Hanley St Luke's Church of England Academy

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Mathematics Policy	
Date adopted	Summer 2025
Date reviewed	Summer 2025
Next review date	Summer 2026
Subject lead	Miss Emma Facey
Headteacher	Mrs Zoe Cooper
Governor/Committee (where applicable)	Mrs Julie Salisbury

Our Vision:

Jesus said: *'I have come that they may have life and have it to the full.'*

Promoting *life-long learning*

Developing *life-giving relationships*

Exploring *life-enhancing faith*

Inspiring *life-enriching aspiration*

Opportunities for Life

This policy outlines the teaching, learning, organisation and management of mathematics at Hanley St Luke's C of E Primary Academy.

At Hanley St Luke's our Mission is to:

- Promote Christian belief and practice and to encourage the moral and spiritual development of all people in our school.
- Develop in each person a sense of self-worth and the necessary qualities to become a full and valuable member of British society
- Encourage the full academic potential of each child.
- In our school we promote honesty, courtesy, kindness, perseverance and respect. We celebrate all our many differences and diversity, believing each individual is special and valued by God.

Mathematics is a universal language that helps us to understand the world, and it is a core part of the curriculum. As well as teaching about numbers, shapes, statistics and patterns, it provides important tools for work and careers in areas such as physics, architecture, medicine and business. It helps learners to develop logical and methodical thinking, to focus and to solve a wide range of mathematical problems.

The Intent, Implementation and Impact of our Maths Curriculum.

At Hanley St Luke's we teach for mastery and believe that fluency, reasoning and problem solving are at the core of all maths lessons, including maths across the curriculum. This approach begins from nursery and extends throughout the school to year 6. We aspire for children to 'keep up, rather than catch up', setting out a clear approach to proficiency for pupils. (Co-ordinating Mathematical Success 2023)

Mastery of mathematics is something that we want pupils - all pupils - to acquire, or rather to continue acquiring throughout their school lives, and beyond.
At Hanley St Luke's, we believe that all pupils can achieve in mathematics! There is no such thing as a 'Maths person', that is the belief that some pupils can do maths and others cannot. A typical Maths lesson will provide the opportunity for all children, regardless of their ability, to work through Fluency, Reasoning and Problem Solving activities.

Underpinning principles from The NCETM Essence of Mastery 2022

- Mathematics teaching for mastery assumes everyone can learn and enjoy mathematics.
- Mathematical learning behaviours are developed such that pupils focus and engage fully as learners who reason and seek to make connections.
- Teachers continually develop their specialist knowledge for teaching mathematics, working collaboratively to refine and improve their teaching.
- Curriculum design ensures a coherent and detailed sequence of essential content to support sustained progression over time.

Lesson design

- Lesson design links to prior learning to ensure all can access the new learning and identifies carefully sequenced steps in progression to build secure understanding.
- Examples, representations and models are carefully selected to expose the structure of mathematical concepts and emphasise connections, enabling pupils to develop a deep knowledge of mathematics.

- Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other.

- It is recognised that practice is a vital part of learning, but the practice must be designed to both reinforce pupils' procedural fluency and develop their conceptual understanding.

In the classroom

- Pupils are taught through whole-class interactive teaching, enabling all to master the concepts necessary for the next part of the curriculum sequence.

- In a typical lesson, the teacher leads back and forth interaction, including questioning, short tasks, explanation, demonstration, and discussion, enabling pupils to think, reason and apply their knowledge to solve problems.

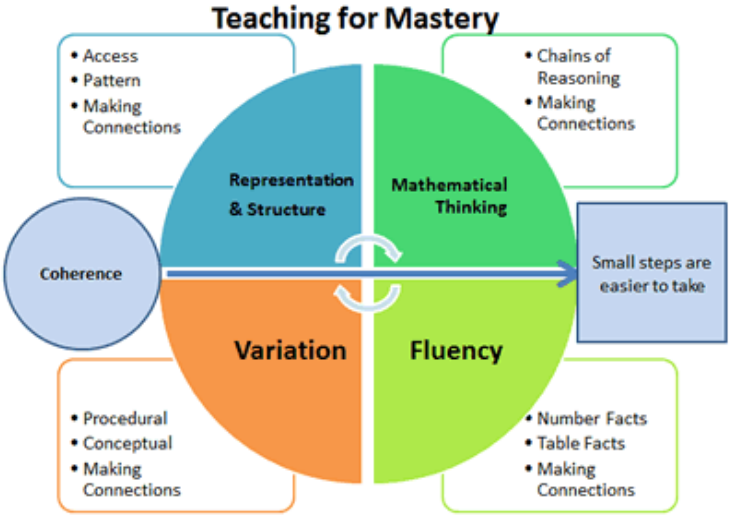
- Use of precise mathematical language enables all pupils to communicate their reasoning and thinking effectively.

- If a pupil fails to grasp a concept or procedure, this is identified quickly, and gaps in understanding are addressed systematically to prevent them falling behind.

- Significant time is spent developing deep understanding of the key ideas that are needed to underpin future learning.

- Key number facts are learnt to automaticity, and other key mathematical facts are learned deeply and practised regularly, to avoid cognitive overload in working memory and enable pupils to focus on new learning.

Behind all NCETM and Maths Hubs' work in the field of teaching for mastery are the Five Big Ideas in Teaching for Mastery.



The focus on mastery and growth mind-set learning in mathematics instils behaviours such as determination, respect, perseverance and resilience, all of which are part of a values system that create a more positive and harmonious Britain. Maths teaching for mastery rejects the idea that a large proportion of people 'just can't do maths'. At Hanley St Luke's, all pupils are encouraged by the belief that by working hard at maths they can succeed.

The policy has the full agreement of the staff, leadership team and the governing body. Staff members have discussed and added to it as required.

