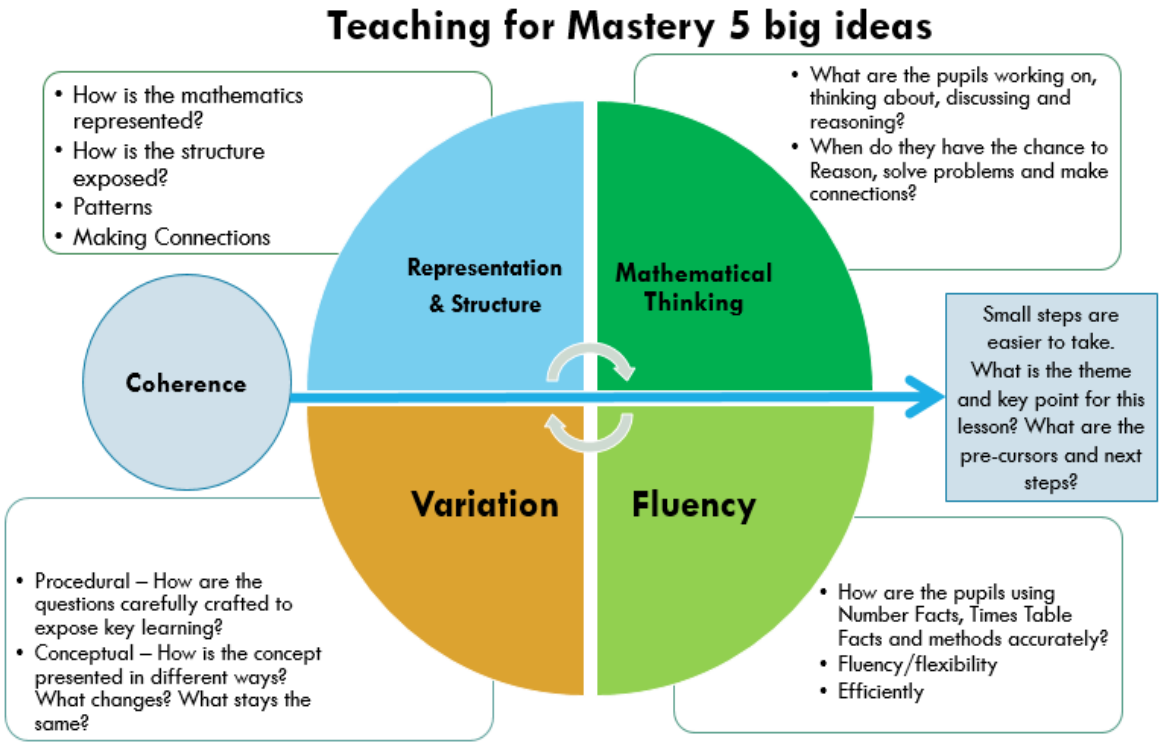
Westbury-on-Severn CE Primary School

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

Sycamore Class Long Term Maths

Years 2 and 3

		Year 2	Mastering Number Year 2	Year 2 / 3 Thursdays / PPA Cover		Year 3	
Topic	Week	Objective	Pupils will have an opportunity to consolidate their understanding and recall of number bonds within 10; they will re-cap the composition of the numbers 11 to 20 and reason about their position within the linear number system. Pupils will: • review the composition of the numbers 6 to 9 as '5 and a bit' • compare numbers using the language of comparison and use the symbols < > = • review the structure of even numbers (including exploring how even numbers	Topic	Objective	Topic	Objective
Number and Place Value	1			Geometry: Position and direction (Y2) Geometry: properties of shapes (angles) (Y3)		Number and Place Value	
		Recognise the value of digits in 2-digit numbers					Represent 3-digit numbers
		Partition 2-digit numbers in different ways					Recognise the value of digits in 3-digit numbers
					Y2 -Use mathematical language to describe position Y3 - Understand that angle is a description of turn		
		Read 2-digit numbers in words and write using numerals					Partition 3-digit numbers in different ways
	2	Read 2-digit numbers in numerals and write in words					Read 3-digit numbers in words and write using numerals
		Identify 2-digit numbers on a number line					Read 3-digit numbers in numerals and write in words
		Represent 2-digit numbers on a number line					Read 3-digit numbers in words and write using numerals including zero as a place holder
					Y2 -Use mathematical language to describe direction of a turn, including meaning of clockwise and anti-clockwise Y3 - Understand that angles are a feature of shape		
		Estimate numbers on a number line					Read 3-digit numbers in numerals and write in words, including zero as a place holder
	3	Compare any two 2-digit numbers using < > and =					Identify 3-digit numbers on a number line
		Order 2-digit numbers with different tens from smallest to greatest					Represent 3-digit numbers on a number line
		Order 2-digit numbers with the same tens from smallest to greatest					Count in steps of 50 and 100 from zero
					Y2 - Understand and use the language of right angles to describe the size of turn Y3 - Identify a right angle as a quarter turn		

