

Mathematics Vision Statement at Christ Church CofE

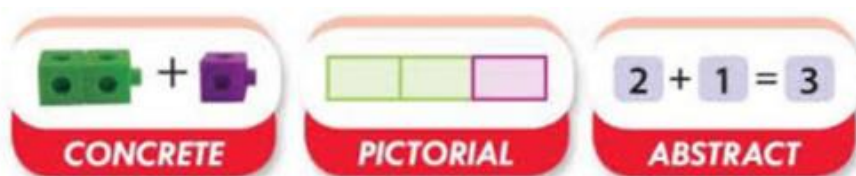
Mathematics skills are vital for the life opportunities of our children. Without them, we would not be able to function in society. Our aim is for all children to think mathematically, enabling them to reason, solve problems and assess risk in a range of contexts.

At Christ Church, our Mathematics Mastery curriculum has been developed to ensure that every child can achieve in mathematics. Children are encouraged to approach mathematics with a growth mindset: taking risks in their learning in order to extend their thinking, developing resilience and perseverance in the process.

Children at Christ Church can experience a sense of wonder as they solve a problem for the first time, discover different solutions and make links between different areas of their mathematics learning. As they progress through the school, children are provided with concrete, pictorial and abstract representations. This approach ensures children develop a deep understanding behind the learning of concepts and procedures so that they are both competent and confident by the time they move onto secondary school.

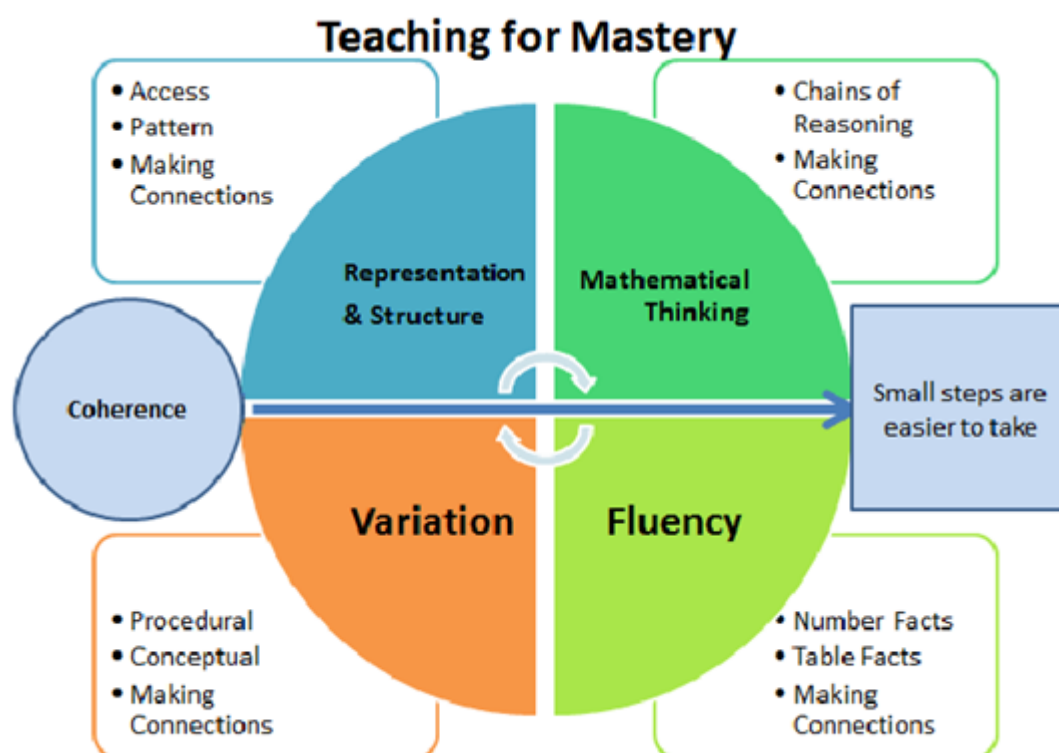
Key features of our Maths Mastery curriculum:

- High expectations for every single child
- Fewer topics, spending longer on each topic and providing greater depth (Deeper Learning) within each lesson
- Number sense and place value come first
- Focus on mathematical thinking and vocabulary and the use of stem sentences to support all children in learning key knowledge
- Resources to support - from Early Years to Year 6
- Fluency, reasoning and problem solving in every lesson
- Building on what the children know already and working in small steps
- A varied range of concrete manipulatives, pictorial representations and abstract methodologies



Mathematics Mastery places emphasis on the cumulative mastery of essential knowledge and skills in mathematics. This is achieved through teaching in 'small steps'. They embed a deeper understanding of maths via a concrete-pictorial-abstract approach so that pupils have a deep understanding of what they are doing rather than merely repeating practised routines. Pupils should make rich connections across mathematical ideas and develop fluency, reasoning and competence in solving problems. They should also apply their learning to science and other subjects.

Central to our approach is the '5 Big Ideas' that underpin mastery in mathematics:



Aims

- To implement the current legal requirements of the Early Years Foundation Stage (EYFS) and the National Curriculum (NC).
- To foster positive attitudes, fascination and excitement of discovery through the teaching and learning of mathematical concepts.
- To ensure pupils become fluent in the fundamentals of mathematics, developing conceptual knowledge and an ability to recall and apply knowledge rapidly and accurately.
- To make links within their mathematical understanding, e.g. $2 + 2 + 2$ is equal to 3×2 .
- To ensure that all pupils have the opportunity to reason mathematically and solve problems.

- For our children to use and understand mathematical language and recognise its importance as a language for communication and thinking.
- For our children to develop a 'can do' attitude and perceive themselves as mathematicians.