The implementation of this policy is the responsibility of all teaching and support staff. It is monitored by the mathematics lead and other leaders who also conduct regular mathematics monitoring in addition to outside agencies.

Intent

Maths is a journey and long-term goal, achieved through exploration, clarification, practice and application over time. At Hanley St Luke's, learning in mathematics is defined as: The process of acquiring essential knowledge, skills, understanding and behaviours required for deep understanding and mastery of skills and content.

At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time.

There are three levels of learning:

- Shallow learning: surface, temporary, often lost
- Deep learning: it sticks, can be recalled and used
- Deepest learning: can be transferred and applied in different contexts

We aim for deep learning through regular retrieval practice, repetition and recall, intelligent practice and fluency. Mathematics provision is carefully designed to advance understanding gradually throughout a key stage. The curriculum is planned in small steps. A small step may take one lesson, or several, depending on the needs of the children. Children have time to practice skills and embed their new learning.

Progress in mathematics is defined as the widening and deepening of essential knowledge, skills, understanding and behaviour. This means that pupils will use the same content repeatedly, each time in a richer and more challenging context, thus deepening their understanding. An ambitious curriculum is one that maximises the mathematics that pupils learn.

At Hanley St Luke's, teachers do not move on before ensuring pupils have learned important knowledge and committed that knowledge to long term memory. We cover a broad and balance mathematics curriculum, with a strong focus on number. Pupils are better served studying less, but securely learning more. (Co-ordinating Mathematical Success 2023, Ready to Progress Materials)

We do not rush to introduce new content, as it is so important that pupils are provided with challenging opportunities, and have sophisticated problems that challenge them in a wide variety of different situations first. The time scale for progress is across a year or key stage.

The main objectives for each year group are given highest priority in line with the DFE document "Mathematics Guidance in KS1 and KS2. June 2020: Ready to Progress'.

Pupils are assessed according to curriculum standards for each year group. It is required that the vast majority of children will have the expected understanding/ mastery of the curriculum, and some will have a deeper understanding.

Children who are well below their peers with SEND, will have work tailored to their most urgent learning needs, and will join in with age related work where appropriate.
Staff employ adaptive teaching strategies to cater for the needs of all learners.

Through the focus of attainment and achievement in mathematics through effort, creativity and high expectations for all pupils; Hanley St Luke's Primary Academy is driven to educate students and develop traits, which contribute to life-long learning and achievement and potential careers in mathematics, or where sound mathematical understanding is essential.

Implementation

Multiple representations for all!

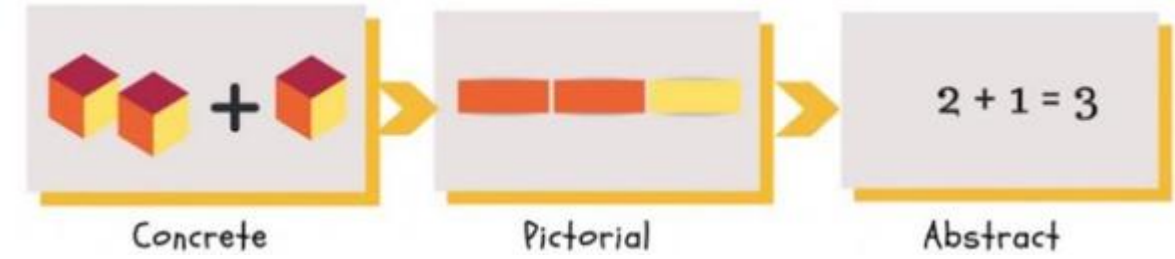
Concrete, pictorial, abstract

Objects, pictures, words, numbers and symbols are everywhere. The mastery approach incorporates all of these to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding. Together, these elements help cement knowledge so pupils truly understand what they have learnt.

All pupils, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking this approach. Pupils are encouraged to physically and pictorially represent mathematical concepts.
Objects and pictures are used to demonstrate and visualise abstract ideas, alongside numbers and symbols.

Concrete – This is vital to mathematical success and understanding. Children have the opportunity to use concrete objects and manipulatives to help them understand and explain what they are doing.
Pictorial – children then build on this concrete approach by using pictorial representations and drawings, which can then be used to reason and solve problems.
Abstract – With the foundations firmly laid, children can move to an abstract approach using numbers and key concepts with confidence. The emphasis on concrete and pictorial helps to

expose the structure of maths, supporting understanding and helping to avoid errors at the abstract stage.



Pupils are taught mathematics through whole-class interactive teaching, where the focus is on all pupils working together on the same lesson content at the same time.

Lesson design: All lessons start with retrieval practice of previously taught concepts and skills using White Rose Education- Flashback 4. Teachers then identify the small step mathematics that is to be taught, the key points, the difficult points and a carefully sequenced journey through the learning.

Staff use a set mathematics PPT with the key areas of focus and associated symbols: Retrieval practice, new learning, linked learning, key vocab/ oracy, stem sentences, working walls, practical, pictorial, guided practice and independent practice. Staff have autonomy over this, but it is there as a guide to support our approach and teacher workload.

In a typical lesson pupils sit facing the teacher and the teacher leads back and forth interaction, including questioning, short tasks, chanting, repetition, sentence stems, explanation, demonstration, talk partners and discussion. Different response strategies and specific techniques to support memory and cognitive load may be used, such as silent teacher and repetition.

Procedural fluency and conceptual understanding are developed in tandem because each supports the development of the other. It is recognised that practice is a vital part of learning, but the practice used is intelligent practice that both reinforces pupils' procedural fluency and develops their conceptual understanding. Significant time is spent developing deep knowledge of the key ideas that are needed to underpin future learning. The structure and connections within the mathematics are emphasised, so that pupils develop deep learning that can be sustained.

