

Date:	The Bigger Picture Topic	Step	Learning Intention(s)	Support	Interleaving Topics	Hegarty Maths
	Rationale:					
6/9/2021	<b>Block 1 Ratio and Scale</b>	<b>Check in</b>	TBAT understand and represent ratios as diagrams	Use concrete materials to illustrate ratios. Emphasise difference between “2 out of 3” and “2 for every 3” using bar models.		HM 328
		1. Representations of ratio	TBAT understand and use ratio	Use matching activities to pair up ratios in colon notation with pictorial representations. Show importance of order eg Red:Blue or Blue:Red		
		2. Understand and use ratio	TBAT solve problems in the ratio 1:n	Illustrate using bar models or double number lines. Start with familiar scales e.g. 1 box holds 6 eggs		
		3. Solve problems in the ratio 1:n	TBAT solve problems in the ratio m:n	Discuss which is the most appropriate representation to use dependent upon the problem		
		4. Solve problems in ratio m:n	TBAT divide a value in a given ratio	Illustrate using bar models or double number lines. For students struggling with division provide counters or calculators		HM 332 HM 333
		5. Divide a value in a given ratio	TBAT express ratios in their simplest form	Revise the meaning of “factor” Use questions with relatively obvious factor pairs. Encourage looking for factors of 10, 5, 3 and 2	Factors	
		6. Express ratios in their simplest form	TBAT express ratios in the form 1:n	Use of calculators is key		HM 331
		7. Express ratios in the form 1:n	TBAT compare ratios and fractions	Use bar models Use one diagram to illustrate multiple ratios and fractions to ensure understanding rather than too many short questions		HM 330
		8. Compare ratios and fractions	TBAT understand pi as a ratio	Link $C = \pi \times d$ to the perimeter of a square of a side by $P = 4s$ Consolidate understanding of the difference between diameter and radius		HM 534 HM 535
9. Understand $\pi$ as a ratio	Revision & check out	TBAT revise and complete check out test				
20/9/2021						

<p><b>Block 2 Multiplicative Change</b></p>	Rationale:					
	<p><b>Check in</b> 1. Explore conversion graphs</p>	<p>TBAT explore conversion graphs</p>	<p>Provide ready-drawn graphs Choose scales that are easy to read but ensure some variety to avoid the misconceptions that the increments are always 1 Encourage the drawing of horizontal and vertical lines rather than reading by eye</p>			<p>HM 712</p>
	<p>2. Convert between currencies</p>	<p>TBAT convert between currencies</p>	<p>Start with larger conversions e.g. £1=90 rupees where the direction of conversion is more obvious Encourage students to make estimates before doing any conversions Use double number lines to reinforce the model</p>	<p>Estimation</p>		<p>HM 707</p>
	<p>3. Direct proportion graphs</p>	<p>TBAT draw graphs of direct proportion</p>	<p>Link to conversion graphs potentially teaching both steps at the same time. Provide ready-drawn graphs Choose scales that are easy to read but ensure some variety to avoid the misconceptions that the increments are always 1 Encourage the drawing of horizontal and vertical lines rather than reading by eye</p>	<p>Drawing and completing tables</p>		
	<p>4. Ratio between similar shapes</p>	<p>TBAT understand ratio between similar shapes and scale factors</p>	<p>Emphasise the need for measuring or reading given information rather than assuming similarity by eye Illustrate all squares are similar but not all rectangles are</p>			<p>HM 609</p>
<p>5. Understand scale factors</p>	<p>TBAT understand scale factors</p>	<p>Work mainly with integer scales but set questions with missing sides in both larger and small shapes Avoid decimal scale factors, stick with integers or fractions</p>				

