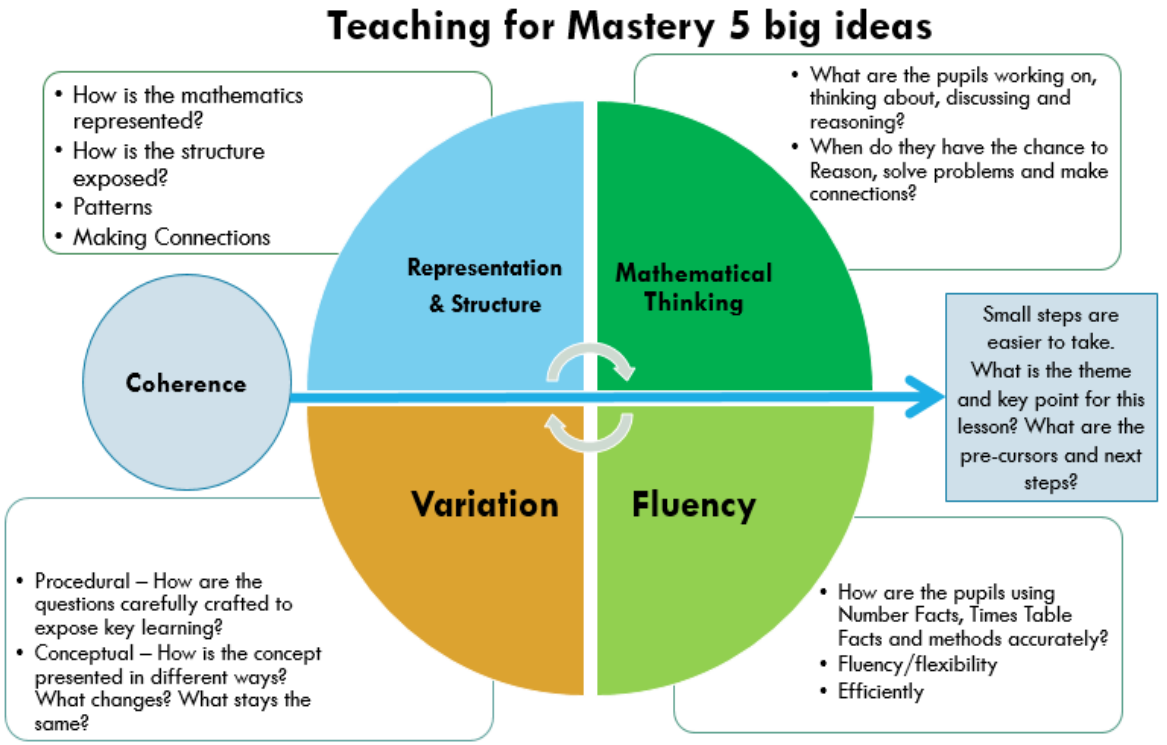
Westbury-on-Severn CE Primary School

Westbury Maths Curriculum

At Westbury, we teach maths using a Mastery Approach- our planning is informed by the **5 Big Ideas** outlined in the diagram. We teach both knowledge and skills through the use of small, manageable steps which allows for strong progression throughout the year and across the age ranges. Although we have mixed aged classes, our Maths curriculum is taught to each year group individually. We take our small steps from the Can Do scheme but adapt and use our own resources alongside, where needed. Our Maths is taught to every year group on a daily basis, with job shares and PPA cover teaching separate topics to allow for continuity within progression and to allow for teachers to pick up on misconceptions taught in previous lessons. Our lesson design follows the same format for Years 1-6 with each lesson having a **Do It**, **Explain It** and **Deepen It** section. This allows for the children to practise the skills taught in the lesson as well as having an opportunity to reason and problem solve.



We teach **KIRFS** (Key Instant Recall Facts) at the start of every lesson to practise quick recall of number facts for each year group. This is planned based on the KIRF timetable (see below). In 2022 we begun the programme called **Mastering Number** which is taught to Reception, Year 1 and Year 2. We follow this programme which has a lesson 4 days a week to develop the children's basic number skills such as subitising. For assessment we use the **Remember It tests** from the Can Do programme. These are termly tests which assess the children on what they have been taught and include arithmetic questions as well as reasoning and problem solving. We use these assessments to inform our planning of interventions and to plan for misconceptions in the future as well as to keep a record of progress throughout the year.

