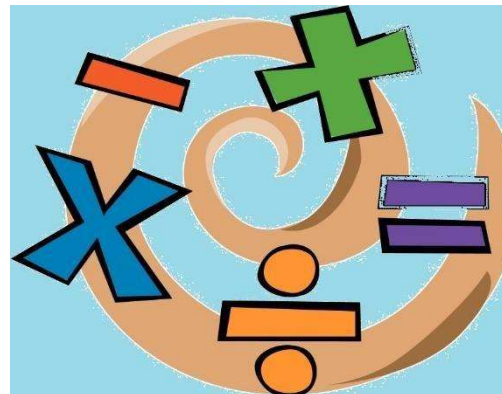




INSPIRE

CURRICULUM

Maths



Maths

Intent:

At Burnside Academy, we aim to develop confident, enthusiastic and resilient mathematicians who enjoy mathematics and understand its importance in everyday life.

We provide a high-quality, challenging and engaging mathematics curriculum that develops children's fluency, reasoning and problem-solving skills. Children build secure knowledge of number and mathematical concepts, develop fluency in key facts and procedures, and learn to make connections across different areas of mathematics.

We encourage children to think independently, explain their ideas, learn from mistakes and persevere when faced with challenges. Through rich opportunities to reason, problem-solve, generalise and apply their knowledge in different contexts, children develop the confidence to approach unfamiliar problems and make sense of their solutions.

Mathematical vocabulary is explicitly developed so that children can communicate their thinking clearly. We use practical and concrete experiences to build understanding before moving towards pictorial and abstract representations.

Our intention is that every child leaves Burnside Academy with a positive attitude towards mathematics and a strong set of mathematical skills that they can apply confidently in school, in everyday life and in the wider world.

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Implementation:

Curriculum Design

Our Maths curriculum journey begins in the Early Years, where children develop a strong sense of number through high-quality teaching, purposeful play and carefully planned mathematical experiences. Mathematics is woven throughout the school day, enabling children to apply and extend their understanding through routines, continuous provision and adult-led learning opportunities.

At Burnside Academy, we use the NCETM Mastering Number Programme across the whole school to develop children's fluency, flexibility and confidence with number. This ensures a consistent approach to number sense and provides a coherent progression from Early Years through to Key Stage 2. Through daily Number Knowledge sessions, children revisit and secure key mathematical facts, develop efficient calculation strategies and strengthen their understanding of number relationships.

In Early Years and Key Stage 1, teachers use the NCETM Curriculum Prioritisation Materials alongside the statutory curriculum to identify and focus on the most important mathematical concepts. These materials support children in developing secure foundational knowledge and provide opportunities for deep learning, ensuring pupils gain a strong understanding before moving on to new concepts.

Children in Reception begin the NCETM Mastering Number Programme, building a secure understanding of numbers, numerical patterns and relationships. This continues throughout Key Stage 1, where pupils further develop fluency in number facts and calculation strategies. The programme supports all children in developing confidence and flexibility with number, providing the foundations for future mathematical success. This is adapted to meet the needs of our pupils and is supplemented with resources from NCETM and other high-quality sources to ensure learning is engaging, challenging and ambitious for all learners.

Across Key Stage 2, teachers use White Rose Maths as the framework for curriculum coverage and progression. Its carefully sequenced small-step approach enables pupils to develop a deep and secure understanding of mathematical concepts while building systematically on prior learning. White Rose promotes fluency, reasoning and problem-solving, allowing children to make meaningful connections across different areas of mathematics and ensuring that key concepts are taught in depth. At Burnside Academy, the scheme is adapted to meet the needs of our pupils, providing an engaging, ambitious and inclusive mathematics curriculum for all learners.

Mastery Approach

Throughout our learning at Burnside, we follow a mastery approach. We use concrete, practical resources to ensure that children are introduced to mathematical ideas in a more 'hands on' approach to embed their learning. We believe that exposing the children to ideas through the use of concrete resources is key to conceptual understanding. Initially supported, children can use these practical resources if and when they need them.

throughout the small steps of learning. We also understand that pictorial representations allow children to make links between the practical resources and mathematical concepts. This is a key stepping stone before using more abstract mathematical notations. Manipulatives and representations are used to effectively develop and deepen understanding.

This is outlined in our calculation policy.

Fluency of number facts

To ensure all children build on their fluency and recall of mathematical facts, at Burnside, we run streamed groups across school which allow the children to make progress against number and fact recall at their own individual level.

Each day, we run 'Number Knowledge' sessions with the children from Year 1-6. These sessions are streamed to meet the need and tasks are adapted to suit each group accordingly.

