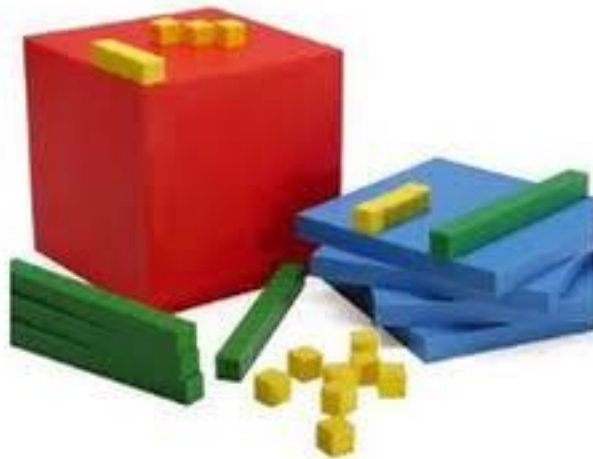


Wellsprings School

Maths Policy

December 2022



Wellsprings School Vision Statement

To develop creativity, high achievement and enjoyment.

INTENT

The aims of mathematics and how these contribute to the school's vision

Creativity	High achievement	Enjoyment
<ul style="list-style-type: none">• We promote mathematics as an essential element of communication, giving children the opportunity to reason and problem solve.• We provoke an appreciation of the relationships in mathematics; that mathematics is not an arbitrary collection of disconnected items.	<ul style="list-style-type: none">• We encourage pupils to work systematically and to show a respect for accuracy and meaning.• We make full use of current strategies to teach calculation methods.• We encourage pupils to work independently and with others.	<ul style="list-style-type: none">• We build pupils' confidence by creating an "I can do this" ethos in the classroom.• We develop a positive attitude to mathematics as an interesting and valuable subject.



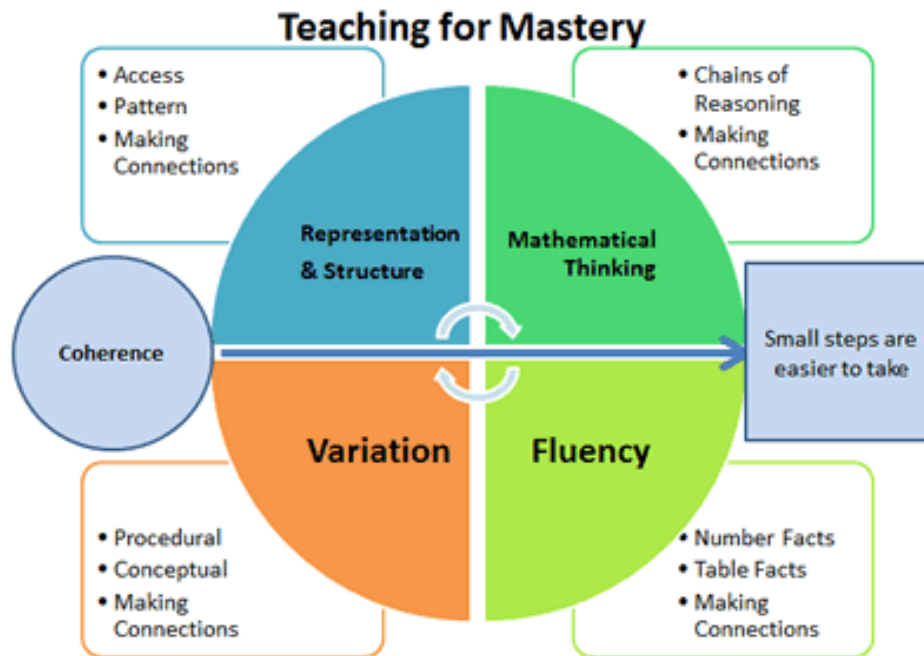
The mastery approach

In September 2019, Wellsprings began transitioning towards a mastery approach to the teaching and learning of mathematics. We understood that this would be a gradual process and take several years to embed. The rationale behind changing our approach to teaching mathematics lay within the NCETM Maths Hub Programme as well as the 2014 National Curriculum, which states:

- The expectation is that most pupils will move through the programmes of study at broadly the same pace.
- Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.
- Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

IMPLEMENTATION

Our teaching for mastery is underpinned by the NCETM's 5 Big Ideas.



- For children to be **thinking mathematically** concepts must be understood deeply, they must not merely be passively received but must be worked on by the student: thought about, reasoned with and discussed with others.
- A focus on **representation and structure** ensures concepts are explored using concrete, pictorial and abstract representations, the children actively look for patterns and generalise whilst problem solving.
- **Coherence** is achieved through the planning of small, connected steps to link every question and lesson within a topic.
- **Varying** the way a concept is initially presented to students, by giving examples that display a concept as well as those that don't display it. Also, carefully varying practice questions so that mechanical repetition is avoided and thinking is encouraged.
- **Fluency** is the quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics.

Teaching for Mastery

What does this mean for learning?

