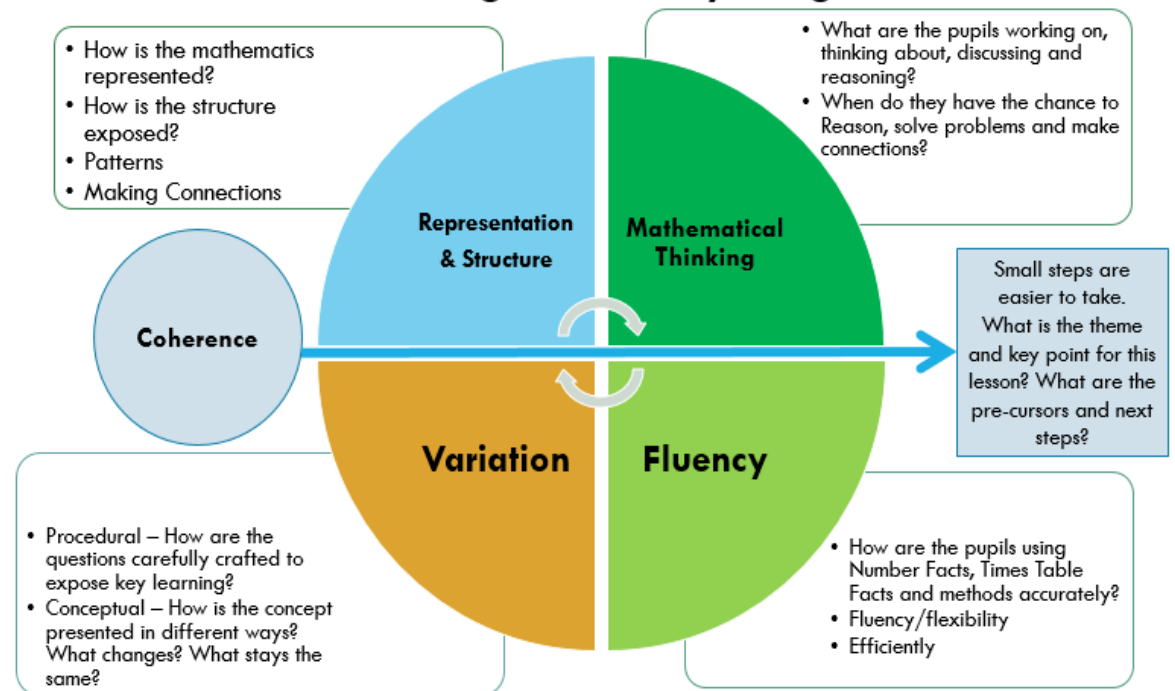# Westbury Maths Curriculum

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.

Teaching for Mastery 5 big ideas

- How is the mathematics represented?
- How is the structure exposed?
- Patterns
- Making Connections

Representation & Structure

Coherence

Mathematical Thinking

- What are the pupils working on, thinking about, discussing and reasoning?
- When do they have the chance to Reason, solve problems and make connections?

Small steps are easier to take. What is the theme and key point for this lesson? What are the pre-cursors and next steps?

Variation

Fluency

- Procedural – How are the questions carefully crafted to expose key learning?
- Conceptual – How is the concept presented in different ways? What changes? What stays the same?

- How are the pupils using Number Facts, Times Table Facts and methods accurately?
- Fluency/flexibility
- Efficiently

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

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	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

Key Instant Recall Facts (KIRFs)

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Willow Class Maths (Reception and Year 1)

In Willow Class Maths, the Reception children are taught **Mastering Number** 4 days a week and join the Year 1 children for some of the Thursday and Friday lessons which cover Geometry and Measurement. The Year 1s also have 4 sessions of **Mastering Number** as well as their daily maths lesson outlined below.