All classes access the NCETM Mastering Number Programme as part of our whole-school approach to developing fluency and number sense. Daily Number Knowledge sessions provide opportunities for children to practise and consolidate key mathematical concepts, ensuring pupils develop automaticity with number facts and confidence when applying them in a range of contexts.

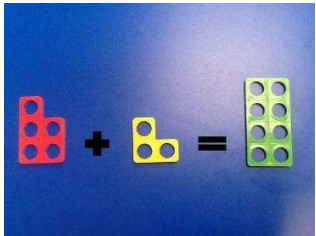
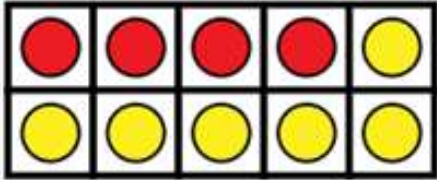
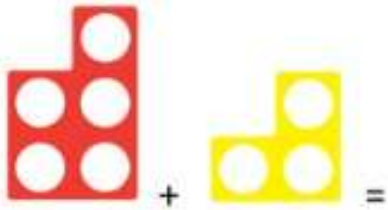
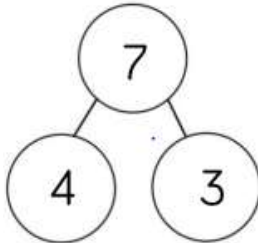
As the children move into upper Key Stage 2, they continue to access the 'Mastering Number' programme but then use these facts and apply them to problem solving questions. The children who are confident with times table and division facts make links between mathematical concepts and answer questions which focus on applying deeper thinking,

Calculation Policy

This policy contains the key recording methods that will be taught within our school. It has been written to ensure consistency and progression throughout all year groups. All children will be encouraged to enjoy mathematics and understand it in multiple ways including: practical aspects, pictorial representations, written form and spoken language. Teachers and teaching assistants will support and guide children through:

- the use of practical equipment
- the use of pictures, words and symbols
- the use of standard symbols and conventions
- the use of jottings to aid a mental strategy
- the use of formal written methods

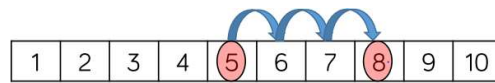
Our aim is for all children to be able to select an efficient method in order to solve calculations that are used in everyday life and relate this to given problems.

	Concrete	Pictorial	Abstract
EYFS The EYFS also provide many mathematical opportunities within their continuous provision.	<u>Tens Frame (with counters)</u>  <u>Numicon</u>  <u>Part- part- whole model (with counters)</u> 	 	Children to know their number bonds to 10 fluently and show how they can apply this effectively to answer addition questions e.g. $4 + 6 = 10$ The use of sentence stems is encouraged to support the children e.g. 4 and 6 make 10. 6 and 4 make 10. 

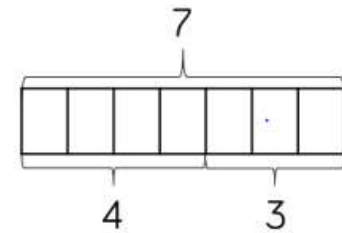
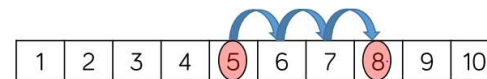
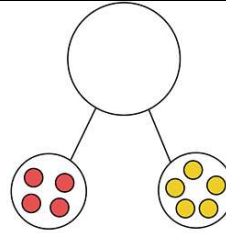
Multilink



Number track

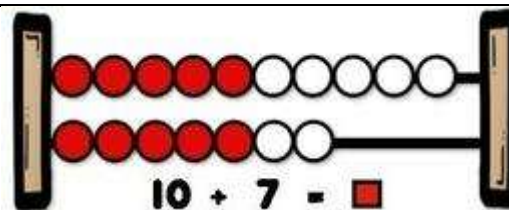


Rekenreks



$$5 + 3 = 8$$

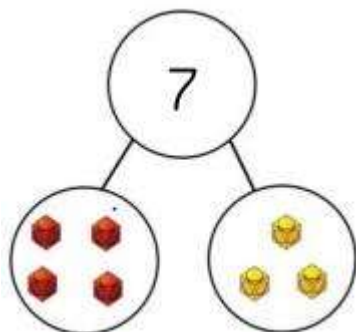
$$10 + 7 = 17$$



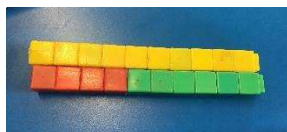
Year 1

Continuing to use the resources from EYFS and expand on them.

