

Maths policy

Written by Natasha Sealy Sept 2020

Rationale:

At Mulberry Park Educate Together our approach to teaching Mathematics fosters and promotes our ethos and beliefs that **all** children can achieve and succeed.

We are child centred and always put the children at the heart of every decision and activity. If it is not in the interest of the children's learning or welfare, then why do it? [Article 3 - The best interests of the child must be a top priority in all things that affect children.](#)

We are co-educational and believe that all children should be encouraged to explore their mathematical abilities by working together to explore a range of mathematical opportunities. We appreciate that every child's maths journey will be personal to them but will focus on embedding understanding and developing their subject knowledge and mathematical reasoning. [Article 4 - Governments must do all they can to make sure every child can enjoy their rights.](#)

As a community we are democratically run and encourage active participation of parents, children and the community in the child's maths journey. [Article 12 - Every child has the right to have a say in all matters affecting them.](#)

We are equality based and believe that all children regardless of socio cultural and religious backgrounds have equal rights to enjoy and be successful mathematicians. Mastery for all. [Article 28 - Every child has the right to an education.](#)

Intent

- Our maths curriculum will be taught creatively and promote a curiosity and love of learning in mathematics.
- Our maths curriculum will develop our pupils into confident, inquisitive mathematicians who enjoy challenge and problem solving.
- Our pupils will have a secure foundation of numbers, operations, strategies, methods and concepts to support their fluency and mathematical reasoning.
- Our pupils will have the skills and confidence to discuss, talk about and explain their mathematical thinking using key mathematical language.
- Our curriculum will inspire our pupils to be confident to explore and be inquisitive about maths.

Aims

At Mulberry Park Educate Together we aim for **all** pupils:

- To become fluent and confident in the fundamentals of mathematics.
- To be able to solve problems by applying their mathematics to a variety of problems, contexts and real-life scenarios.
- To be able to reason mathematically
- To have an enjoyment of mathematics.

Teaching approach

Curriculum Content & Approach

In Educate Together schools, we use the National Curriculum programmes of study from Year One to Year Six. Development Matters and the Early Learning Goal descriptors will be used to guide curriculum content in the Early Years.

- Reception, Key Stage One and Key Stage Two use a Mastery approach for all pupils.
- It is expected that teachers will use their professional judgement as to when consolidation of existing skills is required, or if to move onto the next concept. However, the focus must always remain on breadth and depth rather than accelerating through concepts.
- All year groups use a mastery approach to teaching mathematics.
- We use the National curriculum programme of study from Year 1 to 6. Development matters and Early Learning Goal descriptors will be used to guide curriculum content in the Early Years.
- We use the Concrete, pictorial abstract approach. We use resources to support with this.

Maths policy

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- From Reception to Year Six we use the White Rose (WR) scheme of work and tailor the sequence and progression to the needs of the children in our school, however teachers may use other materials to support teaching and learning.
- Planning and teaching are underpinned by the 'five big ideas' of Maths Mastery.

Lesson Format:

Revisit & Fluency

- All lessons will include an opportunity to revisit prior learning and to develop fluency.
- In KS1 and KS2 they have daily arithmetic lessons.

Small Step Teaching

The main input will follow WR small steps guidance.

- Steps are taught separately to ensure mastery of each concept and to prevent cognitive overload. This may involve spending more or less than one lesson on a small step.
- Teachers are encouraged to spend more time on particular steps if they feel it is necessary. The curriculum has flexibility to enable this to happen.
- When teaching new concepts, 'real stories' should be used so that children can link the maths to real-life scenarios. (Pictorial/concrete representations). This allows children to see the connection between the real story and maths story (abstract).
- Inputs will provide plenty of opportunity for child maths talk, with questioning seen as key to encourage mathematical thinking, reasoning, problem solving and to dig deeper into concepts. (Describe, explain, convince, justify, prove)
- Teaching will allow lots of opportunity for depth – One way of saying it is not enough depth. (E.G. One more than 12 is 13, 13 is one more than 12. 12 and one more is 13 etc)
- Teachers will use sentence stems to scaffold mathematical discussion and reasoning.
- There is a school-wide expectation that children will use full sentences when sharing their mathematical ideas. (I agree because... I disagree because...)
- Teaching will promote a growth mindset, fostering children's understanding that abilities in mathematics are not 'fixed', and that everyone is a mathematician.
- Every lesson will include opportunities to address common misconceptions.