Autumn Term

Mondays, Tuesdays and Wednesdays			Thursdays and Fridays		Mastering Number Year 1	Mastering Number Reception
Topic	**Week**	**Objective**	**Topic**	**Objective**	Taught 4 days a week	Taught 4 days a week
Number and Place Value: Up to 20	1		Geometry: Properties of Shapes (2D) **Whole Class**		Pupils will have an opportunity to consolidate the Early Learning Goals and continue to explore the composition of numbers within 10, and the position of these numbers in the linear number system.	Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison.
		Count at least 20 objects				
		Represent numbers from 10 to at least 20				
				Recognise and name rectangles		
				Recognise and name squares		
	2	Explore the structure of numbers up to at least 20				
		Within the range 0 - 20 count forwards from a given number to another given number			Pupils will:	
		Within the range 20 - 0 count backwards from a given number to another given number			• subitise within 5, including when using a rekenrek, and re-cap the composition of 5	
				Recognise and name circles	• develop their understanding of the numbers 6 to 9 using the '5 and a bit' structure	Pupils will:
				Recognise and name triangles		• identify when a set can be subitised and when counting is needed
	3	Compare numbers identifying which one is more	Geometry: Properties of Shapes (3D) **Whole Class**		• compare numbers within 10 and use precise mathematical language when doing so	• subitise different arrangements, both unstructured and structured, including using the Hungarian number frame
		Compare number identifying which one is less				
		Order numbers				
				Recognise and name cuboids		
				Recognise and name cubes	• re-cap the order of numbers within 10 and connect this to '1 more' and '1 less' than a given number	• make different arrangements of numbers within 5 and talk about what they can see, to develop their conceptual subitising skills
	4	Find one more and one less than a number up to at least 20				
Addition and Subtraction		Add 1 to numbers up to 20			• explore the structure of even numbers (including that even numbers can be composed by doubling any number, and can be composed of 2s)	
		Subtract 1 from numbers up to 20				
				Recognise and name pyramids		
				Recognise and name spheres		
	5	Write addition problems by combining two sets using + and =				

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					• explore the structure of the odd numbers as being composed of 2s and 1 more • explore the composition of each of the numbers 6, 8, and 10 • explore number tracks and number lines and identify the differences between them	• spot smaller numbers 'hiding' inside larger numbers connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers • hear and join in with the counting sequence, and connect this to the 'staircase' pattern of the counting numbers, seeing that each number is made of one more than the previous number • develop counting skills and knowledge, including: that the last number in the count tells us 'how many' (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds • compare sets of objects by matching • begin to develop the language of 'whole' when talking about objects which have parts
		Write subtraction problems by taking away, using - and =				
		Extra lesson to recap				
				Compare 3-D shapes and explain how they are similar or different		
				Extra lesson to recap		
	6	Partition 5	Geometry: Position and Direction **Whole Class**			
		Find and represent all addition number facts of 5				
		Find and represent all subtraction number facts of 5				
				Use mathematical language to describe position		
				Use mathematical language to describe movement along a straight line		
	7	Partition 6				
		Find and represent all addition number facts of 6				
		Find and represent all subtraction number facts of 6				
				Use mathematical language to describe a turn, including whole and half turns		
				Use mathematical language to describe a turn, including quarter turns		
Number and Place Value: up to 100	8	Count up to 100 and explore the structure of numbers up to 100				
		Count forwards from a given number to another given number				
		Count backwards from a given number to another given number				
				Remember It 1 and Problem solving		
				Remember It 1 and Problem solving 1		
	9	Compare numbers identifying which one is more and which is less				
		Find one more and one less than a number				
		Order numbers				
				Use mathematical language to describe a turn, including three-quarter turn		

