

Topic	Video	Mathswatch
Autumn block 1 - Ratio and scale		
Understand the meaning and representation of ratio	https://vimeo.com/453610283	R1a, R1b
Understand and use ratio notation	https://vimeo.com/453610228	
Solve problems involving ratios of the form 1 : n (or n : 1)	https://vimeo.com/453633519	R5a
Solve problems involving ratios of the form m : n	https://vimeo.com/453645120	
Divide in a given ratio	https://vimeo.com/453671240	R5b
Express ratios in their simplest integer form	https://vimeo.com/454834177	
Express ratios in the form 1 : n (H)	https://vimeo.com/454834298	
Compare ratios and fractions	https://vimeo.com/454834531	
Understand pi as a ratio	https://vimeo.com/454834903	
Understand gradient as a ratio (H)	https://vimeo.com/454835354	
Autumn block 2 - Multiplicative change		
Solve problems involving direct proportion	https://vimeo.com/458054339	R8
Explore conversion graphs	https://vimeo.com/458054065	R2
Convert between currencies	https://vimeo.com/458054175	
Explore direct proportion graphs (H)	https://vimeo.com/458149641	
Explore relationships between similar shapes	https://vimeo.com/458149776	R10
Understand scale factors as multiplicative representations	https://vimeo.com/458149966	
Draw and interpret scale diagrams	https://vimeo.com/458150122	G15
Interpret maps using scale factors and ratios	https://vimeo.com/458150274	R6
Autumn block 3 - Multiplying and dividing fractions		
Represent multiplication of fractions	https://vimeo.com/463365480	N23a
Multiply a fraction by an integer	https://vimeo.com/463365541	N37a
Find the product of a pair of unit fractions	https://vimeo.com/463366488	N42a
Find the product of a pair of any fractions	https://vimeo.com/463839832	
Divide an integer by a fraction	https://vimeo.com/463366603	N37b
Divide a fraction by a unit fraction	https://vimeo.com/463366867	N42b
Understand and use the reciprocal	https://vimeo.com/464964360	
Divide any pair of fractions	https://vimeo.com/464964461	N42b
Multiply and divide improper and mixed fractions	https://vimeo.com/464973925	N35
Multiply and divide algebraic fractions	https://vimeo.com/464981110	210a
Autumn block 4 - Working in the Cartesian Plane		
Work with coordinates in all four quadrants	https://vimeo.com/468128782	8

Identify and draw lines that are parallel to the axes	https://vimeo.com/468128960	A14a, A14b, A14c
Recognise and use the line $y=x$	https://vimeo.com/468129042	
Recognise and use lines of the form $y=kx$	https://vimeo.com/468129177	
Link $y=kx$ to direct proportion problems	https://vimeo.com/468129392	
Explore the gradient of the line $y=kx$ (H)	https://vimeo.com/468129575	
Recognise and use lines of the form $y=x+a$	https://vimeo.com/471425142	
Explore graphs with negative gradient ($y=-kx$, $y=a-x$, $x+y=a$)	https://vimeo.com/471425256	
Link graphs to linear sequences	https://vimeo.com/474984117	
Plot graphs of the form $y=mx+c$	https://vimeo.com/474984412	
Explore non-linear graphs (H)	https://vimeo.com/474984655	A21b
Find the midpoint of a line segment (H)	https://vimeo.com/475137972	
Autumn block 5 - Representing data		
Draw and interpret scatter graphs	https://vimeo.com/477518878	S8
Understand and describe linear correlation	https://vimeo.com/477519085	
Draw and use line of best fit	https://vimeo.com/477519379	
Identify non-linear relationships	https://vimeo.com/477519564	
Identify different types of data	https://vimeo.com/478901964	63
Read and interpret ungrouped frequency tables	https://vimeo.com/481135393	65a
Read and interpret grouped frequency tables	https://vimeo.com/481135393	
Represent grouped discrete data	https://vimeo.com/481136452	
Represent continuous data grouped into equal classes	https://vimeo.com/481136693	
Construct and interpret two-way tables	https://vimeo.com/481137122	61
Autumn Block 6 - Probability		
Construct sample spaces for one or more events	https://vimeo.com/483973328	126
Find probabilities from a sample space	https://vimeo.com/483973160	59
Find probabilities from two-way tables	https://vimeo.com/483973037	61
Find probabilities from Venn diagrams	https://vimeo.com/483972889	185
Use the product rule for finding the total number of possible outcomes	https://vimeo.com/484074608	204
Spring Block 1 - Brackets, Equations & Inequalities		
Form algebraic expressions	https://vimeo.com/490422623	137
Use directed number with algebra	https://vimeo.com/490423664	
Multiply out a single bracket	https://vimeo.com/490424538	134a
Factorise into a single bracket	https://vimeo.com/490897953	94
Expand multiple single brackets and simplify	https://vimeo.com/490661257	194a
Expand a pair of binomials (H)	https://vimeo.com/491562906	134a
Solve equations, including with brackets	https://vimeo.com/491562951	135a
Form and solve equations with brackets	https://vimeo.com/491562998	