4/10/2021		6. Draw and interpret scale diagrams	TBAT draw and interpret scale diagrams	Read off scale diagrams rather than calculating values from abstract situations	Ratios 1:n	HM 864	
		7. Interpret maps with scale factors	TBAT interpret maps with scale factors	Focus on using the scale to convert rather than the unit conversion e.g. noting that 2cm on a map of 1:5000 represents 10000cm Use limited number of scales If time is limited omit this step as it is an extension of the previous one	Converting units	HM 866	
		Revision & check out	TBAT revise and complete check out test				
	Rationale:						
		<b>Block 3 Multiplying &amp; dividing fractions</b>	<b>Check in</b> 1. Represent fraction multiplication	TBAT represent fraction multiplication	Use paper strips and cubes for concrete support Make very explicit what represents "one whole"	Improper to mixed number fractions	HM 67
			2. Multiply a fraction by an integer	TBAT multiply a fraction by an integer	Provide labelled number lines in wholes and relevant fractions Use bar models to show how they can link to number lines		
			3. Product of unit fractions	TBAT calculate the product of unit fractions	Use paper folding in two directions with several different folds before moving onto squared paper	Converting decimals and percentages	HM 68
			4. Product of any fractions	TBAT calculate the product of any fractions	Bar models can be used e.g. splitting each part of a bar that is already in quarters into thirds	Shading fractions	HM 69
			5. Divide an integer by a fraction	TBAT divide an integer by a fraction	A fact family with integer values will be intuitive but students will ask more questions when the fact family involves division of fractions. Demonstrations with bar models and fraction strips will help explain this		HM 70
			6. Divide a fraction by a unit fraction	TBAT divide a fraction by a unit fraction	Use fraction strips and bar models so students see how many fractions in each unit		HM 70

18/10/2021		7. Understand and use the reciprocal	TBAT understand and use the reciprocal	Teach the word reciprocal and discuss both ways e.g. what is the reciprocal of one third	Division of an integer by a fraction	HM 71	
		8. Divide any pair of fractions	TBAT divide any pair of fractions	Continue to use pictorial support e.g. showing $2 \div \frac{2}{5}$ as $2 \div 1/5$ and group the fifths into pairs Focus on multiplying by the reciprocal rather than looking for equal denominators Do not look for decimal equivalence until students are secure e.g. $\frac{4}{5} \div 0.4$		HM 72	
		Revision & check out	TBAT revise and complete check out test				
	Rationale:						
		<b>Block 4 Working in the cartesian plane</b>	<b>Check in</b> 1. Working with coordinates in all four quadrants	TBAT plot coordinates in all four quadrants	Give students the opportunity to draw their own axes and label them correctly Students should also be able to label each quadrant from 1 <sup>st</sup> to 4 <sup>th</sup>		HM 199
			2. Identify and draw lines that are parallel to the axes	TBAT identify and draw lines parallel to the axes	Care needs to be taken to ensure students understand that lines parallel to the x axis have equations of the form $y=a$ and similarly $x=a$ will be parallel to the y axis. This should be revisited regularly in starter activities to aid retention	Parallel lines	HM 205
			3. Recognise and use the line $y = x$	TBAT recognise and use the line $y=x$	The first 'diagonal' line they will formally study	Plotting coordinates	
		4. Recognise and use lines of the form $y=kx$	TBAT recognise and use lines of the form $y=kx$	Important to vary coordinates and scale values beyond an integer	Substitution		
25/10/2021	<b>HALF TERM</b>						
1/11/2021		5. Link $y=kx$ to direct proportion problems	TBAT link $y=kx$ to direct proportion problems	Teach this using a familiar concept e.g. if one apple costs 20p, how much would 2 apples cost? Illustrate direct proportion using different representations, for example tables, graphs and equations	Multiplication		

15/11/2021		7. Recognise and use lines of the form $y=x+a$	TBAT recognise and use lines of the form $y=x+a$	Students should be encouraged to explore the effect of adding a constant to the line with equation $y=x$	Substitution Parallel lines	HM 206	
		8. Explore graphs with negative gradients	TBAT explore graphs with negative gradients	The concept of a negative gradient could be introduced by discussing what the gradient of a ski slope might be.	Negative numbers		
		10. Plot graphs of the form $y=mx+c$	TBAT plot graphs of the form $y=mx+c$	This step focuses purely on students becoming familiar with plotting graphs and generating coordinates from a table of values			
		Revision & check out	TBAT revise and complete check out test				
	Rationale:						
		<b>Block 5 Representing Data</b>	<b>Check in</b> 1. Draw and interpret scatter graphs	TBAT draw and interpret scatter graphs	A wide range of examples should be used, include numbers less than 1 and bigger than 1000. Discuss pairs of variables that are not appropriate to represent using a scatter graph		HM 453
			2. Understand and describe linear correlation	TBAT understand and describe linear correlation	Even when there is non-linear correlation, it is still possible that there is a relationship between the variables and students may need support in describing this		
			3. Draw and use the line of best fit	TBAT draw and use the line of best fit	The term extrapolation will need explaining Students are also introduced to outliers		
			4. Identify non-linear relationships	TBAT identify non-linear relationships	Even when there is non-linear correlation, it is still possible that there is a relationship between the variables and students may need support in describing this		
			5. Identify different types of data	TBAT identify different types of data	Explain continuous data as 'measurements' and discrete data as 'counts'	Bar charts Scatter graphs	
		6. Read and interpret ungrouped frequency tables	TBAT read and interpret ungrouped frequency tables	Ensure students work with '0' in either column of the table is key		HM 392	

