Curriculum Map - Year 8

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Number	Core Numbers - Step 10 Pg 55 - understand numbers with different dp		Core Numbers - Step 10 Pg 55 - understand numbers with different dp			
	Counting Along (Step 7) Pg 51 - find the gap between negative and positive numbers		Counting Along (Step 7) Pg 51 - find the gap between negative and positive numbers			
		Use negative numbers in context, and calculate intervals across zero				
	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit					
	Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit	Demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the '7' in 276,543); find the difference between the largest and smallest whole numbers that can be made from using three digits; 28.13 + 28 + 7 + 0.03).	round any whole number to a required degree of accuracy	Solve number and practical problems that involve all of the above.	Round any whole number to a required degree of accuracy	
			Demonstrate an understanding of place value, including large numbers and decimals (e.g. what is the value of the '7' in 276,543); find the difference between the largest and smallest whole numbers that can be made from using three digits; 28.13 + 28 + 7 + 0.03).	Use negative numbers in context, and calculate intervals across zero	Solve number and practical problems that involve all of the above.	
	Calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation (e.g. 53 - 82 + 47 + 53 + 47 - 82 + 100 - 82 + 18, 20 × 7 × 5 = 20 × 5 × 7 = 100 × 7 = 700; 53 ÷ 7 × 3 ÷ 7 = (53 ÷ 7) × 7 × 56 ÷ 7 × 8)					
		Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate	Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context		
	Perform mental calculations, including with mixed operations and large numbers	Identify common factors, common multiples and prime numbers	Use their knowledge of the order of operations to carry out calculations involving the four operations	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	Use formal methods to solve multi-step problems	Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
			Calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation (e.g. 53 - 82 + 47 + 53 + 47 - 82 + 100 - 82 + 18, 20 × 7 × 5 = 20 × 5 × 7 = 100 × 7 = 700; 53 ÷ 7 × 3 ÷ 7 = (53 ÷ 7) × 7 × 56 ÷ 7 × 8)			
Calculation Addition & subtraction	Addition - Pg 267- Step 39 - addition with several numbers; Step 40 Pg 268 - 24p + 38p					
		Step 40 Pg 268 - 24p + 38p; Step 41, Pg 269 - any 2dp + 1dp				
		Subtraction - Step 37 - Pg 323 - subtract numbers with different places				
Column Methods Add&Subtr	Addition Step 11 Pg 19- add no's with 3dp; Step 12- add with 2dp					
		Addition Step 13 Pg 20 - add no's with 3dp; Step 14- add no's with mixed amount of dp				
	Subtraction Step 9 Pg 28 - no's with 3dp; Step 10- 2dp	Subtraction Step 11, Pg 28 - no's with 3dp; Step 12 Pg 29 subtract with mixed amount of dp.				
Calculation Multiplication & Division	Step 17 Pg 353 - 1d x 1d,2dp					
		Step 18 Pg 355 - 1d x 1d,2dp				
	Step 32 Pg 361 - use table facts to find decimal multiplication					
		Step 33 Pg 363 - combine 2 or more table facts to solve decimal division				
Column Methods Multiplication & Division	Step 7 Pg 37 - 4d x 2d; Step 8 - 1d.1dp x 1d	Step 9 Pg 38 - 1d.2dp x 1d; Step 10 - 1d.dp x 2dp; Step 11 Pg 39 - 1d.2dp x 2dp				
	Step 8 Pg 47 -50 - x, ÷ by 10, 100, 1000	Step 10 Pg 49 - division with decimal places in an answer				
Fractions		Associate a fraction with division and calculate decimal fraction equivalents [e.g. 0.375] for a simple fraction [e.g. 3/8]	Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	Multiply one-digit numbers with up to two decimal places by whole numbers	Solve problems which require answers to be rounded to specified degrees of accuracy	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
	Calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as 7/21 and that this is equal to 1/3; 15% of 60; 12 ÷ 3 × 4; 7.9 of 108; 0.8 x 70)	Divide proper fractions by whole numbers [e.g. 1/3 ÷ 2 = 1/6]	Recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1 5 or 0.2 or 20% of the whole cake).	Multiply simple pairs of proper fractions, writing the answer in its simplest form [e.g. 1/4 x 1/2 = 1/8]	Recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1 5 or 0.2 or 20% of the whole cake).	
		Associate a fraction with division and calculate decimal fraction equivalents [e.g. 0.375] for a simple fraction [e.g. 3/8]	Divide proper fractions by whole numbers [e.g. 1/3 ÷ 2 = 1/6]	Associate a fraction with division and calculate decimal fraction equivalents [e.g. 0.375] for a simple fraction [e.g. 3/8]		
