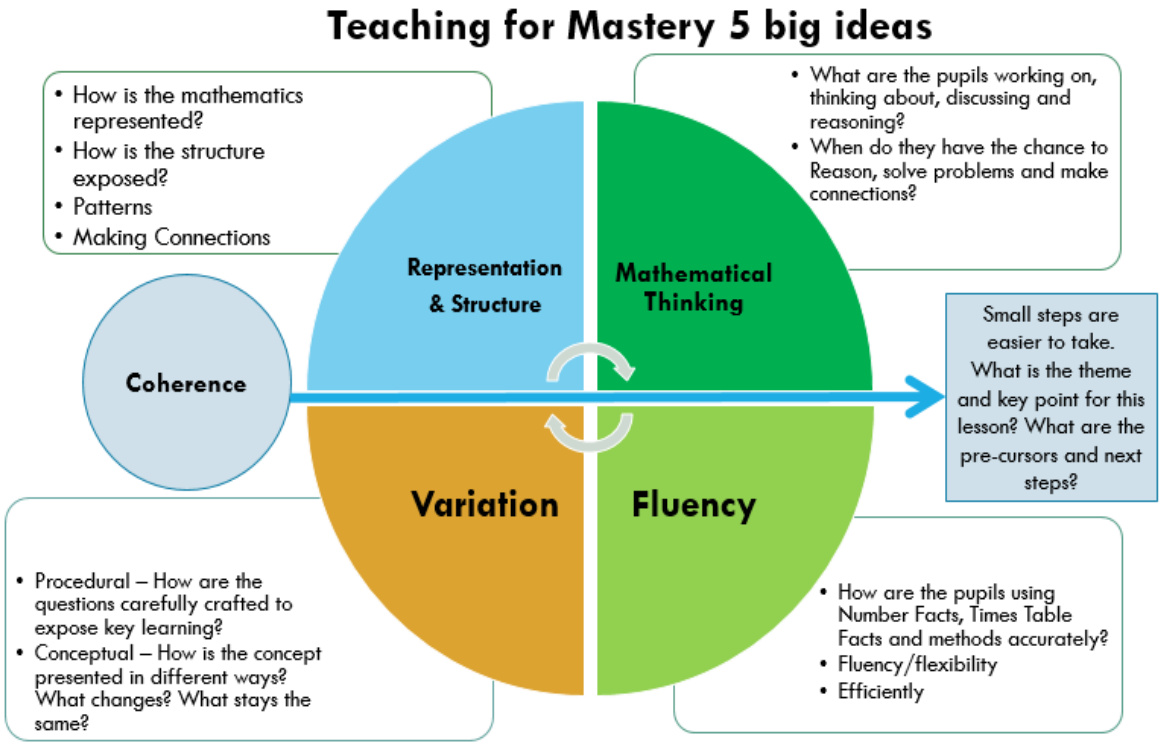
Westbury-on-Severn CE Primary School

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 5 – Maths

Autumn term

Week	Topic	Year 5 Objective LRB	Topic	Year 5 Objective Friday
1	Decimals	Recognise that thousandths arise from dividing a number (or object) into one thousand equal parts and dividing hundredths by ten	Number and place value	
		Read a number with three decimal places		
		Represent decimal numbers with up to 3 decimal places		
		Write decimal equivalents of any number of thousandths		
				Recognise the value of digits in 5-digit numbers
2		Identify and position decimal numbers, with up to 3 decimal places, on a number line		
		Compare a set of numbers written to three decimal places		
		Order decimal numbers with 3 decimal places		
		Compare and order numbers with a mixed number of decimal places		
				Read 5-digit numbers in words and write using numerals including zero as a place holder
3		Round numbers with two decimal places to one decimal place		
		Round numbers with two decimal places to the nearest whole number		
		Count forwards and backwards in whole number steps including through zero		
		Understand and use negative numbers in context, including temperatures below 0°C		
				Identify and represent 5-digit numbers on a number line
4	Place value	Read Roman numerals to 1000 (M)		
		Recognise years written in Roman numerals		
		Identify and represent 6-digit numbers on a number line		
		Compare 6-digit numbers		
				Compare 5-digit numbers
5	Shape	Order numbers up to one million		

