



Maths at East Park Academy

INTENT

At East Park Academy, our maths curriculum intends for our children to develop a life-long love and passion for maths. We aim for all of our children to be confident mathematicians, who are able to rapidly recall mathematical facts, articulate their mathematical thinking and are therefore able to become effective problem solvers of the future. We intend for all of our children to find their voice and to be able to express themselves confidently and fluently. We intend that the maths skills that children develop will support their learning across all other subjects so that they can make links and connections within the subject of maths. Our learners will be challenged and encouraged to take risks and see failure as an opportunity to learn more. Being able to reason and question their maths is crucial to further development and forms part of all lessons.

Our maths curriculum is designed to enable each pupil to:

- Develop a sense of number
- Develop a range of mathematical skills
- Apply mathematical skills to solve real life problems
- Reason their mathematical thinking

IMPLEMENTATION

At East Park Academy we are committed to teaching high quality maths lessons that meet our aims for each of our pupils. Each lesson at East Park enables the children to think for themselves and support each other with their mathematical development. Our maths journey begins in our Nursery and Reception classes. In EYFS children are taught from the beginning to see maths as an interconnected process, with skills that can be transferable across the curriculum. Key maths skills (including touch counting, recognition of numerals, matching to quantities, estimating, subitising, addition and subtraction, doubling, halving and sharing) are initially taught directly in adult-led focus activities. Children then have the opportunity to put them into practice through independent application in their own exploratory play. To facilitate this, practitioners observe and identify 'teachable moments' specific to that child through the modelling of language, showing, demonstrating and explaining, exploring ideas and questioning, providing a narrative and setting challenges, to gauge understanding of each taught concept. Our

curriculum also includes rich opportunities for children to develop their spatial reasoning skills including shape, space and measures that overlap and include elements of number teaching.

In KS1 and KS2, children will have a daily maths lesson where children are taught skills they need to be able to solve real life problems. Teachers plan lessons that follow a 6 section format known as the '6Rs'. Children begin each lesson with a **Recap** – this provides children with an opportunity to practise previously taught skills that they will need throughout the week. Teachers then teach a mathematical skill through the **Rehearse** part of a lesson and children practise the skill independently until they are **Ready to Apply**. During this section of a lesson, children are able to apply the taught skill to real life problems. These might be word problems or other types of problems like finding all of the possibilities. When children are secure with a mathematical skill and are able to apply it, they are then asked to **Reason** about what they have learned. This is where children tell us about how they have learned about the maths that they have done. Questions during this section are often provided in the form of 'true or false' or 'sometimes, always or never true' statements. Other times children are asked to identify the statement that is the 'odd one out'. Mathematical learners should always be ready to ask themselves – 'What if?' and this forms a part of our lessons particularly for our more able learners. The last part of the lesson allows time for **Reflection**, where children articulate how they have been successful and identify skills they need to continue to develop. Although our maths journey has a structured overview, teachers enable children to become independent mathematicians by following the children's learning allowing flexibility in the order of the 'Rs'. Our teachers plan stimulating experiences and opportunities within maths lessons and across the curriculum that ensure mathematical skills are embedded throughout a range of different contexts.

The '6Rs' are displayed in each classroom for children to refer to and they also have an overview at the front of their maths book.



Recap

This is work I complete by myself. I may have done similar work before but this time I have done it independently.

Rehearse

This is new learning modelled to me by the teacher today. I can now rehearse this new learning.

Ready to Apply

This is where I apply my new learning to problems today. They might be word problems or other types of problems like finding all of the possibilities.

Reasoning

This is where I tell you about how I have learnt about the maths I have done today. Sometimes, I decide if statements are 'true or false' or sometimes, always or never true. Other times, I identify the statement that is the 'odd one out'. I do this by:

- Describing
- Explaining
- Convincing
- Arguing & Justifying
- Proving

Right, what if?

This is where I deepen my mathematical thinking even further. I can do this by adapting the reasoning problem or creating my own.

Reflection

This part of the lesson is where I tell me about my learning from today and what I might need to do next.

The 4 Gs



Whenever I solve a problem I use the 4 Gs – Given and Got, Gap and Goal. I look at what information I have been Given and what maths information I have already Got in my head. I then look at the question and this is my Goal and finally I decide what I have to do to close the Gap.



As well as curriculum-based maths learning, we also aim to develop children's 'number sense' in all year groups. Just because Maths can have one specific, 'correct' answer does not mean the process leading up to that outcome cannot be rich in discussion and thought. We create varied opportunities for 'Number Talk', promoting oracy where problems are posed and children can discuss their ideas, all whilst in an environment where they feel safe to voice their opinion and not be fearful of making a mistake. Through this process our children develop positive attitudes and interests in Maths, taking steps to becoming confident mathematicians in their own right as they transition through the school.

Each class in Key Stage Two has a daily timetabled session of 'Number Talk', in which children have the opportunity to share and discuss their strategies for solving given calculations. These include the four operations, fractions and doubling/halving. Children are encouraged to explain how they would solve each problem mentally. Both by sharing their own ideas and by regularly listening to other children's explanations and reasoning, all children are able to develop their sense of number and build a bank of different strategies that they can apply to their own maths problems. Whilst 'Number Talk' is not explicitly timetabled in EYFS and Key Stage One, opportunities for children to develop their 'number sense' are interwoven throughout the curriculum, giving them skills they can draw upon to solve problems in Key Stage Two.

Maths is taught to all of our children and we provide learning opportunities that enable all pupils to make progress, including SEND pupils, EAL pupils and Pupil Premium children. We do this by ensuring that children are provided with appropriate support and scaffolding within maths lessons to enable them to succeed.

Statutory requirements for the teaching of maths are laid out in the National Curriculum in England Framework Document for Teaching, September 2014 and the Statutory framework for the Early Years Foundation Stage, September 2014.

IMPACT

The teaching of maths is of the highest quality at East Park. Children make rapid and sustained progress with mathematical skills and they are passionate about their learning. Maths books and curriculum books reflect high quality outcomes.

Children are able to talk confidently about their learning and can remember their learning from earlier within the year or from previous years.

Being confident with the manipulation of number; being confident to raise and answer questions; being able to reason thoroughly about their mathematical thoughts and being curious about this subject has a direct impact on their knowledge, skills and life opportunities. Mathematics isn't about just knowing your timetables; it isn't about just knowing how to add fractions or rotate a shape on a coordinate grid. Maths is about the world we live in and how we make sense of it and how in the future we develop people who can create and solve those problems that take us further into the 21st century.