



Mathematics Policy

THE MATHEMATICS VISION:

To achieve and enjoy an outstanding mathematics curriculum our teachers and children will be:

- CONFIDENT in explaining mathematical ideas and concepts using subject specific vocabulary
- PASSIONATE about all areas of the mathematics curriculum and embody an enthusiastic attitude
- PREPARED to solve problems, reason mathematically and be confident in the fundamentals of mathematics
- POSITIVE in approaching new, challenging steps to enhance their learning.
- DETERMINED and will have high expectations of themselves and others in order to achieve their potential.

Our Intent:

- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion
- To gain mastery and fluency with numbers and the number system
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts
- To understand the importance of mathematics in everyday life
- To be an outward looking school, which supports and shares good practice with other schools, as well as keeping up to date with recent research and ideas, including involvement with Kent and Medway Maths Hub.

Key skills:

Our pupils should:

- have a well-developed sense of the size of a number and where it fits into the number system
- be fluent in recalling facts such as number bonds, multiplication tables, doubles and halves
- be able to draw on previous knowledge to work out calculations mentally
- calculate accurately and efficiently, both mentally and in writing, drawing on a range of calculation strategies
- make sense of number problems, including non-routine/'real' problems and identify the operations needed to solve them
- explain their methods and reasoning, using correct mathematical vocabulary
- be encouraged to make connections between different mathematical representations and concepts

- judge whether their answers are reasonable and have strategies for checking them where necessary
- suggest suitable units for measuring and make sensible estimates of measurements
- explain and make predictions from the numbers in graphs, diagrams, charts and tables
- develop spatial awareness and an understanding of the properties of 2D and 3D shapes

Planning:

- Planning begins from a thorough understanding of children's needs based on effective and rigorous assessment and tracking, combined with high expectations and ambition for all children to achieve.
- Medium term planning from Mathematics Mastery will outline the objectives that will be taught during the term to ensure coverage of the National Curriculum.
- Following the Mathematics Mastery ethos of predominantly whole class teaching, we expect all children to have access to the main concept of the lesson. Children will be supported or extended through scaffolding and constraints to ensure the learning is at the appropriate level to move each child forward. Activities/questions will be carefully chosen using variation to build up concepts gradually.
- When a child is working significantly below the programme of study for that year group, the class teacher will plan using the appropriate materials from another year group which will be delivered in a small group session.
- Class teachers should regularly plan for opportunities for children to apply their mathematics skills to different problems within mathematics lessons and across the curriculum.

Teaching:

- The approach to the teaching of mathematics within the school is based on a mastery approach:
 - A whole class mathematics lesson every day – lessons involve a mixture of whole-class teaching, group/paired tasks and independent work.
 - Regular Maths Meetings (2 -3 times per week) – which provide an opportunity to teach and revise 'general knowledge maths' which may not explicitly be covered during the maths lesson. This means that pupils are practicing concepts and skills on a regular basis, meaning they are continually building on their mastery of these concepts.
 - Regular opportunities to practise key recall facts

- Additional 'catch up' sessions delivered in the afternoons for those children who did not make the expected progress in that morning's lesson.
- The whole school use MM techniques, including Maths Meetings, vocabulary visible throughout the lesson and regularly referred to, an expectation to answer questions in full sentences and a Talk Task (practising the new learning by talking about maths with key vocabulary allowing the teaching adults to identify misconceptions).
- Mathematics learning builds from a concrete understanding of concepts where children are manipulating objects. When children are able to see concepts this way, they then need to understand the same concepts represented visually, before moving on to abstract representations and applying their knowledge to different situations. This is understood as the CPA approach.
- Across the school lessons are taught in mixed ability groupings.

Fluency of number

- We have developed a timetable of when children should be learning/practising key instant recall facts (KIRFs). Teachers are planning these regularly into Maths Meetings. The timetable ensures that children should become more fluent, by the end of Year 4, with knowing all multiplication facts to 12x12, in readiness for the 'Multiplication Check'.
- Children complete regular quizzes to enable them to identify the facts they need to learn.
- We have developed St.Peter's Rolling Tables to allow the children to become familiar with the rhythm of the tables and for them to be used consistently throughout the school
- iPads are used to support fluency of number, using a range of web-based games and apps.

Marking:

- Pupils work should be marked in line with the school Marking Policy.
- Green pen improvements are an opportunity for children to show their deeper understanding of a concept or make corrections to errors and misconceptions.
- Each piece of work should have a sticker sharing the learning intention and success criteria for the lesson

Presentation of work:

- Children write in pencil in their maths books, unless they are responding to marking for improvement questions/prompts.
- Digits should be written one per square
- All work should be dated and have a sticker which gives a clear learning intention, success criteria and level of support for the lesson.
- Children should show pride in their presentation and set out work neatly – as well as having opportunities for jotting, quick calculations and experimentation. Annotating a thought process is important.
- Examples of bar modelling may be drawn without rulers, as these are considered to be a jotting.

Assessment:

- Assessment for learning should occur throughout the mathematics lesson – 'over the shoulder marking' and listening to children's spoken responses enables teachers and teaching assistants to adapt their teaching/input to meet the children's needs. This is particularly useful during the 'Talk Task' section of the lesson
- Assessment of pupils' work and progress is ongoing by the class teacher and informs future planning
- Teachers use written tests to support their teacher judgements 3 x yearly (at the end of terms 2, 4 and 6)
- Children's progress is discussed regularly with members of SLT at Pupil Progress Meetings

Classroom Environment

- All classrooms should have a 'Working Wall', which should have a mixture of ongoing support materials, e.g. hundred square/place value chart and support materials relevant to the topic being taught that week..
- Mathematics resources should be accessible to the children during lessons – these will vary according the topic and ability of the child.

Monitoring

- Lessons, books and data are regularly monitored by the Maths Team, SLT and Governors. Feedback is given to staff.

Role of the Subject Leader

- To ensure teachers and support staff understand the requirements of the National Curriculum and help them to plan lessons. Lead by example by setting high standards in their own teaching.
- To prepare, organise and lead CPD and joint professional development.
- To work with the SENCO and SLT.
- To co-ordinate maths team – working alongside others to develop and strengthen the subject within school

- To observe/coach colleagues with a view to identifying the support they need.
- To discuss regularly with the Headteacher and the mathematics governor the progress of implementing National Curriculum for Mathematics in school.
- To endeavour to engage parents in supporting their children with their mathematical learning.
- To monitor and evaluate mathematics provision in the school by conducting regular work scrutiny, learning walks and assessment data analysis.

Role of Mathematics Link Governor

- To be aware of relevant documents and legislation; OfSTED criteria for evaluating the subject provision; local and national issues impacting upon the subject.
- To be aware of the targets on the SDP and monitor progress towards them.
- To act as a support and critical friend to the school.
- To meet regularly with the mathematics subject leader to discuss progress and monitor plans for the year.
- To feedback progress and discussions to the governing body.

Reviewed November 2021