		7. Read and interpret grouped frequency tables	TBAT read and interpret grouped frequency tables	Pose different questions related to the grouped frequency table so that students become familiar with reading and interpreting them		HM 401
		8. Represent grouped discrete data	TBAT represent grouped discrete data	Populating grouped frequency tables from different types of sources, such as a list of data or a set of written information regarding each group, supports understanding		HM 402
		9. Represent continuous data grouped into equal classes	TBAT represent continuous data grouped into equal classes	Remind students of the difference between discrete and continuous data		
		10. Construct and interpret two-way tables	TBAT construct and interpret two-way tables	Start with concrete or pictorial representations to help them understand the structure and purpose of a two-way table Ensure students can find the correct piece of information from their table through questioning		HM 403
		Revision & check out	TBAT revise and complete check out test			
	Rationale:					
	<b>Block 6 Probability</b>	<b>Check in</b> 1. Construct sample spaces for one or more events	TBAT construct sample spaces for one or more events	Emphasis should be placed on a systematic approach to listing all possible outcomes	Two-way tables	
		2. Find probabilities from a sample space	TBAT find probabilities from a sample space	Introduction of the notation P(event) Emphasise the different ways probabilities can be represented and to consider when events are and are not equally likely	Fractions and percentages of amounts	HM 358
		3. Find probabilities from two-way tables	TBAT find probabilities from two-way tables	Give students guidance on which total to use when answering questions including discussion around how probabilities can be	Fractions	
29/11/2021						

13/12/2021				represented e.g. when it is appropriate to simplify fractions		
		4. Find probabilities from Venn diagrams	TBAT find probabilities from Venn diagrams	Students should be familiar with drawing and interpreting Venn diagrams from year 7 but may need reminding They should be encouraged to consider which region or regions are included in the event described and which regions are not included		
		Revision & check out	TBAT revise and complete check out test			
		Revision block 1				
		Revision block 2				
		Revision block 3				
		Revision block 4				
		Revision block 5				
		Revision block 6				
		Autumn assessment				
		Reflection				
		Reflection				
3/1/2022	<b>CHRISTMAS HOLIDAYS</b>					
	Rationale:					
	<b>Block 7 Brackets, equations &amp; inequalities</b>	<b>Check in</b> 1. Form algebraic expressions	TBAT form algebraic expressions	Students may need reminding that multiplication and division signs should not appear in algebraic expressions, numbers are written before letters and that $aa$ is written as $a^2$	Perimeter and area	HM 151 HM 152
	2. Use directed number with algebra	TBAT use directed number with algebra	Double sided counters are very helpful to support understanding of the four operations with directed numbers Entering negative numbers on a calculator is not always obvious and may need modelling by the teacher	Substitution Solving equations Function machines	HM 781	

	3. Multiply out a single bracket	TBAT multiply out a single bracket	Examples involving more than two terms inside the bracket are also useful to include	Fact families Multiplication	HM 160
	4. Factorise into a single bracket	TBAT factorise into a single bracket	Students don't always link factorising expressions with looking for factors of numbers so it is useful to be explicit about the similarities	Highest common factor	HM 168
	5. Expand multiple single brackets and simplify	TBAT expand multiple single brackets and simplify	Use concrete manipulatives to 'build' the expressions to develop understanding of the difference between similar looking expressions	Multiplication Collecting like terms	HM 161
	7. Solve equations, including with brackets	TBAT solve equations	'Think of a number' problems are a good introduction Use of bar models and function machines are key to aid student understanding	Solving one step equations Expanding brackets Multiplication	HM 179
	8. Form and solve equations with brackets	TBAT form and solve equations with brackets	Useful to interleave other topics e.g. forming equations to find missing angles on a straight line	Angles Missing probabilities	HM 176
	9. Understand and solve simple inequalities	TBAT understand and solve simple inequalities	It is worth discussing that $y > 7$ and $7 < y$ means the same Students sometimes replace the given sign with an equal's sign; this is error-prone and should be discouraged		
	10. Form and solve inequalities	TBAT form and solve inequalities	Students find forming equations / inequalities from given information difficult Class time can be spent just forming the inequalities with the solving left to later in the lesson or homework		HM 269
17/1/2022	Revision & check out	TBAT revise and complete check out test			
	Rationale:				
	<b>Block 8 Sequences</b>	<b>Check in</b> 1. Generate sequences given a rule in words	TBAT generate sequences given a rule in words	Students should now be able to deal with more complex multi-step rules and operations such as cubing and rooting.	HM 196 HM 197