- It is achievable for all - we have high expectations and encourage a positive 'can do' mindset towards mathematics in all pupils, creating learning experiences which develop children's resilience in the face of a challenge and carefully scaffolding learning so everyone can make progress.
- Deep and sustainable learning - lessons are designed with careful small steps, questions and tasks in place to ensure the learning is not superficial.
- The ability to build on something that has already been sufficiently mastered - pupils' learning of concepts is seen a continuum across the school.
- The ability to reason about a concept and make connections - pupils are encouraged to make connections and spot patterns between different concepts (E.g. the link between ratio, division and fractions) and use precise mathematical language, which frees up working memory and deepens conceptual understanding.
- Conceptual and procedural fluency - teachers move mathematics from one context to another (using objects, pictorial representations, equations and word problems). There are high expectations for pupils to learn times tables, key number facts (so they are automatic) and have a true sense of number. Pupils are also encouraged to think whether their method for tackling a given calculation or problem is Appropriate, Reliable and Efficient (A.R.E).
- Problem solving is central - this develops pupils' understanding of why something works so that they truly have an appreciation of what they are doing rather than just learning to repeat routines without grasping what is happening.
- Challenge through greater depth - rather than accelerated content, (moving onto next year's concepts) teachers set tasks to deepen knowledge and improve reasoning skills within the objectives of their year group.

Lesson Structure

In the Early years Reception children participate in a 20 minute maths teaching session then have access to mathematical resources during continuous provision. The provision is updated regularly to reflect current learning in maths. Nursery children access maths through planned small group activities and continue their learning in continuous provision.

In Key Stage 1 children usually spend 1 hour on maths a day. Children spend 50 minutes on a mastery lesson and at a separate point in the day children complete a short numbersense fluency session.

Key Stage 2 children spend 1 hour and 20 minutes on maths a day. 20 minutes is a fluency session which could involve revising number facts and recalling times tables. After that children will participate in a mastery lesson.

In Key Stage 1 and 2 children are expected to record in their books 3 times a week or more. Other lessons can be purely focused on understanding of mathematical concepts through exploration using resources and imagery.

The key features of a mastery lesson are:

- Teacher-led discussion is interspersed with short tasks involving pupil to pupil discussion and completion of short activities.
- Key new learning points are identified explicitly.
- There is regular interchange between concrete/contextual ideas, pictorial representations and their abstract/symbolic representation.
- Mathematical generalisations are emphasised as they emerge from underlying mathematics, which is thoroughly explored within contexts that make sense to pupils.
- Repetition of key ideas (for example, in the form of whole class recitation, repeating to talk partners etc.) is used frequently. This helps to verbalise and embed mathematical ideas and provides pupils with a shared language to think about and communicate mathematics.

Early Years Foundation Stage (EYFS)

- The Early Years is a time for exploration and investigation in maths and the learning environment promotes mathematical thinking. Children develop their understanding through a rich variety of activities both self-selected

and adult led. Adults encourage and support the children to explore, enjoy, learn, practise and talk about their developing understanding which they can use to solve problems, generate questions and make connections across other areas of learning.

Planning

To ensure continuity and progression, teachers plan for mathematics using the White Rose Maths yearly planning overview. This is not followed as a scheme and must be adapted to the needs of the class. Teachers should consider the children's prior knowledge and pitch expectations accordingly. NCETM resources are also used to help develop smaller steps within lessons.

HOME-SCHOOL LINKS

We recognise that parents and carers have a valuable role to play in supporting their child's mathematical learning. An overview of the curriculum for each year group is available on the school's website and the calculation methods used across the school. Parents and carers are informed of their child's progress at Parents Evenings and in the annual end of year report. Parents and carers are encouraged to speak to their child's teacher at any point during the year should they have any concerns or questions regarding their child's progress in mathematics. The school also provides a number of opportunities for parents and carers to learn about the mathematics curriculum through parent workshops and online videos. Parents may access calculation videos and mathematical challenges on the school's YouTube channel 'Wellsprings School TV'.

IMPACT

Through first quality teaching, guidance and effective feedback, children will:

- Explain their reasoning and justify their thought processes.
- Quickly recall facts and procedures.
- Have the flexibility and fluidity to move between different contexts and representations of mathematics.
- Have the ability to recognise relationships and make connections in mathematics.
- Be happy, confident, articulate and autonomous learners with a life-long passion for learning.

Assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of pupils daily through:

- regular marking of work (Key Stage 1 and 2).
- analysing errors and picking up on misconceptions.
- asking questions and listening to answers.
- facilitating and listening to discussions.
- making observations.

Children in Key Stage 1 and 2 participate in informal assessments throughout the year. Children are given short independent tasks to complete at the end of each unit. These assessments are then used to inform future learning.

Marking and feedback

Marking of mathematics books should be completed in line with the Wellsprings marking policy. Feedback can be verbal or written and should address misconceptions to help children clarify their thinking. Formative assessment is carried out throughout the lesson; the teacher regularly checks pupils' knowledge and understanding and adjusts the lesson accordingly. Gaps in pupils' knowledge and understanding are identified early by in-class questioning. They are addressed rapidly through individual or small group intervention, either on the

same day or the next day, which may be separate from the main mathematics lesson, to ensure all pupils are ready for the next lesson.

In EYFS

From the beginning of the child's learning journey regular observations against the Early Learning Goals are recorded, uploaded and shared on tapestry. Children are measured at the end of Foundation Stage against the Early Learning Goals criteria and are graded as 'emerging' or 'expected' for number and numerical patterns.