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Westbury Lesson Design

Each part of the lesson design is taught first with the pupils working with the teacher as a year group. The pupils then complete their independent learning, working through the Do It, Explain It and Deepen It.

KIRF

5-10 minutes spent practising quick recall of key facts.

Do It

What it is, what it is also

a new skill as a manageable step

Explain It

What it is not

Explaining a misconception, a mistake; orally with the teacher and in writing independently.

Deepen It

Apply their learning, problem solving

Word problem or challenge to apply what they have learnt in a deeper, way

Key Instant Recall Facts (KIRFs)

	Preschool	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Aut 1	Recognise and recite the number names to 5. Touch count to 3.	Name numbers in order to 10 and compare 2 numbers by saying which is more or less.	Recite the number names in order to 50 and beyond.	Recite the number names in order to 100. I know number bonds to 10. I know number bonds to 20.	I know number bonds for all numbers up to 20. Count in 50s and 100s.	I know number bonds to 100. Count in 25s and 1000s.	I know the multiplication and division facts for all times tables up to 12 × 12.	I know the multiplication and division facts for all times tables up to 12 × 12.
Aut 2	Recite the number names in order to 5. Touch count to 5.	Recognise quantities, without counting, up to 5. (Subitise)	I can add 0 or 1 to a number. I can add 2 to a number.	I know doubles and halves of numbers to 20. I know near doubles to 10. I can use bridging and compensation for addition to 10+10.	Count in 3s. I know the multiplication and division facts for the 3 times table. (up to 12x3)	Count in 6s. I know the multiplication and division facts for the 6 times table. (up to 12x6)	I can find factor pairs of a number.	I can identify common factors of a pair of numbers.
Spr 1	Use the language: before, after, next.	I can say 1 more than a given number up to 10.	I know number bonds to 10. I know odd and even numbers to 20.	Count in 2s. I know the multiplication and division facts for the 2 times table. (up to 12x2)	Count in 4s. I know the multiplication and division facts for the 4 times table. (up to 12x4)	Count in 9s and 11s. I know the multiplication and division facts for the 9 and 11 times tables. (up to 12x9 and 12x11)	I can identify prime numbers up to 20. I can recall square numbers up to 144 and their square roots.	I can identify prime numbers up to 50. Know the square roots of square numbers to 15 x 15
Spr 2	Sort objects and say which group is more/less. Name simple shapes.	Partition numbers to 5 into 2 groups.	Count in 2s to 20. Count in 10s to 100. Count in 5s to 50.	Count in 5s and 10s. I know the multiplication and division facts for the 10 and 5 times table. (up to 12x10 and 12x5)	Count in 8s. I know the multiplication and division facts for the 8 times table. (up to 12x8)	Count in 7s and 12s. I know the multiplication and division facts for the 7 and 12 times table. (up to 12x7 and 12x12)	Know the decimal and percentage equivalents of the fractions ½, ¼, ¾, ⅓, ⅔, tenths and fifths	Know the decimal and percentage equivalents of the fractions ½, ¼, ¾, ⅓, ⅔, tenths and fifths
Sum 1	Recite number names to 10.	Recall number bonds of numbers 0-10, including partitioning facts. Know some odd and even numbers to 10.	I can add 10 to a number.	Count in 3s to 36.	Count up and down in tenths. I can recognise decimal equivalents of tenths.	I can recognise decimal equivalents of the fractions ½, ¼, ¾, tenths and hundredths.	I know decimal number bonds to 1 and 10.	Revisit previous KIRFS
Sum 2	Recite number names in order to 10.	Recite number names in order to 20. Automatically recall doubles facts up to 5+5.	I know doubles and halves of numbers to 10. I know near doubles to 5.	To begin to know the 3 times tables. (up to 10x3)	I can multiply and divide 1 digit numbers by 10.	I can multiply and divide 1 and 2-digit numbers by 10 and 100.	Revisit previous KIRFS	Revisit previous KIRFS