		2. Generate sequences given a simple algebraic rule	TBAT generate sequences given a simple algebraic rule	Encourage a good use of vocabulary	Solving equations Substitution	
		3. Generate sequences given a complex algebraic rule	TBAT generate sequences given a complex algebraic rule	They may need reminders as to the behaviour of directed number Students could also explore fractions e.g. $\frac{n}{n+3}$	Substitution	
		Revision & check out	TBAT revise and complete check out			
Rationale:						
	<b>Block 9 Indices</b>	<b>Check in</b> 1. Adding and subtracting expressions with indices	TBAT add and subtract expressions with indices	Students may need reminding of the word coefficient and the convention that we don't usually use 1 as a coefficient Using manipulatives helps to explain why e.g. $2x^2 + 3x^2 = 5x^2$ rather than $5x^4$	Collecting like terms	HM 156 HM 157
		2. Simplifying algebraic expressions by multiplying indices	TBAT simplify algebraic expressions by multiplying indices	This step builds on the simplifying expressions that was taught in year 7 and includes terms with more than one letter	Multiplication	HM 158
		3. Simplifying algebraic expressions by dividing indices	TBAT simplify algebraic expressions by dividing indices	Students may need to be reminded that it is expected to give answers in the form e.g. $\frac{y}{2}$ rather than involving decimals such as 0.5y	Division Multiples	HM 159
		4. Using the addition law for indices	TBAT use the addition law for indices	Discuss non-examples e.g. $2^6 \times 2^2 \neq 2^{12}$	Multiplication	HM 105
24/1/2022		5. Using the addition and subtraction law for indices	TBAT use the addition and subtraction law for indices	Common errors include not realising that a is the same as $a^1$ and mistakenly treating the exponent as 0	Addition Subtraction	HM 105 HM 106
		Revision & check out	TBAT revise and complete check out			
Rationale:						
	<b>Block 10 Fractions &amp; Percentages</b>	<b>Check in</b> 1. Convert fluently between key fractions,	TBAT convert fluently between fractions, decimals and percentages	Use of diagrams such as the 100 square and number lines to compare these will help to secure understanding	Number lines Equivalence	HM 73-76 HM 83 HM 84 HM 149

	decimals and percentages				
	2. Calculate key fractions, decimals & percentages of an amount (non calc)	TBAT calculate key fractions, decimals and percentages of an amount without a calculator	Decimal multiplication can sometimes cause confusion, but using their knowledge of conversions and starting with $0.1 \times \dots = \dots \div 10$ and building on from this is helpful	Division Multiplication Percentage of amounts	HM 77 HM 84 HM 85 HM 86 Hm 149
	3. Calculate key fractions, decimals & percentages of an amount (calc)	TBAT calculate key fractions, decimals and percentages of an amount with a calculator	Model the use of calculators so students gain awareness of efficient methods and using estimation before calculating May need supporting tools such as a bar model to complement their understanding		HM 87
	4. Convert decimals and percentages greater than 100%	TBAT convert decimals and percentages greater than 100%.	Physical resources and pictures, particularly the hundred square are very useful It is good to link e.g. $130\% = 100\% + 30\%$ to the decimal addition $1 + 0.3$	Number lines Equivalence	
	5. Percentage decrease with a multiplier	TBAT use percentage decrease with a multiplier	This concept should be represented using bar models and number lines to help reinforce how to find the correct multiplier This should also avoid the misconception of e.g. multiplying by 0.2 to find a 20% decrease	Percentage of an amount FDP conversions	
	6. Percentage increase and decrease using a multiplier	TBAT use percentage increase and decrease with a multiplier	Starting with a bar representing 100% can help access worded problems	FDP conversions Multiplication	HM 89 HM 90
	7. Express one number as a fraction or a percentage of another without a calculator 8. Express one number as a fraction or a percentage of another with a calculator	TBAT express a number as a fraction or a percentages of another with and without a calculator	The focus will be to support students to express fractions as percentages where the fraction denominators are factors or multiples of 100 To keep the focus on conversion rather than rounding, it might be best to give non exact answers to the nearest whole number percentage; this skill may need revising in starters	Probability Simple conversions	