		Order 2-digit numbers	can be composed of two odd parts or two even parts) and the composition of each of 6, 8 and 10 • review the structure of odd numbers (including exploring how odd numbers can be composed of one odd part and one even part) and the composition of each of 7 and 9 • consolidate their understanding of the numbers 10 and 20 as '10 and a bit' • consolidate their understanding of the linear number system to 20 and reason about midpoints				Count up in steps of 10 from any 2 or 3-digit number
	4	Find 10 more than a given number					Count back in steps of 10 from any 3-digit number
		Find 10 less than a given number					Count up in steps of 100 from any 2 or 3-digit number
Geometry: Properties of shapes		Identify and describe the properties of pentagons					Count back in steps of 100 from any 3-digit number
					Y2 - Interpret and devise instructions for following a simple route Y3 - Identify when a shape has a right angle		
		Identify and describe the properties of hexagons					Find 10 more than a given number
	5	Identify and describe the properties of octagons					Find 10 less than a given number
		Identify symmetry properties of 2-D shapes using vertical lines					Find 100 more than a given number
		Identify and describe the properties of 3-D shapes including the number of vertices					Find 100 less than a given number
					Y2 - Order combinations of mathematical objects in patterns and sequences Y3 - Recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn		
		Identify and describe the properties of 3-D shapes including the number of edges					Compare any two 3-digit numbers
	6	Identify and describe the properties of 3-D shapes including the number of faces		Measurement : money (Y2) Geometry: properties of shapes (angles) (Y3)			Order 3-digit numbers with different hundreds
Addition and subtraction: **addition**		Show that addition is commutative					Order 3-digit numbers with the same hundreds
		Recall and use addition facts of two single digits bridging 10					Order 3-digit numbers
					Y2 -Combine £1, £2, £5 and £10 use the symbol for pounds (£) Y3 – Identify angles that are less than or greater than a right angle		
		Recall and use addition facts of single digit doubles					Find tenths of whole numbers and express as fractions and decimals