Oak class Year 6 – Maths

Autumn term

Week	Topic	Year 6 Objective LRB	Topic	Year 6 Objective Friday
1		Identify the value of digits in decimal numbers	Number and Place Value	
		Multiply decimals by 10		
		Multiply decimals by 100		
		Multiply decimals by 1000		
				Recognise the value of digits in 7-digit numbers
2		Divide decimals by 10		
		Divide decimals by 100		
		Multiply decimals (1d.p.) by a 1-digit number		
		Multiply decimals (2d.p.) by a 1-digit number		
				Read 7-digit numbers in words and write using numerals including zero as a place holder
3 Multiplication and division		Problem solving		
		Find common multiples of two numbers		
		Find common factors of two numbers		
		Identify prime numbers		
				Identify and represent 7-digit numbers on a number line
4		Multiply a four-digit number by a two-digit number using long multiplication		
		Divide a three/four-digit number by a two-digit number using a formal written method with no remainder		
		Divide a three/four-digit number by a two-digit number using a formal written method with a whole number remainder		
		Divide a three/four-digit number by a two-digit number using a formal written method with a remainder expressed as a fraction		
				Compare and order numbers up to 10,000,000
5		Divide a three/four-digit number by a two-digit number using a formal written method with a remainder rounding to two decimal places	Position and direction	

		Calculate intervals across zero		
		Use coordinates to describe the position of a point in all four quadrants		
		Use coordinates to plot the position of a point in any of the four quadrants		
				Round whole numbers to different degrees of accuracy
6		Draw and translate simple shapes		
		Carry out a reflection using one of the axes as a mirror line		
		Extra problem solving		
		Remember its 1		
				Understand and use negative numbers when working in context, such as temperature
7	Fractions, Decimals and Percentages	Use common factors to simplify fractions	Geometry: Properties of Shapes (Angles)	
		Use common multiples to find equivalent fractions		
		Compare proper fractions		
		Compare fractions, including fractions > 1		
				Find missing angles where they meet at a point
8		Order proper fractions		
		Order fractions, including fractions > 1		
		Calculate decimal equivalents of fifths, eighths and tenths		
		Know simple fractions and decimal equivalences for 10%, 20%, 25%, 50%, 75%, 100%		
				Find missing angles where they meet on a straight line
9		Find equivalencies between simple fractions, decimals and percentages		
		Carry out calculations involving a mixture of addition and subtraction		
		Carry out calculations involving a mixture of multiplication and division		
		Carry out calculations involving a mixture of multiplication and addition/subtraction		
				Find missing angles where they are vertically opposite
10		Carry out calculations involving a mixture of division and addition/subtraction		

	Addition, Subtraction, Multiplication and Division	Carry out calculations involving all four operations, including brackets		
		Carry out calculations involving a mixture of addition and/or subtraction and indices		
		Carry out calculations involving a mixture of multiplication and/or division and indices		
				Find unknown angles in a triangle
11		Find unknown angles in regular polygons		
		Classify 2D shapes using given categories; e.g. number of sides, symmetry		
		Find unknown angles in a quadrilateral		
		Draw 2-D shapes given angles		
				Find unknown angles in an isosceles triangle when only one angle is known
12		Draw 2-D shapes given dimensions and/or angles		
		Recognise and describe and classify 3-D shapes		
		Know the names and relationships of the parts of a circle		
		Gap fill/problem solving		
				Remember its

Spring term

Week	Topic	Year 6 objective LRB	Topic	Year 6 Objective JobShare
1	Fractions calculating - addition	Add proper fractions (denominators not multiples of each other) within the whole	Fractions calculation subtraction	
		Add proper fractions (denominators not multiples of each other) beyond the whole (mixed number answer		
		Add mixed number and proper fractions (denominators not multiples of each other) fractions within whole (mixed number answer)		
		Add mixed and proper fractions (denominators not multiples of each other) fractions beyond the whole (mixed number answer)		
				Subtract proper fractions (denominators not multiples of each other) within the whole
2		Add mixed numbers (same denominators), fractions within and beyond the whole (mixed number answer)		
		Add mixed numbers (denominators multiples of each other) fractions within the whole (mixed number answer)		
		Add mixed numbers (denominators multiples of each other) fractions beyond the whole (mixed number answer)		
		Add mixed numbers (denominators not multiples of each other) fractions within the whole (mixed number answer)		
				Subtract proper fractions from mixed numbers, fractions within the whole (denominators not multiples of each other
3		Add mixed numbers (denominators not multiples of each other) fractions beyond the whole (mixed number answer)		
		Multiply simple pairs of proper fractions Deliberate Practice: Past and Present		
		Divide unit fraction by whole number Deliberate Practice: Past and Present		
		Divide fraction by whole number (numerator = divisor)		
				Subtract proper fractions from mixed numbers, fractions across the whole (denominators not multiples of each other)
4		Divide fraction by whole number (numerator = multiple of divisor)		
		Divide fraction by whole number (numerator not a multiple of divisor)		
				Subtract mixed number from mixed numbers (same denominators), fractions within the whole
5		**Mock SATs paper 1**		