7/2/2022		9. Work with percentage change	TBAT calculate percentage change.	Good contexts to consider include percentage profit and loss and interest to remind students of these words Use bar models	Fractions	HM 97	
		10. Choose appropriate method to solve percentage problems	TBAT choose appropriate methods to solve percentage problems	Invest time into analysing and discussing what questions are being asked and how to choose methods, to avoid students rushing into an inappropriate procedure	Percentage of amounts Fractions		
		Revision & check out	TBAT revise and complete check out				
	Rationale:						
	<b>Block 11 Standard Index Form</b>	<b>Check in</b> 1. Investigate positive powers of 10	TBAT investigate positive powers of 10.	Useful to explore why $10 \times 10^3 \neq 10^3$ as this is a common misconception	Indices	HM 121	
		2. Work with numbers greater than 1 in standard form	TBAT work with numbers greater than 1 in standard form.	Important to look at how standard form works as a pose to just counting zeros To deepen their understanding, look at non-examples such as $0.8 \times 10^4$	Indices Powers of 10		
		3. Investigate negative powers of 10	TBAT investigate negative powers of 10.	Time should be spent discussing and investigating $10^0=0$	FDP equivalences		
		4. Numbers between 0 and 1	TBAT work with numbers between 0 and 1 with standard form.	Expose students to similar questions that have different answers to deepen their understanding e.g. comparing 8.9 and 8.09 written in standard form Misconceptions such as $3 \times 10^{-1} = -0.3$ should be explored and discussed		HM 122	
		5. Order numbers in standard form	TBAT order numbers in standard form.	Strategies such as considering the exponent of 10 as an initial check should be discussed. Revisit ordering decimal numbers to tease out any misconceptions that may be a barrier to ordering numbers in standard form Access to place value grids would be useful here	Place value Ordering decimals		

		6. Mentally calculate with numbers in standard form	TBAT mentally calculate with numbers in standard form	A key focus in this step is correcting answers such as $24 \times 10^8$ by using the fact that $24 = 2.4 \times 10^1$	Indices	
21/2/2022	<b>HALF TERM</b>					
28/2/2022		7. Add and subtract numbers in standard form	TBAT add and subtract numbers in standard form.	Be mindful of the risk of students just adding the numbers and adding the powers separately	Indices	HM 127
		8. Multiply and divide numbers in standard form	TBAT multiply and divide numbers in standard form.	Helpful to include various forms of the same questions such as $(4 \times 10^5) \div (2 \times 10^6)$ and $\frac{4 \times 10^5}{2 \times 10^6}$	Multiplication Division	HM 125 HM 126
		9. Use a calculator to work with numbers in standard form	TBAT use a calculator to work with numbers in standard form.	Carefully model the use of a calculator, when working with numbers in standard form, using the visualiser		HM 128
		Revision & check out	TBAT revise and complete check out			
	Rationale:					
	<b>Block 12 Number Sense</b>	<b>Check in</b> 1. Round numbers to powers of 10 and 1 significant figure	TBAT round numbers to powers of 10 and to 1 significant figure.	It is important when rounding to avoid the phrase "round down" as this can lead to misconceptions. Use of number lines is very helpful to decide which number to round to		HM 17 HM 130
		2. Round numbers to a given number of decimal places	TBAT round numbers to a given number of decimal places	Students may need reminding of the similarities and differences between rounding to decimal places and rounding to significant figures		HM 56
		3. Estimate the answer to a calculation	TBAT estimate the answer to a calculation	Explore other strategies and consider whether you can tell if the estimate will be larger or smaller than the actual answer	Four operations Powers Roots	
		5. Use the order of operations	TBAT use the order of operations	Useful to involve fraction lines to represent division Comparing answers with those obtained from calculators is useful for both	Adding and subtracting fractions	HM 24 HM 44 HM 120