Organisation of teaching and learning in EYFS

In Early Years Foundation Stage, Pupils will engage in a curriculum that maximises opportunities for meaningful cross-curricular links and learning experiences, as well as offering extended periods of play and sustained thinking. Nursery follow the 'Master the Curriculum' scheme, which works alongside White Rose Maths.

In Reception, pupils follow White Rose Maths and they participate in the 'Mastering Number' Project four days a week.

Organisation of teaching and learning in KS1 and 2

In Key Stage 1 (KS1) and 2 (KS2), teaching follows the National Curriculum and draws on a range of materials, including White Rose Maths. This involves a daily mathematics lesson, pre/ post teaching intervention sessions, twice-weekly maths recap activities during registration and 'Big Maths Beat That' – a specific times tables and addition facts practice session.

Structure of a KS1 and 2 maths lesson

1. CLIC starter: Counting, Learn-Its (taken from the 'counting' focus), It's Nothing New, Calculation.
2. Recap of previous learning; addressing misconceptions.
3. Direct teaching: whole-class tasks with opportunities to reason and problem-solve.
4. Intelligent Practice: this could be as a whole class, with a Learning Partner or on independently. Support is given to children by the class teacher or LSA. A Deeper Learning task is available to rapid-graspers.
5. Steps 3 and 4 could be repeated here.
6. Plenary (marking work together, addressing misconceptions, reflection on learning sentence)

Planning

At Christ Church, we use the White Rose Maths to support us in our medium-term planning and 'Master the Curriculum' in Nursery.

- We follow White Rose Maths to map out the units to be covered each term, in each Key Stage, in our long term planning.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn				Number: Place Value (within 10)	Number: Addition and Subtraction (within 10)	Number: Place Value (within 100)
Spring				Number: Addition and Subtraction (within 100)	Number: Place Value (within 100)	Measurement: Length and Height
Summer				Number: Multiplication and Division	Number: Fractions	Measurement: Weight and Volume

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Autumn				Number: Place Value	Number: Addition and Subtraction	Measurement: Length and Height
Spring				Number: Multiplication and Division	Number: Fractions	Number: Decimals
Summer				Number: Decimals	Measurement: Weight	Measurement: Time

- Medium term plans identify learning objectives and outcomes for each unit. White Rose Maths carefully maps out a medium term plan for each unit. At Christ Church we will spend longer on a topic if the children need more reinforcement in a concept or procedure.
- Individual lessons are prepared by each teacher. Links will be made with previous lessons, with many opportunities to reason using mathematical vocabulary. For those SEND children will receive differentiated work that is different from the vast majority of the class. Their curriculum will be delivered by the class LSA, but planned for and overseen by the class teacher.
- Mixed-age classes follow White Rose long term planning. Children are taught altogether rather than in separate year groups. Every lesson recaps on previous learning. However, there will be times when the younger year group will be taught an objective specific to the older year group. Past experience has shown that this serves as an introduction and, the following year, children will further reinforce their understanding.



Resources

- Each year group has a range of resources to support learning. These are easily accessible for the children so that they can lead their own learning.
- There is a central resource area for each phase group.

- Different environments - classrooms, outdoor learning spaces and the hall.
- ICT software to support the learning of number facts: TT Rockstars (from Year 2 upwards) and MyMaths (KS2) which can both be used at home.
- White Rose Maths mastery resources are used by all classes for planning and activities.
- Christ Church has hosted Able Maths Days for local schools in which children, who are working at Greater Depth in their assessments, are given further opportunities to participate in problem-solving and reasoning sessions.

Times Tables

Effective understanding and recall of times tables is the foundation of most of the mathematics children will do at primary school and the mathematics curriculum involves children being fluent in number skills. We use Big Maths Beat That for a weekly test in addition and multiplication recall. Our CLIC starters features daily practice of addition and multiplication facts through inverse operations; 'It's Nothing New' [if you know 2×2 , then you can work out 2×20 and 2×200]; and a range of representations and problem solving, which are all vital skills in mathematics. We run two lunchtime clubs for children to practise their number skills on TT Rockstars (for Year 4 and Years 5/6). High scorers are praised in Celebration Assembly and the Top Ten is recorded on Class Dojo to promote the benefits of regular practice to parents/carers.

Assessment and interventions

In Mathematics Mastery, assessment is continuous. From the beginning of every lesson, teachers and LSAs will be assessing what their pupils are, or are not, understanding and use this to scaffold each part of the lesson. Teachers use mini plenaries and fast-feedback to address misconceptions and common errors, meaning that they are dealt with immediately.

Progress is discussed at termly 'Pupil Progress Meetings' and focus children are indicated. Interventions target those children who are missing their target of being just-below, on-track or above track. Teaching staff plan and deliver maths interventions.

Formative assessments are carried out after every session and recorded on Insight Tracking.

Statutory assessments (SATs) are currently undertaken at the end of KS2.

Assessment in EYFS

- Practitioners' ongoing observational assessments are made early in Autumn Term 1 ascertain a baseline which then informs subsequent teaching and learning for each child.
- Future attainment is noted using photographs and observational notes. Progress is recorded on each child's Learning Journey (through the Tapestry app) and the next steps to be taken are identified. Progress is monitored termly on Insight Tracking.
- Statutory assessments are made on entry and on exit of the FS.

Monitoring procedures

The Head teacher and maths subject leaders play a central role in the monitoring and evaluation of the quality of teaching and learning of mathematics in the school.

The monitoring strategy:

1. A scrutiny ('book look') of children's work is undertaken termly.
2. Pupil progress meetings are held termly.
3. Learning walks take place in all classes throughout the year.
4. TRGs (Shanghai-style Teacher Research Groups) take place termly, in small phase group teams.
5. The subject leader is responsible for monitoring attainment and progress, the outcomes of which are collated in the subject leadership folder and fed back to staff at an appropriate time.