	Fractions calculating – multiplication and division	**Mock SATs paper 2**		
		Mock SATs arithmetic		
		Use simple formulae expressed in words (e.g. time needed to cook a chicken: allow 20 minutes plus 40 minutes per kilogram)		
				Subtract mixed number from mixed numbers (same denominators), fractions across the whole
6	Algebra	Know the basic rules of algebraic notation	Ratio and Proportion	
		Express missing number problems algebraically		
		Find combinations of two variables		
		Find pairs of numbers that satisfy an equation with two unknowns e.g. a + b =		
				Subtract mixed number from mixed numbers (denominators multiples of each other), fractions within the whole
7		Generate a linear sequence from its description		
		Describe and find the next terms of a linear sequence		
		Find a missing term in a linear sequence		
		Describe a number pattern algebraically		
				Subtract mixed number from mixed numbers (denominators multiples of each other), fractions across the whole
8		Recognise that shapes with the same areas can have different perimeters and vice versa		
		Calculate the area of a parallelogram		
		Calculate the area of a triangle		
		Find 10%, 25%, 50% and 75% of an amount		
				Subtract mixed number from mixed numbers (denominators not multiples of each other), fractions within the whole
9	Measurement	Find simple and complex percentages of an amount (multiples of 10% and 5%)(eg 17%, 28%, 63%)		
		Use percentages to make comparisons		
		Find the value of the parts, given the whole		
		Find the value of the whole and parts, given one part		
				Subtract mixed number from mixed numbers (denominators not multiples of each other), fractions across the whole
10		Use scale factors to calculate dimensions in similar shapes	Measurement:	

		Use scale drawings	Converting Units	
		Convert between units of time 28. Constructions		
		Convert between miles and km		
				Remember its 4

Summer term

Week	Topic	Year 6 Objective LRB	Topic	Year 6 Objective SS
1	Statistics	Interpret line graphs		
		Construct line graphs		
		Interpret pie charts		
		Construct a pie chart by measuring angles		
				Targeted Revision
2		Understand the meaning of 'average' and calculate the mean of a set of discrete data		
		Interpret the mean of a set of discrete data		
		Targeted Revision		
		Targeted Revision		
				Targeted Revision
3		Targeted Revision		
		Targeted Revision		
		Targeted Revision		
		Targeted Revision		
				Targeted Revision
4				SATS
				SATS
		SATS		
		SATS		
		SATS		

5	Moving on moving up	Read, write and order numbers up to 10,000,000	Moving on moving up	Calculate intervals across zero
6		Multiply and divide numbers up to 4 digits by a 2-digit number choosing efficient methods and interpreting the remainders		Know and use simple fraction, decimal and percentage equivalents
7		Simplify, compare and order fractions, including fractions > 1		Find percentages of an amount
8		Add and subtract fractions with denominators that are not multiples of each other and mixed numbers		Describe and plot positions on a 2-D grid as coordinates in the four quadrants
9		Know and use angle properties of straight lines, at a point and shapes		Convert between different units of metric measure

10		Calculate the area of rectangles and triangles and volumes of cuboids		Find possible values in missing number problems involving one or two unknowns
11		Transition activities - Moving on moving up		Transition activities - Moving on moving up
12		Transition activities - Moving on moving up		Transition activities - Moving on moving up
13		Transition activities - Moving on moving up		Transition activities - Moving on moving up
14		Transition activities - Moving on moving up		Transition activities - Moving on moving up