				developing use of calculator skills as well as checking		
		6. Calculate with money	TBAT calculate with money	Good opportunity to remind students of the vocabulary of financial mathematics	Fractions Percentages Ratio	HM 743-754
14/3/2022		7. Convert metric measures of lengths	TBAT metric measures of lengths	Useful to make connections with the prefix's kilo, milli etc	Perimeter Area Ordering integers	HM 691- 694
		8. Convert metric units of weight and capacity	TBAT convert metric units of weight and capacity	Discuss which unit is suitable to measure which item as many students may not be aware of this and see the activity as purely abstract	Multiplication Division	HM 695-697 HM 698-699
		11. Solve problems involving the time and the calendar	TBAT solve problems involving the time and the calendar	The use of an empty number line to model calculating time differences is very helpful, emphasising that time is not a decimal quantity	Mixed numbers Fractions	
		Revision & check out	TBAT revise and complete check out			
		Revision block 7				
28/3/2022		Revision block 8				
		Revision block 9				
		Revision block 10				
		Revision block 11				
		Revision block 12				
		Spring Assessment				
		Reflection				
		Reflection				
		Reflection				
		Reflection				
11/4/2022	<b>EASTER HOLIDAYS</b>					

25/4/2022	Rationale:					
	<b>Block 13 Angles in parallel lines and polygons</b>	Check in 1. Understand basic angle rules and notation	TBAT understand basic angle rules and notation	Students often find this notation difficult so plenty of practice is helpful here Fully correct mathematical reasoning should be used		
		2. Investigate angles between parallel lines and the transversal	TBAT investigate angles between parallel lines and the transversal	Useful to include examples and non- examples of parallel lines Vary parallel lines to include horizontal and vertical sets as well as other orientations		
		3. Identify and calculate with alternate and corresponding angles	TBAT identify and calculate with alternate and corresponding angles.	As with angle rules, correct language needs emphasising e.g. “because alternate angles are equal” rather than “because they are alternate”	Forming and solving equations	
		4. Identify and calculate with co-interior, alternate and corresponding angles	TBAT identify and calculate with co- interior, alternate and corresponding angles	Useful to explore examples and non- examples using parallel lines and non- parallel lines to establish whether a given pair will add to 180 degrees	Forming and solving equations	
		5. Solve complex problems with parallel line angles	TBAT solve complex problems with parallel line angles	Excellent opportunity to develop mathematical talk around the problems, and scaffold their approach through careful questioning Misconceptions could also be drawn out through ‘spot the mistake’ examples	Algebraic expressions Solving equations	
		6. Constructions triangles and special quadrilaterals	TBAT construct triangles and special quadrilaterals	Students missed out on constructing SSS, ASA and SAS triangles in year 7 due to lockdown so this will be the first time they will be exposed to this content		
		7. Investigate the properties of special quadrilaterals	TBAT investigate the properties of a special quadrilateral	Focus on side lengths and angles only, symmetry will be covered in a later unit	Parallel lines	
8. Identify and calculate with sides and angles in special quadrilaterals		TBAT identify and calculate with sides and angles in special quadrilaterals	Encourage students to discuss and label what information they know or can work out on their diagrams	Perimeter Area		

		10. Understand and use the sum of exterior angles of any polygon	TBAT understand and use the sum of exterior angles in any polygon	Students need to know that the exterior angles will only equal 360 degrees if the polygon is regular	Forming and solving equations	
9/5/2022		11. Calculate and use the sum of the interior angles in any polygon	TBAT calculate the sum of interior angles in any polygon	Students should explore the links between the number of sides a polygon has and the number of internal triangles a polygon has		
		12. Calculate missing interior angles in regular polygons	TBAT calculate missing interior angles in regular polygons	Useful to compare different methods to find the size of one interior angle		
		Revision & check out	TBAT revise and complete check out			
Rationale:						
	<b>Block 14</b> <b>Area of trapezia and circles</b>	<b>Check in</b> 1. Calculate the area of triangles, rectangles and parallelograms	TBAT calculates the area of triangles, rectangles and parallelograms	A possible difficulty can be finding the perpendicular height when triangles are not in standard orientations Ensure students have exposure to these and include questions that revisit unit conversions	Unit conversions	
		2. Calculate the area of a trapezium	TBAT calculate the area of a trapezium	Ensure students can identify trapezia using different standard and non-standard examples		
		3. Calculate the perimeter and area of compound shapes (1)	TBAT calculate the perimeter and area of compound shapes	Model splitting up different compound shapes before introducing students to compound shapes with dimensions labelled	Multiplication Addition	
		5. Calculate the area of a circle and parts of a circle without a calculator	TBAT calculate the area of a circle and parts of a circle without a calculator	Start with a recap on squaring and the order of operations can avoid later issues in calculations, so that students can concentrate on new learning	Order of operations	
		6. Calculate the area of a circle and parts of a circle with a calculator	TBAT calculate the area of a circle and parts of a circle with a calculator	Students may need reminding of rounding to an appropriate number of decimal places or significant figures	Substitution Rounding	
23/5/2022		7. Calculate the perimeter and area of compound shapes (2)	TBAT calculate the perimeter and area of compound shapes	Encourage students to identify standard shapes within compound shapes	Area of a circle Substitution	