		Round any 5-digit number to the nearest 10 000		
		Round any 6-digit number to the nearest 100 000		
		Read 6-digit numbers in numerals and write in words, including zero as a place holder		
				Recognise the value of digits in numbers up to one million
6		Identify cubes and cuboids from nets		
		Identify prisms from nets		
		Identify pyramids from nets		
		Remember its 1		
7	Addition and subtraction	Add two whole numbers choosing an efficient mental strategy		
		Subtract two whole numbers choosing an efficient mental strategy		
		Use column addition for two numbers with more than 4 digits when regrouping is required in multiple columns		
		Use column subtraction for two numbers with more than 4 digits when exchanging is required in multiple columns		
				Multiply a whole number by 10
8		Use column addition for numbers with 3 decimal places when regrouping is required		
		Use column addition for numbers with 1, 2 or 3 decimal places when regrouping is required		
		Use column subtraction for numbers with 3 decimal places when exchanging is required		
		Use column subtraction for numbers with 1, 2 or 3 decimal places when exchanging is required		
				Multiply a whole number by 100
9		Add and subtract two decimal numbers choosing an efficient strategy		
		Find prime numbers up to 20		
		Find prime and composite numbers up to 20		
		Express a given number as the product of prime factors		
				Multiply a whole number by 1000
10		Know how to test if a number up to 100 is prime		

	Multiplication and division _ Properties of number	Find the common factors of two numbers		
		Find multiples of a given number		
		Find square numbers and use the notation for squared		
				Multiply a decimal by 10
11		Find cube numbers and use the notation for cubed		
		Divide a whole number by 10		
		Divide a whole number by 100		
		Divide a whole number by 1000		
				Multiply a decimal by 100
12		Divide a decimal by 10		
		Divide a decimal by 100		
		Extra problem solving		
		Multiply a decimal by 1000		
				Remember it 2

Spring term

Week	Topic	Year 5 objective LRB	Topic	Year 5 Objective Friday
1	Multiplication and division	Multiply numbers up to 4-digits by a one-digit number using short multiplication	Geometry – positions and direction	
		Multiply 2 digit by 2 digit numbers using the distributive law		
		Multiply 2 digit by 2 digit numbers using long multiplication		
		Multiply 3 digit numbers by 2 digit numbers using long multiplication		
				Describe a reflection
2		Multiply 4 digit numbers by 2 digit numbers using long multiplication		
		Use efficient methods to multiply mentally		
		Use known facts and place value to multiply a whole number by a decimal		
		Multiply a one-digit number by a decimal (1dp) using a formal written method		
				Know what congruence means
3		Multiply a one-digit number by a decimal (2dp) using a formal written method		
		Divide a four-digit number by a one-digit number using short division (divisor < thousands digit) with no remainder		
		Divide a four-digit number by a one-digit number using short division (thousands digit = multiple of divisor, divisor < hundreds digit) with no remainder		
		Divide a four-digit number by a one-digit number using short division (divisor > thousands digit) with no remainder		
				Carry out a translation described using mathematical language
4		Divide a four-digit number by a one-digit number using short division (divisor < thousands digit) with a remainder	Problem solving and gap filling	
		Divide a four-digit number by a one-digit number using short division (divisor > thousands digit) with a remainder		
		Describe a reflection		
		Carry out a reflection using a line parallel to the axes and crossing the object		
				Carry out a reflection using a line parallel to the axes including touching the object
5		Extra problem solving		