	7	Use addition facts of 10 to derive facts of 100		Measurement : money (Y2)			Count up in tenths and position them on a number line
		Add ones to 2-digit numbers using number facts where the tens don't change		Measurement : money (Y3)			Count down in tenths and position them on a number line
		Add ones to 2-digit numbers using bridging				Geometry : properties of shapes	Identify and draw horizontal lines
					Y2 - Find the sum of different amounts of pounds Y3 - Use combinations of coins to make amounts beyond £1		
		Add ones to 2-digit numbers by rounding to ten then compensating					Identify and draw vertical lines
	8	Add multiples of ten to 2-digit numbers using number facts					Identify and draw parallel lines
		Add two 2-digit numbers by counting on in tens then 1s					Identify and draw perpendicular lines
		Add two 2-digit numbers using partitioning and recombining (No regrouping)					Draw common 2D shapes
					Y2 - Combine 1p, 2p and 5p coins to make different totals Y3 - Add amounts in pence expressing the answer using £ and p (regrouping in the tens)		
		Add two 2-digit numbers using partitioning and recombining				Geometry : properties of shapes	Name and describe 3D shapes
	9	Add two 2-digit numbers by rounding to the nearest ten then compensating					Make 3D shapes using modelling materials
		Add two 2-digit numbers choosing an efficient strategy				Multiplication Tables	Build the 3x table
		Add three single digit numbers					Recall and use multiplication facts for the 3 times table
Addition and subtraction : **subtraction**					Y2 - Combine 10p, 20p and 50p coins to make different totals Y3 - Add amounts in pounds and pence		
		Understand why subtraction is not commutative					Recall and use division facts for the 3 times table
	10	Recall subtraction facts of two single digits within 10					Build the 4x table and count in steps of 4 and multiples of 4 from zero
		Recall subtraction facts of 2-digit numbers (20 or less) subtract a single digit not bridging 10					Recall and use multiplication facts for the 4 times table

		Recall subtraction facts of 2-digit numbers (20 or less) subtract a single digit bridging 10					Recall and use division facts for the 4 times table
					Y2 - Find the sum of different amounts of pence Y3 - Subtract pence from £2 Y3 -		
		Use subtraction facts of 10 to subtract multiples of ten from 100					Build the 8x table and count in steps of 8 and multiples of 8 from zero
	11	Subtract ones from 2-digit numbers using number facts where the tens don't change					Recall and use multiplication facts for the 8 times table
		Subtract ones from 2-digit numbers using bridging					Recall and use multiplication facts for the 8 times table
		Subtract ones from 2-digit numbers by rounding to ten then compensating					Recall and use division facts for the 8 times table
					Y2 - Find different combinations of coins that equal the same amounts of money Y3 - Subtract pence from £5	Add/ subtract: mental methods	Add ones to three-digit numbers using number facts where the tens don't change
		Subtract multiples of ten from 2-digit numbers using number facts					Add ones to three-digit numbers using bridging
	12	Subtract two 2-digit numbers by counting back in tens then 1 s					Add ones to three-digit numbers by rounding to ten then compensating
		Subtract two 2-digit numbers by rounding to the nearest ten then compensating					Add tens to three-digit numbers using number facts, where the hundreds don't change
		Subtract by finding the difference between two numbers - counting on					Add tens to three-digit numbers using bridging
					Y2 - Calculate change from 50p Y3 - Subtract pounds and pence from £5		
		Derive addition and subtraction facts using inverse operations					Add hundreds to three-digit numbers using number facts
Geometry : properties of shapes	13	Identify and describe the properties of cylinders					Add 99 to three-digit numbers using rounding to the nearest hundred and then compensating
		Identify and describe the properties of cones					Add two 3-digit numbers using rounding to the nearest hundred and then compensating
		Identify and describe 2-D shapes on the surface of 3-D shapes					Add two 3-digit numbers by partitioning and recombining (no regrouping)
					Y2 – Calculate change from £1		