		Revision & check out	TBAT revise and complete check out			
	Rationale:					
	<b>Block 15 Line symmetry and reflection</b>	1. Recognise line symmetry	TBAT recognise lines of symmetry	Explore the structure of shapes and how this affects the number of lines e.g. considering why a quadrilateral cannot have 3 lines of symmetry	Properties of 2D shapes	
		2. Reflect a shape in a horizontal or vertical line 1	TBAT reflect a shape in a horizontal or vertical line	Encourage the use of folding paper and mirrors to aid students understanding of reflection Students could also be challenged to find the areas of these shapes	Area	
30/5/2022	<b>HALF TERM</b>					
6/6/2022		3. Reflect a shape in a horizontal or vertical line 2	TBAT reflect a shape in a horizontal or vertical line	This step provides a good opportunity to revisit equations of lines parallel to the axes which were met in the autumn term	Parallel lines	
		4. Reflect a shape in a diagonal line 1	TBAT reflect a shape in a diagonal line	Using mirror or tracing paper and folding to support and check answers is even more important for the more challenging diagonal lines. Model drawing a perpendicular line from the vertices of the object to the mirror line and then extend this to find the position of the corresponding vertices of the image	Perpendicular lines	
		5. Reflect a shape in a diagonal line 2	TBAT reflect a shape in a diagonal line	Practicing this on cm or even 2cm square paper can make this more accessible than using very small squares	Plotting coordinates Equations of lines in the form $y=x$	
		Revision & check out	TBAT revise and complete check out			

	Rationale:					
20/6/2022	<b>Block 16 The data handling cycle</b>	1. Set up a statistical enquiry	TBAT set up a statistical enquiry	Encourage a discussion on the pros and cons of sampling and advantages and disadvantages of using primary and secondary data Students may need reminding about the difference between discrete and continuous data		
		2. Design and criticise questionnaires	TBAT design and criticise questionnaires	Real life examples of questionnaires may be useful when exploring this step		
		3. Draw and interpret pictograms, bar charts and vertical line charts	TBAT draw and interpret pictograms, bar charts and vertical line charts	Focus here is to interpreting and criticising bar charts		
		4. Draw and interpret multiple bar charts	TBAT draw and interpret multiple bar charts			
		5. Draw and interpret pie charts	TBAT draw and interpret pie chart			
		6. Draw and interpret line graphs	TBAT draw and interpret line graphs			
		7. Choose the most appropriate diagram for a given set of data	TBAT choose the most appropriate diagram for a given set of data			
		8. Represent and interpret grouped quantitative data	TBAT represent and interpret grouped quantitative data			
		9. Find and interpret the range	TBAT find an interpret the range			
		10. Compare distributions using charts	TBAT compare distributions using charts			
		11. Identify misleading graphs	TBAT indenting misleading graphs			

4/7/2022		Revision & check out	TBAT revise and complete check out				
	Rationale:						
	<b>Block 17: Measures of location</b>	Check in					
		1. Understand and use the mean, median and mode	TBAT understand and use the mean, median and mode				
		2. Choose the most appropriate average	TBAT choose the most appropriate averages and identify outliers				
		3. Identify outliers					
		4. Compare distributions using averages and the range	TBAT compare distributions using averages and the range				
		Revision and check out	TBAT revise and complete check out				
		Revision block 13					
		Revision block 14					
		Revision block 15					
		Revision block 16					
	Revision block 17						
	Summer Assessment						
	Reflection						
<b>18/7/2022</b>	<b>SUMMER HOLIDAYS</b>						