Key facts such as multiplication tables and addition facts are practised regularly with the aim of automaticity to avoid cognitive overload in the working memory and enable pupils to focus on new concepts (NCETM). (See Times Table Progression, Number Line Progression and

Number Bonds Progression in our Calculation Policy) Additional Mastering Number Lessons for KS1 and KS2 are used to aid this.

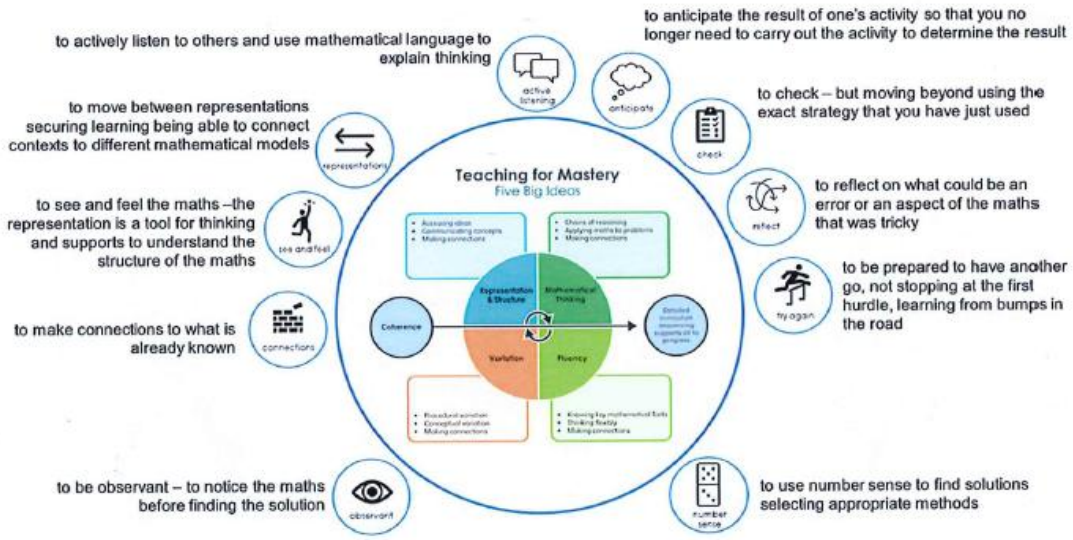
Some children will need additional support and scaffolding, and some will need further challenge. Flexible grouping either within a class, across a year group, or within a lesson and adaptive pedagogical approaches are utilised according to need.

If a pupil fails to grasp a concept or procedure, this is identified quickly and early. Sometimes, split maths lessons, same day intervention, whole class or group feedback, pre or post teaching or the actual next lesson, are employed by staff to ensure success before moving on. This ensures that children are ready to move forward with the whole class.

Mathematics is an essential life skill and a tool for everyday British life. It is a whole network of concepts and relationships, which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas, and to tackle a range of practical tasks and real life problems. Our primary aim is for all children to become fluent and confident mathematicians.

All of our mathematics teaching and learning will have the clear aim of developing children's ability to calculate, to communicate, to reason and to solve problems, to understand shape and space, to reason about number, to interpret data and use and apply learned strategies in a wide range of contexts across the curriculum.

Lessons are sufficiently challenging and allow children's understanding to improve steadily and thoroughly. All our staff have high expectations for all of our learners and their different learning styles. All children are expected to work at broadly the same pace, covering the same content. Faster graspers and more able children will move on to more challenging tasks more quickly. Interventions are given so that all learners keep up, and specific SEND needs are addressed accordingly.



Impact

- Quick recall of facts and procedures.
- Confident children who are able to use mathematical vocabulary and talk about their maths.
- Children who can see the structure and representation of maths through CPA approach.
- The flexibility and fluidity to move between different contexts and representations of mathematics.
- The ability to recognise relationships and make connections in mathematics.
- A mathematical concept or skill has been *mastered* when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
- More children achieving ARE or GDS, and evidencing in their work.
- Evidence of success and challenge evident in all work.

Teaching and Learning Ethos and Curriculum Organisation

Children are taught in flexibly grouped classes following a mastery approach. We use White Rose Education materials to structure our planning and small steps from Year 1 to Year 6. Nursery have a bespoke curriculum based on maths through stories, songs and rhymes. They use 'Master the Curriculum' resources. Reception use the NCETM Mastering Number resources. Both may supplement with White Rose materials too.

NCETM Mastering Number is taught in addition to the main mathematics lessons from year to year 6, and as the main teaching focus in reception.

Other resources are used including the Ready to Progress materials, Power Maths, SmartGrade, Grammarsaurus, iseereasoning by Gareth Metcalfe, NCETM, Numberblocks and Nrich. Teachers have the professional autonomy to design lessons most suited to their children's learning needs.

Through this methodology we encourage children to ask, as well as answer mathematical questions, talk about their understanding, challenge ideas and responses, make connections and see relationships, explore ideas, reflect critically on their own and others ideas, actions and outcomes. We develop skills in a variety of different ways with emphasis on intelligent practice.

We question our children's answers in order to encourage them to think deeply for example by asking them to "prove it" or to ask if their answer is "always, sometimes or never" true, or to "show us in a different way."

Careful planning of key questions influenced by Bloom's Taxonomy promotes higher order thinking skills and informs assessment as learning. We strive to ensure that all children are mathematically fluent in a number rich environment. We encourage learners to answer in full

sentences, repeat vocabulary and sentences using sentence stems that are also displayed on working walls.

In FS and Year 1, maths is taught in whole class sessions and small groups, and across continuous or enhanced provision.