Understand and solve simple inequalities	https://vimeo.com/492153004	139
Form and solve inequalities	https://vimeo.com/492153577	
Solve equations and inequalities with unknowns on both sides (H)	https://vimeo.com/492154163	A19b
Form and solve equations and inequalities with unknowns on both sides (H)	https://vimeo.com/492154511	
Identify and use formulae, expressions, identities and equations	https://vimeo.com/492155091	
Spring Block 2 - Sequences		
Generate sequences given a rule in words	https://vimeo.com/498289737	37
Generate sequences given a simple algebraic rule	https://vimeo.com/498290425	102
Generate sequences given a complex algebraic rule	https://vimeo.com/498290804	A23b
Find the rule for the nth term of a linear sequence (H)	https://vimeo.com/498291004	A11c
Spring Block 3 - Indices		
Adding and subtracting expressions with indices	https://vimeo.com/501778472	29
Simplifying algebraic expressions by multiplying indices	https://vimeo.com/501778353	82
Simplifying algebraic expressions by dividing indices	https://vimeo.com/501779522	
Using the addition law for indices	https://vimeo.com/501780698	
Using the addition and subtraction law for indices	https://vimeo.com/501780643	
Exploring powers of powers (H)	https://vimeo.com/501781128	
Spring Block 4 - Fractions & Percentages		
Convert fluently between key fractions decimals and percentages	https://vimeo.com/507639337	85
Calculate key fractions, decimals and percentages of an amount without a calculator	https://vimeo.com/507639642	
Calculate fractions, decimals and percentages of an amount using calculator methods	https://vimeo.com/507639950	
Convert between decimals and percentages greater than 100%	https://vimeo.com/507640347	
Percentage decrease with a multiplier	https://vimeo.com/507640664	108
Calculate percentage increase and decrease using a multiplier	https://vimeo.com/510326002	
Express one number as a fraction or a percentage of another without a calculator	https://vimeo.com/510326932	R3
Express one number as a fraction or a percentage of another using calculator methods	https://vimeo.com/510327233	

Work with percentage change	https://vimeo.com/510327544	N39a
Choose appropriate methods to solve percentage problems	https://vimeo.com/510621914	
Find the original amount given the percentage less than 100% (H)	https://vimeo.com/515880990	110
Find the original amount given the percentage greater than 100% (H)	https://vimeo.com/515881324	
Choose appropriate methods to solve complex percentage problems (H)	https://vimeo.com/515881707	
Spring Block 5 - Standard Form		
Investigate positive powers of 10	https://vimeo.com/519965759	30
Work with numbers greater than 1 in standard form	https://vimeo.com/519966217	83
Investigate negative powers of 10	https://vimeo.com/519966730	
Work with numbers between 0 and 1 in standard form	https://vimeo.com/519967116	
Compare and order numbers in standard form	https://vimeo.com/519967527	
Mentally calculate with numbers in standard form	https://vimeo.com/522025161	
Add and subtract numbers in standard form	https://vimeo.com/522025887	
Multiply and divide numbers in standard form	https://vimeo.com/522283227	
Use a calculator to work with numbers in standard form	https://vimeo.com/522283885	
Understand and use negative indices (H)	https://vimeo.com/522284282	
Understand and use fractional indices (H)	https://vimeo.com/522284663	
Spring Block 6 - Number Sense		
Round numbers to powers of 10 and 1 significant figure	https://vimeo.com/525457532	90
Round numbers to a given number of decimal places	https://vimeo.com/525458249	32
Estimate the answer to a calculation	https://vimeo.com/525460054	91
Understand and use error interval notation (H)	https://vimeo.com/524324201	155
Calculate using the order of operations	https://vimeo.com/525458276	75
Calculate with money	https://vimeo.com/524325016	22a, 22b
Convert metric measures of lengths	https://vimeo.com/524393853	112
Convert metric units of weight and capacity	https://vimeo.com/526174322	
Convert metric units of area (H)	https://vimeo.com/526174362	
Convert metric units of volume (H)	https://vimeo.com/526296594	
Solve problems involving time and the calendar	https://vimeo.com/528338296	6a
Summer Block 1 - Angles in parallel lines and polygons		