		Solve problems which require answers to be rounded to specified degrees of accuracy	Multiply one-digit numbers with up to two decimal places by whole numbers	Compare and order fractions, including fractions > 1 Use common factors to simplify fractions; use common multiples to express fractions in the same denomination		
	Recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities (e.g. one piece of cake that has been cut into 5 equal slices can be expressed as 1 5 or 0.2 or 20% of the	Compare and order fractions, including fractions > 1 Use common factors to simplify fractions; use common multiples to express fractions in the same denomination	Calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as 7/21 and that this is equal to 1/3; 15% of 60; 12 ÷ 3 × 4; 7.9 of 108; 0.8 x 70)	Add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions.	Calculate using fractions, decimals or percentages (e.g. knowing that 7 divided by 21 is the same as 7/21 and that this is equal to 1/3; 15% of 60; 12 ÷ 3 × 4; 7.9 of 108; 0.8 x 70)	
			Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples;			
Ratio and Proportion	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	Solve problems involving similar shapes where the scale factor is known or can be found	Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	
Algebra	Generate and describe linear number sequences	Substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle).	Generate and describe linear number sequences	Substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle).	Use simple formulae	
	Use simple formulae	Use simple formulae	Find pairs of numbers that satisfy an equation with two unknowns	Enumerate possibilities of combinations of two variables.	Substitute values into a simple formula to solve problems (e.g. perimeter of a rectangle or area of a triangle)	Express missing number problems algebraically
Measuring	Calculate the area of parallelograms and triangles	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, $mm3$ and $km3$]	Calculate the area of parallelograms and **triangles**	Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, $mm3$ and $km3$]	Calculate the area of parallelograms and triangles	
		Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate		Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate		
	Calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).		Calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).		Calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).	
	Calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm).	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 decimal places where appropriate	Convert between miles and kilometres	Recognise that shapes with the same areas can have different perimeters and vice versa	Recognise when it is possible to use formulae for area and volume of shapes
Geometry	Use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles)	Draw 2-D shapes using given dimensions and angles	Recognise, describe and build simple 3-D shapes, including making nets	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius	
		Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons			Use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles)	Recognise, describe and build simple 3-D shapes, including making nets
		Use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles)	Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is	Recognise, describe and build simple 3-D shapes, including making nets		
			Calculate with measures (e.g. calculate length of a bus journey given start and end times; convert 0.05km into m and then into cm). **(FF 4.72a)**	Use mathematical reasoning to find missing angles (e.g. the missing angle in an isosceles triangle when one of the angles is given; the missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles)		
Geometry	Describe positions on the full coordinate grid (all four	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.	Describe positions on the full coordinate grid (all four quadrants)	Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.		Describe positions on the full coordinate grid (all four quadrants)
Statistics	Calculate and interpret the mean as an	Interpret and construct pie charts and line graphs and use these to solve problems	Calculate and interpret the mean as an average.	Interpret and construct pie charts and line graphs and use these to solve problems	Calculate and interpret the mean as an average.	Interpret and construct pie charts and line graphs and use these to solve problems

Grey = new learning

Black - National Curriculum