A daily mathematics lesson, or split lesson, of at least an hour is taught from year 2 to year 6. In EYFS and Y1 maths is timetabled slightly differently and taught in blocks and through continuous provision. Independent and adult led activities that enhance or match the teaching focus, with Numberblocks videos, stories and number rhymes.

Assessment and review is ongoing, so that same day or specific intervention can be put in place as required for those that need it. The second part of the session later in the day, or the next day. Children who are rapid graspers will be given securing and deepening tasks to work on, including supporting slower graspers, and those children who require further support will work with the teacher or teaching assistant to build upon their procedural fluency.

Mathematics is taught as an independent subject but wherever possible we encourage the children to use and apply their learning in everyday situations, with links to real life. We also try to link it to other subjects and areas of the curriculum.

We have a focus on time telling and this is referred to across the school at several opportunities including assemblies. Statistics are taught discretely through science, English and foundation subjects.

All staff follow the school and White Rose calculation policies for written methods for all four operations. This details the progressive concrete, pictorial and abstract methods that are used alongside one another to support understanding. (See Calculation policy at the end)

Varied fluency, intelligent practice, reasoning and problem solving feature in every lesson.

There is a strong focus on basic skills including all four number operations. Mental recall and multiplication tables are practised and formatively and summatively assessed on a regular basis in all classes from Year 2 upwards. Children are also expected to practise these regularly for homework using daily times tables booklets and Times Tables Rockstars, including competitions with other schools.

Key mathematics concepts, manipulatives, vocabulary, sentence stems and information are displayed on working walls and displays to support the current unit or focus, and provide general prompts where current and previous mathematical learning and vocabulary is displayed and used throughout lessons by the children.

Mathematics Curriculum Planning and Assessment

Mathematics is a core subject in the National Curriculum and we use this to implement the required statutory elements of the NC programme of study for Mathematics.

We plan from the White Rose Education schemes of learning (Updated Summer 2022) including overviews, small step learning, fluency, problem solving, reasoning and assessment. Reception, KS1 and Years 3, 4, 5 and 6 also supplement White Rose small steps with the Mastering Number Program from the NCETM, in addition to the usual maths lesson as a 'maths meeting'. KS2 use a range of resources for their maths meetings outside the main lesson. The Ready to Progress Criteria identify the key priorities for staff to focus on.

Maths knowledge and skills are declarative, procedural or conditional. The types of knowledge form part of our maths design, lesson planning and policy. Our staff know that all children need to know declarative facts "I know that" (such as times tables and number bonds), and procedural problem solving methods "I know how" (written methods and problem solving), and conditional "I know when" (reasoning and thinking about the pattern of mathematics.) Fluency, reasoning and problem solving are a feature in every lesson.

White Rose end of term assessments are taken termly from Y1 to Y6 to give a standardised score. In Year 1 they may only complete a summer paper, and in year 2 they may only complete a spring and summer paper. This is decided according to each cohort and teacher assessment.

These scores are recorded by teachers, and put on the Arbor assessment tracker each half term, informing teacher assessment and future planning. Year 4 also complete termly MTC assessments and record on Arbor.

Other mathematics interventions such as specific need, precision teaching, the Power of 2 and Plus 1 may also be used.

National SATS are taken at the end Year 6. The MTC is taken online in Year 4.

Data is used by the maths lead and leadership team to track progress and attainment and to identify children in need of support and challenge. This is shared with class teachers during pupil progress meetings.

Moderation of children's learning and progress and consistency across classes and year groups takes place regularly by the mathematics lead and supporting leadership team. Following this, all staff are given specific feedback detailing measures to improve and celebrating good practice.

Assessment as Learning informs planning on a daily/ ongoing basis and informs the next part of the lesson; day or week's planning, teaching and learning for mastery. These immediate responses take the form of marking, discussion, intervention and verbal feedback.

To reduce workload and have greatest impact, work is marked 'in the moment' in a way that best suits teachers and pupils. Much of the feedback is verbal and practical. Whole class feedback is used to support learning.

Various rewards for mathematics and effort are given which may include points on Class Dojo, certificates, praise and stickers/ prizes from the principal and vice principal, assembly nominations and awards.

Teachers and teaching assistants circulate during lessons and provide immediate verbal feedback, using these judgements to decide on intervention and level of challenge. Marking, or following lessons provide the next steps in children's learning journeys.

White Rose Maths Assessments – conversion to standardised scores

	Working below year group	Working towards year group	Working at year group	Working at greater depth
WRM %	0-35 %	36 – 54%	55 – 84 %	85% +
Standardised score conversion	85 or below	86 – 99	100 - 114	115 +

%	SS
20	70
21	71
22	72
23	73
24	74
25	75
26	76
27	77
28	78
29	79
30	80
31	81
32	82
33	83
34	84
35	85
36 and 37	86
38 and 39	87
40 and 41	88
42 and 43	89
44 and 45	90
45 and 46	91
47	92
48	93
49	94
50	95
51	96
52	97
53	98
54	99

55	100
56 and 57	101
58 and 59	102
60 and 61	103
62 and 63	104
64 and 65	105
66 and 67	106
68 and 69	107
70 and 71	108
72 and 73	109
74 and 75	110
76 and 77	111
78 ans 79	112
80 and 81	113
82 and 83	114
84 and 85	115
86	116
87	117
88	118
89	119
90 +	120

Recording

Knowing how to set out work is another form of procedural knowledge.
Presentation is part of the mathematics curriculum. High standards of presentation are modelled and expected at all times.

Children are expected to write 1 digit per box and to use a ruler when drawing lines. The short date and title is written or stuck into books. Textbooks and worksheets also help to guide and support pupils' presentation, which gives them a sense of pride. Careful presentation is also likely to help pupil's spot patterns and identify their own mistakes.

In Nursery work will be recorded as a floor book and throughout provision.

In Reception, maths work is collected in Blue A4 2cm squared books and throughout provision.