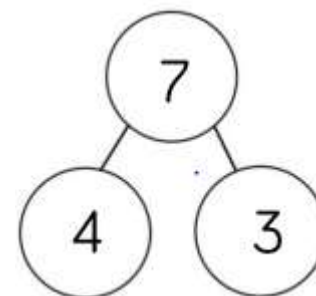
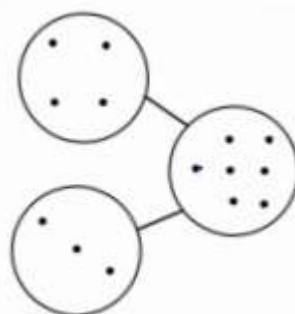
Part- part- whole model



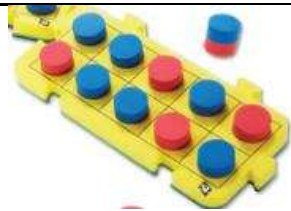
Bar Model



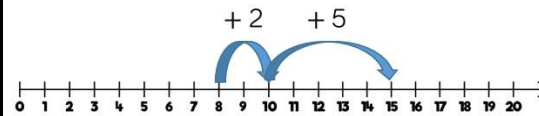
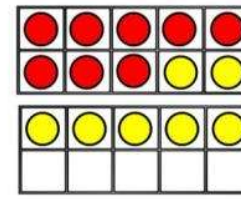
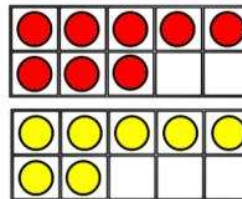
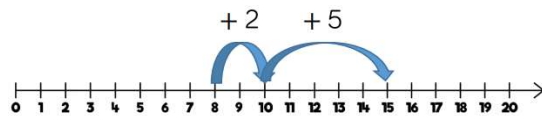
Tens Frame



$4 + 6 = 10$	$6 + 4 = 10$
	$10 - 6 = 4$



Number line

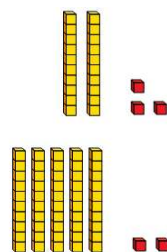


$$\begin{array}{c} 8 + 7 = 15 \\ \swarrow \quad \searrow \\ 2 \quad 5 \end{array}$$

$$\begin{array}{c} 8 + 7 = 15 \\ \swarrow \quad \searrow \\ 2 \quad 5 \end{array}$$

Year 2

No Exchange



Tens	Ones
7	5

$$23 + 52 = 75$$

	T	O	
	2	3	
+	5	2	
	1	.	
	1	.	
	1	.	
	1	.	
	1	.	
	1		
	1		
	7	5	

Children would be expected to count abstractly. One method for this would be to add the initial number then to tens e.g. $24 + 32 =$

$$24 + 30 = 54$$

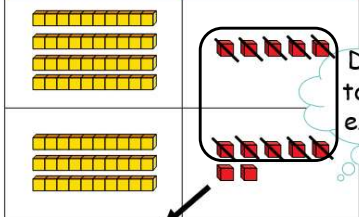
$$54 + 2 = 56$$

Exchanging

$$45 + 30 = 75$$

$$75 + 7 = 82$$

T	O
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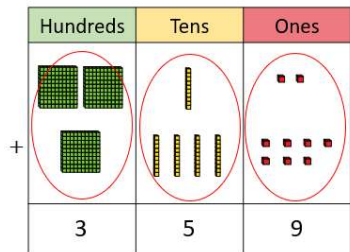
There are 8 tens and 2 ones.
 $45 + 37 = 82$

[illegible]

Key Stage 2

No Exchange

$$212 + 147 = 359$$

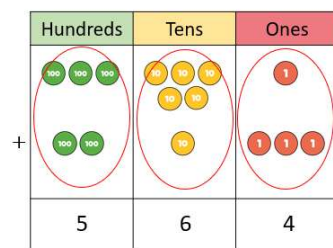


	H	T	0	
	2	1	2	
+	4	1	7	
			.	
			.	
			.	
			.	
			.	
			.	
			.	
			.	
			.	
	6	2	9	

Formal written methods.

	H	T	O	
	2	1	2	
+	1	4	7	
	3	5	9	

$$351 + 213 = 564$$



	H	T	O
	3	5	1
+	2	1	3
	5	6	4

	H	T	O	
	3	5	1	
+	2	1	3	
	H	T	O	
	H	T	O	
	H	T	O	
		T		
	5	6	4	

	H	T	O	
	3	5	1	
+	2	1	3	
	5	6	4	

Exchanging

Hundreds	Tens	Ones
		
4	1	5

		H	T	O
		2	4	3
+	1	1	7	2
		4	1	5

[illegible]

Hundreds	Tens	Ones
		
6	3	4

	H	T	O	
	3	7	1	
+	<u>12</u>	6	3	
	6	3	4	

[illegible]

	H	T	O	
	2	4	3	
+	1	7	2	
	4	1	5	

					H	T	O		
					3	7	1		
				+	2	6	3		
					6	3	4		