Understand and use basic angle rules and notation	https://vimeo.com/530748724	13
Investigate angles between parallel lines and the transversal	https://vimeo.com/530748760	120
Identify and calculate with alternate and corresponding angles	https://vimeo.com/531647165	
Identify and calculate with co-interior, alternate and corresponding angles	https://vimeo.com/531647165	
Solve complex problems with parallel line angles	https://vimeo.com/531647240	
Constructions triangles and special quadrilaterals	https://vimeo.com/531291246	145a, 145b
Investigate the properties of special quadrilaterals	https://vimeo.com/531294439	G14
Identify and calculate with sides and angles in special quadrilaterals	https://vimeo.com/531296573	
Understand and use the properties of diagonals of quadrilaterals	https://vimeo.com/531295900	
Understand and use the sum of exterior angles of any polygon	https://vimeo.com/531296980	G11, G19
Calculate and use the sum of the interior angles in any polygon	https://vimeo.com/536825395	
Calculate missing interior angles in regular polygons	https://vimeo.com/536826143	
Prove simple geometric facts (H)	https://vimeo.com/536826731	G26a, G26b, G26c
Construct an angle bisector (H)	https://vimeo.com/536853358	
Construct a perpendicular bisector of a line segment (H)	https://vimeo.com/536855420	
Summer Block 2 - Area of Trapezia & Circles		
Calculate the area of triangles, rectangles and parallelograms	https://vimeo.com/540095384	G20c, G20a, G20B
Calculate the area of a trapezium	https://vimeo.com/540095428	G20d
Calculate the perimeter and area of compound shapes (1)	https://vimeo.com/540095476	G24
Investigate the area of a circle	https://vimeo.com/545156111	G22b
Calculate the area of a circle and parts of a circle without a calculator	https://vimeo.com/542650167	
Calculate the area of a circle and parts of a circle with a calculator	https://vimeo.com/543624911	
Calculate the perimeter and area of compound shapes (2)	https://vimeo.com/546448924	
Summer Block 3 - Line Symmetry & Reflection		
Recognise line symmetry	https://vimeo.com/548944326	G3
Reflect a shape in a horizontal or vertical line 1 (shapes touching the line)	https://vimeo.com/548755270	G4a
Reflect a shape in a horizontal or vertical line 2 (shapes not touching the line)	https://vimeo.com/552292616	

Reflect a shape in a diagonal line 1 (shapes touching the line)	https://vimeo.com/548958070	G4b
Reflect a shape in a diagonal line 2 (shapes not touching the line)	https://vimeo.com/548962217	
Summer Block 4 - The Data Handling Cycle		
Set up a statistical enquiry	https://vimeo.com/552331230	
Design and criticise questionnaires	https://vimeo.com/552331674	
Draw and interpret pictograms, bar charts and vertical line charts	https://vimeo.com/552332123	S1a, s1b
Draw and interpret multiple bar charts	https://vimeo.com/552332562	S2a, S2b
Draw and interpret pie charts	https://vimeo.com/552333174	S9
Draw and interpret line graphs	https://vimeo.com/553266076	
Choose the most appropriate diagram for given set of data	https://vimeo.com/556191226	S4
Represent and interpret grouped quantitative data	https://vimeo.com/556202159	
Find and interpret the range	https://vimeo.com/556196031	S6
Compare distributions using charts	https://vimeo.com/556196147	
Identify misleading graphs	https://vimeo.com/556198321	
Summer Block 5 - Measures of location		
Understand and use the mean, median and mode	https://vimeo.com/561753012	S6
Choose the most appropriate average	https://vimeo.com/561753918	
Find the mean from an ungrouped frequency table (H)	https://vimeo.com/561754723	S10a
Find the mean from a grouped frequency table (H)	https://vimeo.com/561755034	S10b
Identify outliers	https://vimeo.com/561756515	
Compare distributions using averages and the range	https://vimeo.com/561758867	