers	M533
Expression, equation, identity?		Express one number as a fraction or % of another (non-calc)	M235
Calculating 2 (Indices)		Express one number as a fraction or % of another (calc)	
Operations with expressions with indices (no laws)	M608	% change	
Addition law	M120	Reverse percentages	U286
Subtraction Law			
Exploring powers of powers			
Simplifying expressions by using multiple laws of indices			

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 4 (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	Area & perimeter of compound shapes involving circles	
Using a calculator to work with numbers in standard form		Statistics 2 (Measures of location)	
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	