		Extra problem solving		
		Gap filling and problems solving		
		Remember it 3		
				Revision
6	Fraction decimals and percent	Identify equivalent fractions represented visually	Measurement – length and capacity	
		Compare fractions whose denominators are multiples of the same number		
		Order fractions whose denominators are multiples of the same number		
		Represent tenths and hundredths		
				Convert kilometres to metres using decimal notation
7		Write a number less than1 with one decimal place as a fraction		
		Write a number less than 1 with two decimal places as a fraction		
		Write a number less than 1 with three decimal places as a fraction		
		Understand that per cent relates to number of parts per hundred		
				Convert metres to kilometres using decimal notation
8		Write any percentage as a fraction with a denominator of 100		
		Write any percentage as a decimal		
		Know percentage equivalents of 1/2, 1/4, 1/5, 2/5, 4/5		
		Establish percentage equivalents of fractions with a denominator of multiples of 10		
				Convert metres to centimetres using decimal notation
9		Establish percentage equivalents of fractions with a denominator of multiples of 25		
		Calculate the perimeter of composite rectilinear shapes where all measurements are given including mixed units		
		Convert between kilograms and grams using decimal notation		
		Convert between litres and millilitres using decimal notation		
				Convert centimetres to metres using decimal notation
10		Know approximate equivalences between metric and imperial units including pounds and pints		

		Know approximate equivalences between inches and centimetres		
		Extra problem solving		
		Convert between centimetres and millimetres using decimal notation		
				Remember its 4

Summer term

Week	Topic	Year 5 Objective LRB	Topic	Year 5 Objective SS
1	Fractions: Calculating	Convert a mixed number into an improper fraction	Measurement Area and volume	
		Convert an improper fraction into a mixed number		
		Add proper fractions denominator multiples within the whole		
		Add proper fractions denominator multiples = mixed number answer		
				Make connections between arrays and calculating the area of rectangles
2		Add mixed number and proper fraction, same denominator = mixed number answer		
		Add mixed number and proper fraction, same denominator = mixed number answer (beyond whole)		
		Add mixed number and proper fraction, denominator multiples = mixed number answer		
		Add mixed number and proper fraction, denominator multiples = mixed number answer (beyond whole)		
				Calculate the area of rectangles (not squares)
3		Subtract proper fraction from mixed number, same denominator within the whole		
		Subtract proper fraction from mixed number, same denominator (across whole)		Estimate capacity
		Subtract proper fractions, denominator multiples within the whole		
		Subtract proper fractions from mixed number, denominator multiples within the whole		
				Calculate the area of squares
4		Subtract proper fractions from mixed number, denominator multiples (across whole)	Statistics	
		Multiply unit fraction by a whole number		
		Multiply non-unit fraction by a whole number		
		Multiply mixed number by a whole number		
				Find an estimate for the area of shapes that are not rectangles
5		Multiply mixed number by a whole number (beyond whole)		

		Word problems		
		Read and interpret information given in a table		
		Read and interpret information given in a line graph		
				Find an estimate for the volume of a 3D shape
6 Measurement : Time		Convert from seconds to minutes		
		Convert from minutes to hours		
		Convert from hours to days		
		Convert from days to weeks		
				Extra problem solving
7		Extra problem solving		
		Extra problem solving		
		Extra problem solving		
		Remember its		
				Revision
8 Angles and shape		Use a protractor to measure acute angles		
		Use a protractor to measure obtuse angles		
		Use a protractor to measure reflex angles		
		Use a protractor to draw acute angles		
				Identify reflex angles
9		Use a protractor to draw obtuse angle		
		Use a protractor to draw reflex angles		
		know angles are measured in degrees		
		Identify and find angles at a point		
				Estimate acute, obtuse and reflex angles
10		Identify and find angles at a point on a straight line		

		Use the properties of rectangles to find missing lengths and angles		
		Problem solving		
		Remember it 6		
				Gap filling
11	Ready for year 6 Using Assessments this will be planned to meet the needs of the Year Group	Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
				Gap fill and ready for year 6
12		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
				Gap fill and ready for year 6
13		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
				Gap fill and ready for year 6
14		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
		Gap fill and ready for year 6		
				Gap fill and ready for year 6