Fluency, reasoning and problem solving

- Key Stage 1 will use Razzle, Dazzle, Shine to identify tasks but teachers will make explicit the skills being used (fluency, reasoning, problem solving)
- Key Stage 2 will use the mathematical terminology for tasks (fluency, reasoning, problem solving)
 - Razzle/Fluency: Questions that children should be able to do based on the small step/concept taught. This is an opportunity to practise. During this time, the teacher will usually work with children who they feel need extra support based on what was observed during the teaching input.
 - Dazzle/Reasoning: Question/Activity that involves reasoning or explaining a mistake.
 - Shine/Problem solving: Open-ended problem-solving question that enables children to extend their thinking deeper.
- It is an expectation that most children should be able to complete the Fluency and reasoning tasks during a lesson.
- Dependent on the small step, it may be during a lesson the focus is on 'fluency' if the focus is on consolidation or exploration.

Attitudes

We nurture and promote children's curiosity and provide an environment where children feel safe to take risks in their learning. We encourage discussion of errors/misconceptions and the importance of learning from mistakes in

Maths policy

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mathematics. Promoting a 'Growth mindset' and fostering children's understanding that abilities in mathematics are not 'fixed' is a key aspect of our pedagogy in mathematics.

Feedback and Marking

- Teachers give verbal feedback throughout the lesson to address misconceptions or to reinforce and extend learning.
- Teachers may show answers at the end of lessons to allow children to self or peer mark.
- See feedback policy for further information.

Planning

- To ensure coverage and progression across all year groups lessons will be based on the White Rose maths scheme, which follows the new EYFS Framework and National Curriculum.
- Staff will follow the 'small steps' guide.
- There is no set formal planning proforma.
- Planning is saved on the shared drive and is shared with all members of staff in the classroom.

Assessment

- During lessons teachers will use effective Assessment for Learning strategies to identify next steps, areas for support and challenge and to ensure that teaching and learning opportunities are matched to children's individual needs.
- At the beginning of each teaching block teachers will assess children's knowledge to inform them of their starting point. This may be through open-ended activities relating to prior learning in which the children can engage with or through more formal activities. This assessment will then be used to plan for support and future lessons.
- Insight is used to monitor progress against taught objectives, this is updated after the objective/block is taught.
- Assessment will be used to inform the planning of future lessons, interventions and targeted support.
- White Rose termly assessments may be used three times a year, (Autumn, Spring, Summer).
- Teachers can use the questions from White Rose assessments; however, these may be altered to suit the group/individual.

Inclusion

- In line with our principles of being child-centred, equality based and co-educational we share the belief that all children can succeed in Maths.
- We work on the principle of 'mixed ability' groups as research shows that grouping children by ability does not raise academic standards, but instead can have negative consequences. (Boaler:2005)
- We do not use the terms 'high ability' and 'low ability' as we feel these terms lower expectations and only looks at what children have achieved in the past. Past performance does not guarantee what will happen in the future. Some children will take longer to do it, but they can do it.
- We explore multiple ways of gaining parental engagement and deepening their understanding of how mathematical concepts are taught, including through workshops, parent meetings, websites and opportunities for parents and their children to share learning and ask questions.
- We also recognise that early intervention is a key part of the Mastery approach and that there may be times where it is appropriate for children to receive extra support, which may take the form of small group interventions, to help them to consolidate their understanding of a mathematical concept, or to explore concepts at greater depth.

Home learning

Home learning may be set to consolidate maths concepts from school.



Maths policy

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Monitoring and evaluation

The Maths lead, with support from the Headteacher, SLT and governors, are responsible for the monitoring of the learning and teaching of Mathematics across the school.

Resources

- Mathematical manipulatives and resources should be available at all times to children. They should be accessible for all to use and be available for independent selection.
- Classroom environments should be enabling and promote the view that we are all mathematicians.

Links to other policies

- Teaching and Learning policy
- Marking and Feedback policy