In KS1 children's work is recorded in Blue A4 1cm squared books. In KS2, children work in Blue 0.7 cm A4+squared books.

Practical work in all year groups may be recorded through other media- photographs, video, 3D work etc. Photographs or videos of practical maths work are often recorded on Seesaw and Class Dojo.

Number Formation

Classrooms from Nursery to Year 3 display the NCETM Number Blocks formation posters. Staff teach and model the correct number formation using the patter below. Children watch Numberblocks regularly.

Children in reception and year 1 regularly practise number formation and there is a termly assessment glues inside their maths books. Children newly arriving from other schools and countries are encouraged to form numbers as per our policy. Reception and KS1 have number formation Numberblocks prompts in the front of books.

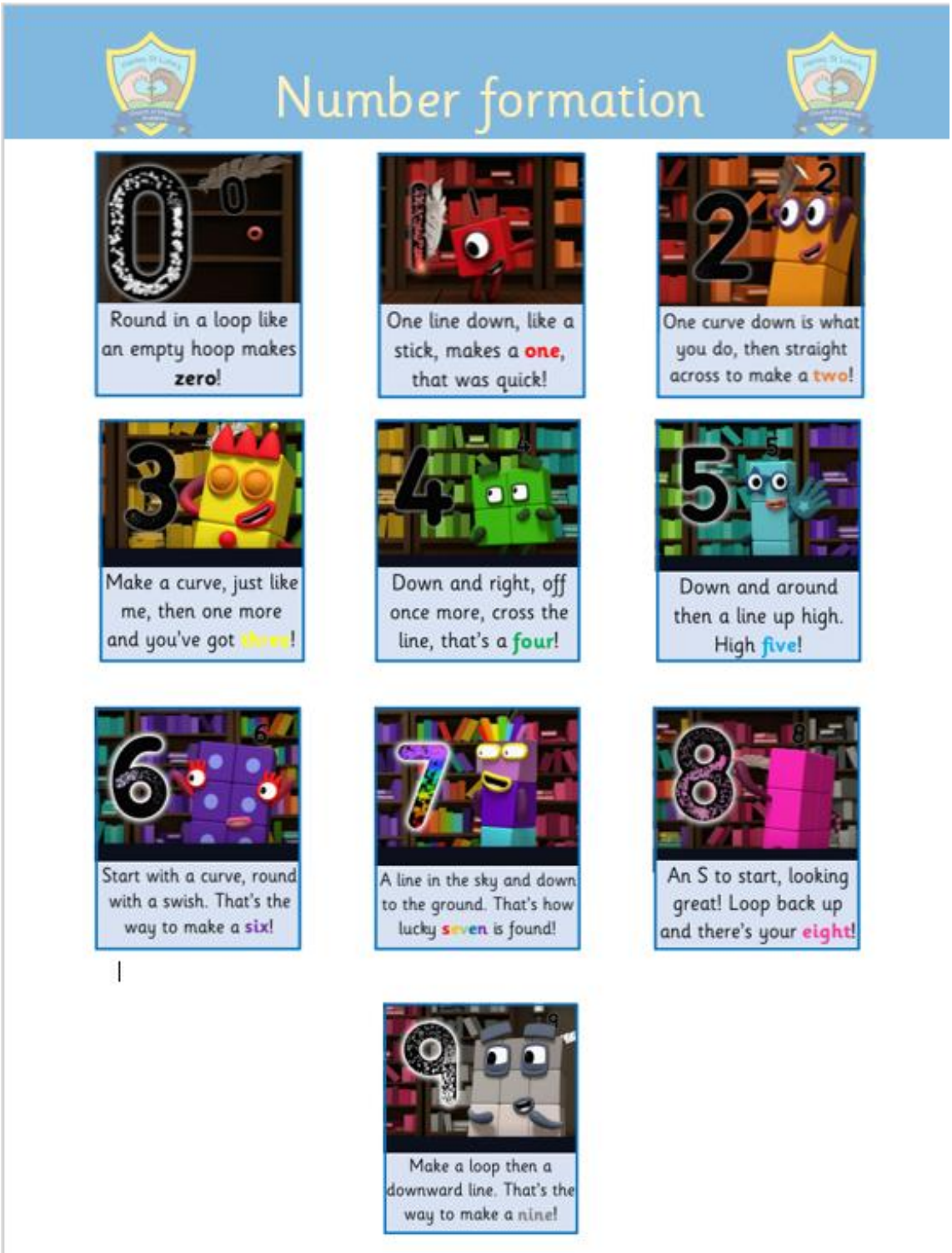
There is a whole school focus on number formation during maths lessons in transition week.