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				Extra lesson		
Addition and Subtraction: Facts of 7-11	10	Partition 7	Measurement: Length **Whole Class**			
		Find and represent all addition number facts of 7				
		Find and represent all subtraction number facts of 7				
				Compare lengths using the language of longer than and shorter than		
				Order lengths		
	11	Partition 8				
		Find and represent all addition number facts of 8				
		Find and represent all subtraction number facts of 8				
				Measure length using non-standard units		
				Compare heights using the language of taller than and shorter than		
	12	Partition 9				
		Find and represent all addition number facts of 9				
		Find and represent all subtraction number facts of 9				
				Order heights		
				Measure heights using non-standard units		

Spring Term

Addition and Subtraction: Facts of 7-10	1	Partition 10			Pupils will continue to explore the composition of numbers within 10 and explore addition and subtraction structures and the related language (without the use of symbols). Pupils will:	Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to
		Find and represent all addition number facts of 10				
		Find and represent all subtraction number facts of 10				
				Measure lengths and heights using common standard units		
				Extra problem solving		
	2	Remember It 2 and Problem Solving	Measurement: Time			
		Remember It 2 and Problem Solving				

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					• explore the composition of each of the numbers 7 and 9	doubles. They will begin to connect quantities to numerals.
		Remember It 2 and Problem Solving			• explore the composition	
				Know and use the days of the week	of odd and even numbers, seeing that even numbers	Pupils will:
				Know and use the months of the year	can be made of two odd or two even parts, and that	• continue to develop their subitising
Addition and Subtraction: Facts of 11-16	3	Partition 11			odd numbers can be composed of one odd part and one even part	skills for numbers within and beyond 5,
		Find and represent all addition number facts of 11				and increasingly connect quantities to
		Find and represent all subtraction number facts of 11			• identify the number that is two more or two less than a	numerals
				Recognise and use the language related to dates	given odd or even number, identifying that two more/	• begin to identify missing parts for
				Tell the time to the hour	less than an odd number is the next/ previous odd	numbers within 5
	4	Partition 12			number, and two more/ less than an even number is the	• explore the structure of the numbers 6
		Find and represent all addition number facts of 12			next/ previous even number	and 7 as '5 and a bit' and connect this
		Find and represent all subtraction number facts of 12			• explore the aggregation and partitioning structures	to finger patterns and the Hungarian
				Remember It 2 and Problem Solving	of addition and subtraction through systematically	number frame
				Remember It 2 and Problem Solving	partitioning and re-combining numbers within	• focus on equal and unequal groups
	5	Partition 13			10 and connecting this to the part-part-whole	when comparing numbers
		Find and represent all addition number facts of 13			diagram, including using the language of parts and	• understand that two equal groups can
		Find and represent all subtraction number facts of 13			wholes	be called a 'double' and connect this to
				Draw hands on a clock face to show time to the hour	• explore the augmentation and reduction structures of	finger patterns
				Tell the time to half past the hour	addition and reduction using number stories,	• sort odd and even numbers according
	6	Partition 14			including introducing the 'first, then, now' language	to their 'shape'
		Find and represent all addition number facts of 14			structure	• continue to develop their understanding
		Find and represent all subtraction number facts of 14				of the counting sequence and link
				Draw hands on a clock face to show the time to half past the hour		cardinality and ordinality through the
				Sequence events in chronological order within the same day and the same week		'staircase' pattern
	7	Partition 15				• order numbers and play track games
		Find and represent all addition number facts of 15				• join in with verbal counts beyond 20,
		Find and represent all subtraction number facts of 15				
				Measure time		

				Compare times using quicker, slower, earlier, later		hearing the repeated pattern within the counting numbers
	8	Partition 16	Measurement: Money			
		Find and represent all addition number facts of 16				
		Find and represent all subtraction number facts of 16				
				Remember Its 3		
				Remember Its 3		
Addition and Subtraction: Facts of 17-20	9	Partition 17				
		Find and represent all addition number facts of 17				
		Find and represent all subtraction number facts of 17				
				Recognise and know the value of the 1p coin		
				Recognise and know the value of the 2p coin		
	10	Partition 18				
		Find and represent all addition number facts of 18				
		Find and represent all subtraction number facts of 18				
				Recognise and know the value of the 5p coin		
				Recognise and know the value of the 10p coin		