					Y3 - Subtract pounds and pence from £10		
		Compare and sort 3-D shapes and explain how they are similar or different					Add two 2-digit numbers where the sum exceeds 100, choosing an efficient mental strategy
	14	Compare and sort 2-D shapes and explain how they are similar or different		Measurement : Time (Y2) then Measurement : Capacity and temperature Measurement : money (Y3) then measurement : time (Y3)			Subtract ones from three-digit numbers using number facts where the tens don't change
Multiplication and division		Count in steps of 3 from zero					Subtract ones from three-digit numbers using bridging
		Show and use the connection between multiplication and repeated addition					Subtract ones from three-digit numbers by rounding to ten then compensating
					Y2 - Tell the time using quarter past the hour on an analogue clock Y3 - Calculate change beyond £1		
		Create multiplication statements to describe and solve equal grouping problems					Subtract tens from three-digit numbers using number facts where the hundreds don't change
	15	Use arrays to solve multiplication problems					Subtract tens from three-digit numbers using bridging
		Show and use the commutativity of multiplication					Subtract hundreds from three-digit numbers using number facts
		Create division statements to describe and solve grouping problems					Subtract from three-digit numbers using rounding and compensating
					Y2 - Tell the time using quarter to the hour on an analogue clock Y3 - Know the number of days in each month, year and leap year		
		Create division statements to describe sharing and solve problems					Subtract two 3-digit numbers using partitioning no exchanging
	16	Show that division is not commutative					Subtract by finding the difference between two 3-digit numbers with the same hundreds digits
Tables		Build the 2x table and count in steps of 2 from zero					Subtract by finding the difference between two numbers with different hundreds digit
		Recall and use multiplication facts for the 2 times table				Fractions	Recognise and represent unit fractions
					Y2 - Draw the hands on a clock to show quarter past/to the hour on an analogue clock Y3 - Tell the time to one minute intervals past the hour on an analogue clock		

		Recall and use division facts for the 2 times table					Recognise and represent non-unit fractions
	17	Recognise and use odd and even numbers					Compare two proper fractions which have the same denominator
		Build the 10x table and count in steps of 10 from zero					Order a set of proper fractions which have the same denominator
		Recall and use multiplication facts for the 10 times table					Compare two unit fractions
					Y2 - Know and use the fact that there are 60 minutes in 1 hour Y3 - Draw the hands on a clock to show one minute intervals past the hour on an analogue clock		
		Recall and use division facts for the 10 times table					Order a set of unit fractions
	18	Build the 5x table and count in steps of 5 from zero					Compare two proper fractions which have the same numerator >1 (small denominator
		Recall and use multiplication facts for the 5 times table					Order a set of proper fractions which have the same numerator >1 (small denominator)
		Recall and use multiplication facts for the 5 times table					Recognise and show equivalent proper fractions (denominators multiples of each other)
					Y2 - Tell the time to five minute intervals past the hour on an analogue clock Y3 - Tell the time to one minute intervals to the hour on an analogue clock	Addition and subtraction: written methods	
		Recall and use multiplication facts for the 5 times table					Use column addition for two 3-digit numbers when regrouping is required in the ones column
Fractions	19	Recognise one third as one of three equal parts of a shape and use fraction notation					Use column addition for two 3-digit numbers when regrouping is required in the tens column
		Find 1/3 of objects					Use column addition for two 3-digit numbers when regrouping is required in multiple columns
		Find 1/3 of an amount					Use column addition for 3-digit and 2-digit numbers when regrouping is required in the ones column

					Y2 - Draw the hands on a clock to show five minute intervals past the hour on an analogue clock Y3- Draw the hands on a clock to show one minute intervals to the hour on an analogue clock		
		Recognise two quarters as two of four equal parts, or two of one quarter of a shape and use fraction notation					Use column addition for 3-digit and 2-digit numbers when regrouping is required in the tens column
	20	Find 2/4 of objects					Use column addition for 3-digit and 2-digit numbers when regrouping is required in multiple columns
		Find 2/4 of an amount					Choose efficient methods to add numbers with up to 3-digits
		Recognise that a half is equivalent to two quarters					Use column subtraction for 3-digit numbers when exchanging is required in the tens column
					Y2 - Tell the time to five minute intervals to the hour on an analogue clock Y3 - Read analogue time and record using digital format		
		Recognise three quarters as three of four equal parts, or three of one quarter of a shape and use fraction notation					Use column subtraction for 3-digit numbers when exchanging is required in the hundreds column
	21	Find 3/4 of objects					Use column subtraction for 3-digit numbers when exchanging is required in multiple columns
		Find 3/4 of an amount					Use column subtraction for 3-digit and 2-digit numbers when exchanging is required in the tens column
Statistics		Interpret a table					Use column subtraction for 3-digit and 2-digit numbers when exchanging is required in the hundreds column
					Y2 - Draw the hands on a clock to show five minute intervals to the hour on an analogue clock Y3 -Read digital time and write using 'to' and 'past'		
		Construct a tally chart					Use column subtraction for 3-digit and 2-digit numbers when