https://www.youtube.com/watch?v=8ii202RoEd8 Numberblocks Number Formation

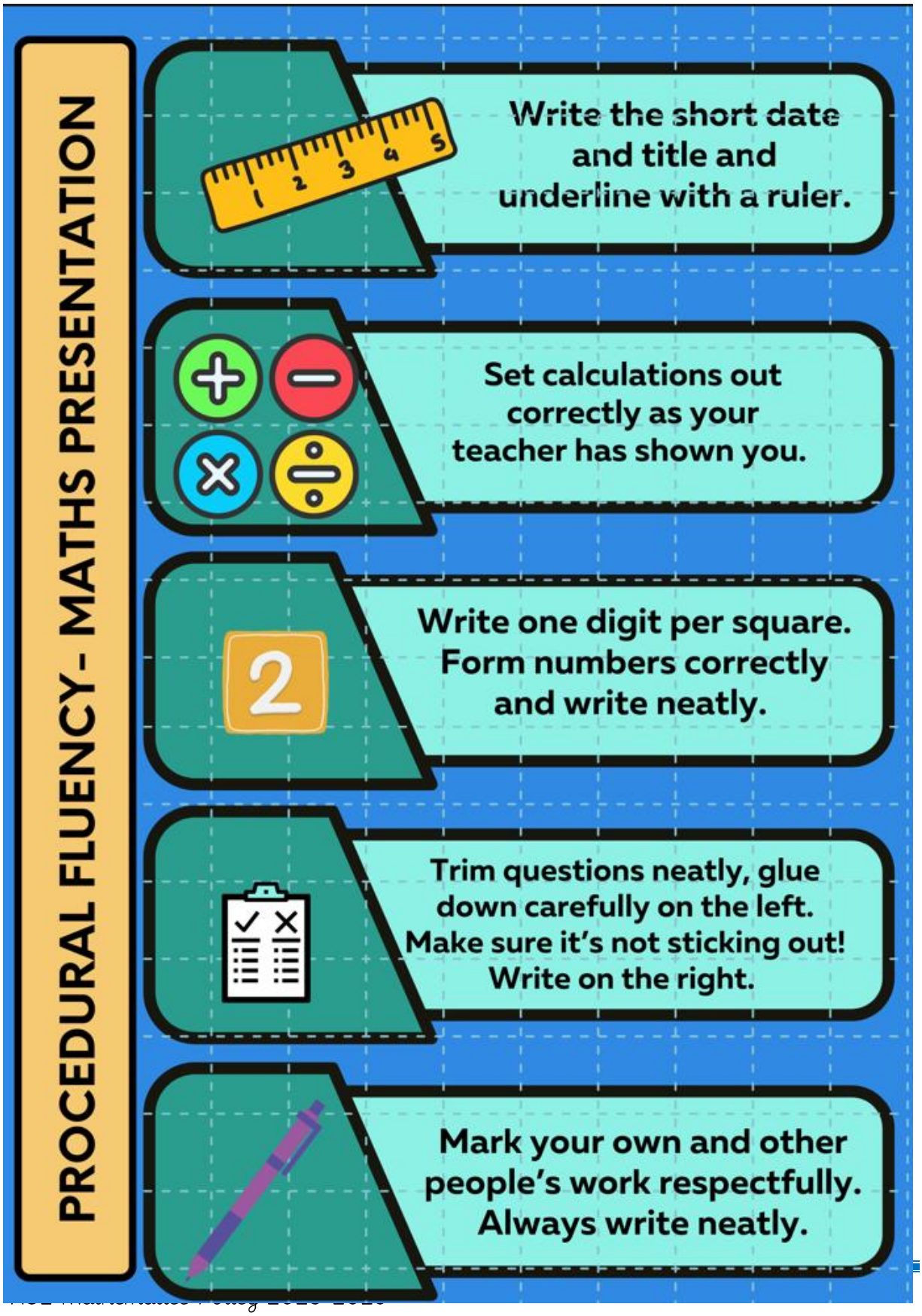
https://www.bbc.co.uk/iplayer/episode/m000t2vb/numberblocks-series-5-now-you-see-us?seriesId=m000t16j Numberblocks Series 5 Now You See Us

0- Round in a loop like an empty hoop makes zero!
I- One straight line going down like a stick makes a 1. That was quick!
2- One curve down is what you do, then straight across to make a 2.
3- Make a curve just like me, then one more and you've got 3!
4- Down and right, off once more, cross the line, that's a 4.

5- Down and around then a line up high! High 5!
6- Start with a curve, round with a swish. That's the way to make a 6.
7- A line to the sky, then down to the ground. That's how lucky 7 is found!
8- An S to start, looking great! Loop back up and there's your 8!
9- Make a loop, then a downward line. That's the way to make a 9!



Maths Presentation Poster



Our Approach to Times Tables at Hanley St Luke's

Intent

At Hanley St Luke's we want all of our children to recall their times tables with automaticity. We believe that it is important that children are given the opportunity to see, explore, and understand the mathematical structures and patterns of times tables for real deep, embedded learning. We want our children to know their times tables really well and be able to apply these facts (and their inverse - up to 12x12). Being fluent in times tables facts means that working memory is freed up and leaves space to explore new mathematical ideas and solve more complex problems.

Implementation

- Introduce the basic facts for your year group and teach strategies for calculating and remembering them.
- Say and display a wide range of vocabulary related to multiplication.
- Use lots of models and images and concrete apparatus so that the facts are not just abstract.
- Allow time for children to practice and memorise facts.
- Utilise Rapid recall, Fast Learning, Times Tables Rockstars, Maths Meetings.
- Set and check daily times tables homework/ Times Tables Rockstars.

Building up Times Tables skills for challenge:

Step 1 – Root facts

Step 2 – Root facts mixed up so no longer relying on patterns

Step 3 - Introduce tougher time restraints to encourage rapid recall (where appropriate)

Step 4 – Root facts and inverses

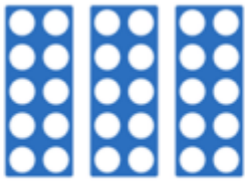
Step 5 – Root facts and any linked facts such as multiples of 10 or 100

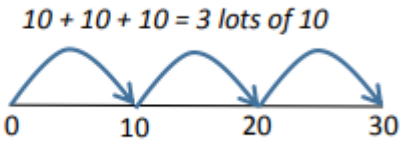
Step 6 – Missing number problems

Impact

Children know times tables -multiplication and division facts by heart and scores in the Year 4 MTC are improving.