Summer Term

					Pupils will explore the composition of numbers within 20 and their position in the linear number system. They will connect addition and subtraction expressions and equations to 'number stories').	Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice.
Addition and Subtraction: Facts of 17-20	1	Partition 19				
		Find and represent all addition number facts of 19				
		Find and represent all subtraction number facts of 19				
				Recognise and know the value of the 20p coin		
				Recognise and know the value of the 50p coin	Pupils will: • explore the composition of the numbers 11 to 19 as '10 and a bit' and	Pupils will: • continue to develop their counting skills,
	2	Partition 20				
		Extra Problem Solving				
		Extra Problem Solving				
				Recognise and know the value of the £1 coin		

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Topic	Wk	Objectives	Measurement	Money / Mass / Capacity	Composition	Counting
				Recognise and know the value of the £2 coin	compare numbers within 20 • connect the composition of the numbers 11 to 19 to their position in the linear number system, including identifying the midpoints of 5, 10 and 15 • compare numbers within 20 • understand how addition and subtraction equations can represent previously explored structures of addition and subtraction (aggregation/ partitioning/ augmentation/ reduction) • practise retrieving previously taught facts and reason about these	counting larger sets as well as counting actions and sounds • explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame • compare quantities and numbers, including sets of objects which have different attributes • continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2 begin to generalise about 'one more than' and 'one less than' numbers within 10 • continue to identify when sets can be subitised and when counting is necessary • develop conceptual subitising skills including when using a rekenrek
Fractions	3	Recognise a half of one of two equal parts of an object or shape				
		Find half of objects				
		Find half of an amount				
				Recognise and know the value of the £5 note		
				Recognise and know the value of the £10 note		
	4	Recognise a quarter as one of four equal parts of an object or shape				
		Find one quarter of objects				
		Find one quarter of an amount				
				Recognise and know the value of the £20 note		
				Extra problem solving		
	5	Remember It 4 and Problem Solving	Measurement: Mass and Capacity **Whole Class**			
		Remember It 4 and Problem Solving				
		Remember It 4 and Problem Solving				
				Compare mass of objects, heavier, lighter than		
				Order objects by mass		
Addition and Subtraction	6	Add two single digit numbers within 10				
		Add two single digit numbers bridging 10				
		Add ten and a single digit number				
				Measure the mass of objects using non-standard units		
				Measure the mass of objects using standard units		
	7	Add 9 and a single digit number				
		Subtract a single digit number from a single digit number				
		Subtract a single digit number from a 2 single digit number less than 20 without bridging 10				
				Compare capacity of containers		
				Order containers		

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	8	Subtract a single digit number from a 2 digit number less than 20 bridging 10			
		Subtract 10 from a two digit number up to 20			
		Subtract 9 from a two digit number up to 20			
				Measure capacities using non-standard units	
				Measure capacities using standard units	
Multiplication and Division	9	Double Numbers up to at least 10			
		Halve Numbers up to at least 20			
		Count (from zero) in equal steps of 2s			
				Remember It 5	
				Remember It 5	
	10	Count (from zero) in equal steps of 5s			
		Count (from zero) in equal steps of 10s			
		Use equal groups for multiplication			
				Extra Problem Solving	
				Extra Problem Solving	
	11	Use arrays for multiplication			
		Use grouping for division			
		Use sharing for division			
				Remember It 6	
				Remember It 6	
	12	Recap lesson			
		Recap lesson			
		Recap lesson			
				Recap lesson	
				Recap lesson	
	13	Extra Problem Solving			
		Extra Problem Solving			
		Extra Problem Solving			
				Extra Problem Solving	
				Extra Problem Solving	
	14	Revisit misconceptions			
		Revisit misconceptions			
		Revisit misconceptions			
				Ready for Year 2 Activities	