							exchanging is required in multiple columns
	22	Interpret a pictogram where the symbol represents a single item					Choose efficient methods to subtract numbers with up to 3-digits
		Construct a pictogram where the symbol represents a single item				Multiplication and division	Multiply 2-digit numbers by 10 using place value
		Interpret a pictogram where the symbol represents 2 items					Multiply 1-digit numbers by multiples of 10 using place value
					Y2 - Order or sequence intervals of time, including the fact that there are 24 hours in one day Y3 - Sequence events using a.m. and p.m.		
		Construct a pictogram where the symbol represents 2 items					Use the distributive law to multiply a teens number by a one-digit number
	23	Interpret a pictogram where the symbol represents 5 or 10 item					Use the distributive law to multiply a two-digit number by a one-digit number
		Construct a pictogram where the symbol represents 5 or 10 items					Multiply 2-digit numbers by a 1-digit number using a formal written method (regroup ones)
		Interpret a block diagram					Multiply 2-digit numbers by a 1-digit number using a formal written method (regroup tens)
					Y2 - Measure capacity using litres Y3 - Compare times given in seconds, minutes and/or hours		
		Construct a block diagram					Multiply 2-digit numbers by a 1-digit number using a formal written method (multiple)
Measurement: length and mass	24	Read scales in divisions of ones and twos					Use efficient methods to multiply a two-digit number by a one-digit number
		Read scales in divisions of fives and tens					Divide near multiples by 2, 3, 4, 5, 8, 10 with remainders
		Measure the mass of objects (kg)					Divide a 3-digit multiple of ten by 10 using place value
					Y2 - Measure capacity using millilitres Y3 - Compare times given in seconds, minutes and/or hours		
		Measure the mass of objects (g)					Use known facts and place value when dividing mentally by 2, 3, 4, 5, and 8 e.g. 120 ÷ 4

	25	Estimate the mass of objects					Use partitioning to divide by a single digit number where the quotient is a teens number
		Compare the mass of objects using >, < and =					Use multiplication or division to solve scaling or correspondence problem
		Order the mass of objects				Fractions	Find unit fractions of a number of objects
					Y2 - Estimate capacity using litres Y3 - Calculate the duration of events more than one hour		
		Measure lengths (m					Find unit fractions of an amount
	26	Measure lengths (cm)					Find non-unit fractions of a number of objects
		Estimate lengths					Find non-unit fractions of an amount
		Compare lengths using >, < and =					Add fractions with the same denominator within one whole
				Statistics Y3	Y2 - Estimate capacity using millilitres Y3 - Interpret a pictogram where the symbol represents multiple items		
		Compare lengths using >, < and =					Subtract fractions with the same denominator within one whole
	27	Measure heights (cm)					Read Roman numerals up to XII
		Estimate heights					Know the number of seconds in a minute and multiple minutes
		Compare heights using >, < and =				Measurement : length, mass and capacity	Use a ruler to measure lengths in millimetres
					Y2 - Compare capacity, > and < Y3 - Construct a pictogram where the symbol represents multiple items		
							Compare the length of two object
	28						Order lengths
							Add lengths
							Subtract lengths
					Y2 - Order capacities Y3 - Interpret a bar char Construct a bar char		
							Find the perimeter of a 2-D shapes by measuring
	29						Measure mass
							Compare mass
							Order mass

					Y2 – Measure temperature Y3 - Interpret data in a table Create a table to show data		
							Add and subtract mass
	30						Measure capacity
							Compare capacity
							Add and subtract capacities
							Use scaling with measures
	31						Add and subtract mass
							Measure capacity
							Compare capacity
							Add and subtract capacities
	32						Use scaling with measures