5 + 5 + 5 = 5 lots of 3





Double 3 = 3 + 3 = 2 lots of 3

Double 6 = 6 + 6 = 2 lots of 6

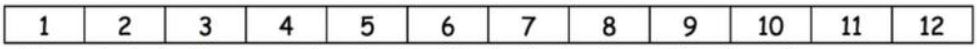
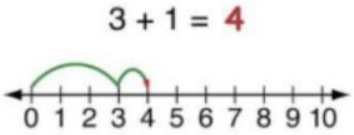
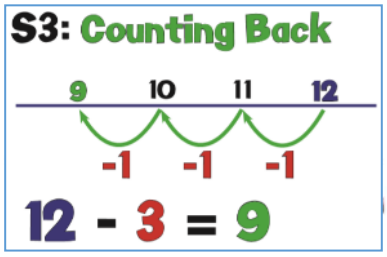
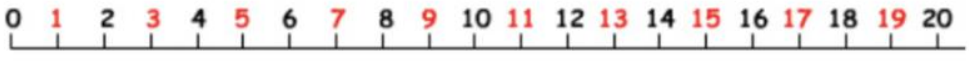
Times Tables Progression:

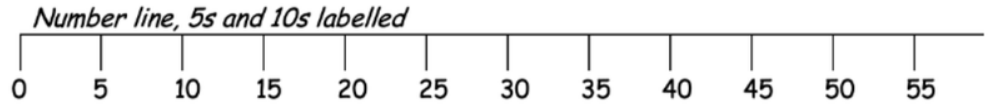
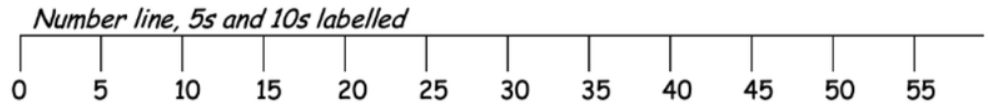
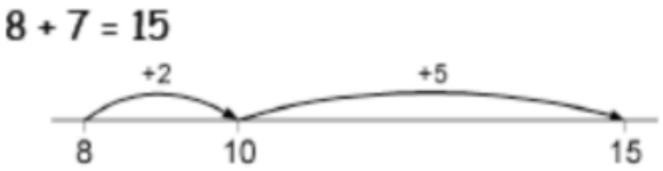
Year Group	Times Tables Facts	Tables Taught
EYFS	Subitising. Representations of number. Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally. Understand doubling as adding the same number. Doubles and halves up to 10. Counting forwards and backwards in 1s.	Counting forwards in 1, 2 and 10
1	Counting forwards and backwards in 2s, Counting forwards and backwards in 5s, Counting forwards and backwards in 10s. Understand doubling as adding the same number and halving as the opposite or subtracting same number. Doubles up to 20. Halves up to 20. Double multiples of 10. ÷	Counting forwards and backwards in 1, 2 , 5 and 10
2	Introduce the x and symbols. Learn x2 tables and related division facts. Learn x5 tables and related division facts. Learn x10 tables and related division facts. Doubles up to 20. Doubles of multiples of 5. Halving up to 20. Counting in forwards and backwards 3s. Counting forwards and backwards in 11s.	2,5,10 3
3	Learn x3 tables and related division facts. Learn x4 tables and related division facts. Learn x8 tables and related division facts. Learn x11 tables and related division facts. Double 2 digit numbers. Halve 2 digit numbers. Counting forwards and backwards in 6s.	11, 3,4,8 6
4	Learn x6 tables and related division facts. Learn x7 tables and related division facts. Learn x9 tables and related division facts. Learn x12 tables and related division facts. Double and halve decimals. Counting in 25s.	6, 7,9,12 25
5	Continue to build fluency for all times tables. Double and halve larger numbers and decimals. 10, 100 and 1000 times bigger. 10,100 and 1000 times smaller. Square Numbers and Square roots. Recall Prime Numbers to 19. Know and use vocabulary of prime numbers, prime factors and composite numbers.	All times Tables and related facts
6	As Year 5 and - Continue to build fluency for all times tables and previously taught facts. Partition larger numbers to multiply mentally. Cubed numbers and cube roots.	All times Tables and related facts

Vocabulary:
Groups of Lots of Repeated addition Times by Multiplied by Inverse The product of Divided by Commutative Law Arrays Shared by Halving Doubling Prime Composite Squared/ Cubed/ Root

Number Lines Progression:

To help children develop a sound understanding of numbers and to be able to use them confidently in their calculations, there needs to be careful progression in their use of number tracks and number lines. This strongly develops a linear understanding of numbers and provides support for mental calculations as the children are then able to mentally visualise a number line.

Learning Pathway for Number Lines:	
Number Tracks	To begin, children start saying the numbers in order forwards and backwards, on a number track to 10. They then start from different places on the number track – not always 1, or 10. To develop subitising children will place an amount of objects such as counters, onto the number track to support their counting and understanding of cardinality.  *Never include 0 on a number track. We don't start counting from 0.*
Number Line - Fully Labelled	The children then move on to using a number line, where all the numbers are labelled. We place emphasis on learning the TEEN numbers. 
Using a number line	There is a natural progression from basic counting forwards and backwards to addition and subtraction where children realise they do not need to always begin counting at 1 . The use of the number line is key to accelerate this progression. Children calculating 3 + 4 , often count 1,2,3 then continue to count on 4 more. We use the number line (all numbers labelled) to show addition and subtraction, encouraging the children to start with the biggest number first.  
Number Line - Odd and Even	Children explore skip counting in 2's and understanding odd and even numbers. The use of a number line is important for children to visualise the numbers that are skipped during these counting patterns. 
Number Line - 5's &	Children then learn to skip **count in 5s and 10s**. Skip counting forms the basis for multiplication. A number line can be very helpful to support this

10's labelled	
Number line - 10's labelled	We use a number line where 10s are labelled and estimate where other numbers lie. 
Unlabelled number line with hatch marks	Children will explore these number lines by labelling their own numbers. Estimating where other numbers lie. They can use these number lines to support addition and subtraction of larger two digits numbers without the need for long number lines. For example when calculating 87 - 5. Children can label the furthest hatch mark as 87. 
Empty Number Line - no numbers or hatch marks	Finally, an empty number line is introduced for jottings when children are performing calculations where it is difficult to keep all information in their heads. They can label numbers and/or jumps as they need. Children will be taught to sketch a horizontal line as a written method to support their calculations. 

Our Approach to Number Bonds at Hanley St Luke's

Using Mastering Number

0 + 0	0 + 1	0 + 2	0 + 3	0 + 4	0 + 5	0 + 6	0 + 7	0 + 8	0 + 9	0 + 10
1 + 0	1 + 1	1 + 2	1 + 3	1 + 4	1 + 5	1 + 6	1 + 7	1 + 8	1 + 9	1 + 10
2 + 0	2 + 1	2 + 2	2 + 3	2 + 4	2 + 5	2 + 6	2 + 7	2 + 8	2 + 9	2 + 10
3 + 0	3 + 1	3 + 2	3 + 3	3 + 4	3 + 5	3 + 6	3 + 7	3 + 8	3 + 9	3 + 10
4 + 0	4 + 1	4 + 2	4 + 3	4 + 4	4 + 5	4 + 6	4 + 7	4 + 8	4 + 9	4 + 10
5 + 0	5 + 1	5 + 2	5 + 3	5 + 4	5 + 5	5 + 6	5 + 7	5 + 8	5 + 9	5 + 10
6 + 0	6 + 1	6 + 2	6 + 3	6 + 4	6 + 5	6 + 6	6 + 7	6 + 8	6 + 9	6 + 10
7 + 0	7 + 1	7 + 2	7 + 3	7 + 4	7 + 5	7 + 6	7 + 7	7 + 8	7 + 9	7 + 10
8 + 0	8 + 1	8 + 2	8 + 3	8 + 4	8 + 5	8 + 6	8 + 7	8 + 8	8 + 9	8 + 10
9 + 0	9 + 1	9 + 2	9 + 3	9 + 4	9 + 5	9 + 6	9 + 7	9 + 8	9 + 9	9 + 10
10 + 0	10 + 1	10 + 2	10 + 3	10 + 4	10 + 5	10 + 6	10 + 7	10 + 8	10 + 9	10 + 10

reception

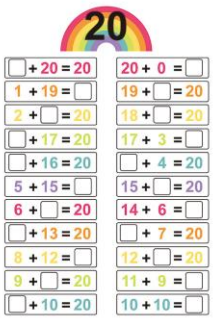
Year 1

Year 2

Children are supported to know the above addition facts off by heart by the end of year 2.

The teaching and practice of this is applied through the NCETM Mastering Number program and throughout regular rehearsal of number bonds orally and written e.g. Flashback 4, White Rose Education.

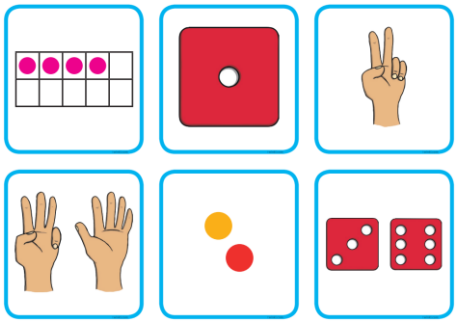
Emphasis is also placed on the recall and retrieval of number bonds to 20 and 100 with the aim for all children to be able to recall fluently by the end of KS1. Children are also encouraged to learn them out of order, with missing digits, concrete and pictorially and by rote.



Subitising and Counting on Fingers

Subitising means the recognition of numbers and amounts instantly without having to count. Studies have shown that children who have difficulty in subitising go on to have further difficulties with maths as they get older.

The same with children who do not use their fingers to help them to count. We regularly practice both of these approaches and actively encourage them at Hanley St Luke's. Teachers model and teach both approaches from Nursery onwards to support children with one to one correspondence.



Resources and Manipulatives

Each class has a well-maintained stock of core concrete and pictorial resources kept in a defined area or at desks, to use regularly, to provide visual and practical support during the lesson and interactive teaching sessions. All classes have access to online manipulatives too.

The concrete stage of mathematical understanding is of great importance. Children have independent access to this.

Place value counters, rekenreks, tens frames, base 10 and Numicon are used regularly to promote concrete understanding and cognition.

Further stocks of resources are kept in maths area in the STEM lab. This is a central space where all maths, science and technology resources are stored and the space is often used for maths activities. Resources include scales, metre sticks, equipment for capacity and mass, and maths games.

It is the responsibility of the mathematics lead to maintain and order stock in accordance with the allocated budgets and requirements of the curriculum.

Equal Opportunities

The mastery approach to teaching ensures that no children are left behind, and all receive specific teaching and learning according to their age and stage.
We provide opportunities for all our children, irrespective of age, ability, gender, ethnicity or vulnerability.

Creative teaching is used to develop children's learning in mathematics, particularly for those with special needs, including gifted and talented children. We offer a broad and balanced curriculum encompassing year groups, key stages and the whole school. Our school has an equal opportunities policy which all staff adhere to.

Work in mathematics takes into account the targets set for individual children in their Learning plans and Behaviour Recovery plans.

Children identified with SEND or assessed as concern, or possible concern in mathematics receive intervention strategies and over-teaching, including daily diaries, extra sessions, small group and individual teaching, support and scaffolding. Children with special needs in mathematics may use concrete resources and manipulatives for longer, to support and structure their learning or spend longer on specific content. They may have specific work tailored to their needs.

All classes operate mastery approaches, inclusivity and intervention strategies to ensure that no child is left behind, all children are challenged, and all are ready to move on with their learning at broadly the same pace.