



Kirk Langley Church of England Primary School

Mathematics

Kirk Langley is a Church of England Primary School and our family believe that 'Every Child Can Shine.' Our visions and values, built on the living Gospel of Christ within daily life, are at the core of everything we do. They underpin our teaching and learning and provide an environment which prepares our pupils in being respectful, confident, thriving citizens.

Daniel 12:3

'Those who have insight will shine brightly like the brightness of the expanse of heaven, and those who lead the many to righteousness, like the stars forever and ever.'

We aim to provide a thriving, inspiring and stimulating learning environment where children achieve the very best they are capable of because all the staff value their different learning styles. Kirk Langley Church of England Primary School is committed to Christian values where children, parents/carers and our community know us by our actions.

Within a Christian ethos we aim to:

- Promote a positive attitude to life-long learning, nurturing the development of self-esteem; leading to aspirational, independent learners that are prepared to be challenged and take risks in a diverse and ever changing world.
- Provide the children with valuable experiences and opportunities, through a broad, balanced and exciting curriculum, where learning is purposeful and engaging.
- Use a variety of teaching strategies and resources effectively and creatively; encouraging each child to progress and attain to the highest possible standards, in relation to their age and ability.
- Strongly believe in the partnership of parental involvement in the education of our pupils.

- Demonstrate and foster respect for ourselves and others within the school, local community and the global community.
- Respect the belief of others and celebrate cultural diversity.
- Encourage spiritual and moral values.
- Explicitly promote the fundamental British values of democracy, the rule of law, individual liberty and mutual respect and tolerance of those with different faiths and beliefs through a 'living' curriculum.
- Value each child as an individual within the school and respect personal beliefs.

Mathematics

Intent:

At Kirk Langley Church of England Primary School we aim to teach children how to make sense of the world around them by developing their ability to calculate, reason and solve problems. We aim to support children in life in all curriculum areas and for their future by equipping them with a range of computational skills and the ability to solve problems in a variety of contexts by delivering a mastery curriculum.

Our aims in the teaching of mathematics are:

- To promote the enjoyment of learning through practical activity, exploration and discussion
- To develop confidence and competence with numbers and the number system
- To develop the ability to solve problems through decision-making and reasoning in a range of contexts
- To develop a practical understanding of the ways in which information is gathered and presented
- To ensure children understand the importance of 'prove it' to show a methodical approach
- To explore features of shape and space, and develop the use of measuring skills in a range of contexts
- To help children understand the importance of mathematics in everyday life
- To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language

Implementation:

- Teachers have good knowledge of the subject.
- Teachers present subject matter clearly, promoting appropriate discussion about the subject matter they are teaching. They check learners' understanding systematically, identify misconceptions accurately and provide clear, direct feedback. In doing so, they respond and adapt their teaching as necessary, without unnecessarily elaborate or differentiated approaches
- Over the course of units of learning, teaching is designed to help learners to remember in the long term the content they have been taught and to integrate new knowledge into larger concepts
- Teachers and leaders use assessment well, for example to help learners embed and use knowledge fluently or to check understanding and inform teaching. Leaders understand the limitations of assessment and do not use it in a way that creates unnecessary burdens for staff or learners
- Teachers create an environment that allows the learner to focus on learning. The resources and materials that teachers select – in a way that does not create unnecessary workload for staff – reflect the provider's ambitious intentions for the course of study and clearly support the intent of a coherently planned curriculum, sequenced towards cumulatively sufficient knowledge and skills for future learning and employment

At our school, we teach mathematics to all children, whatever their ability or individual need. Through our quality first mathematics teaching, we provide learning opportunities that enable all pupils to make good progress. Every child has an equal right to be taught mathematics, in daily lessons of approximately one hour. This may be shorter, approximately 45 minutes in Key Stage 1.

We aim for children to master the key areas and domains of mathematics, narrowing the gap between the most and least able learners. The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress will always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly will be challenged to deepen their understanding and not accelerated through content.

Mathematics is a symbolic, abstract language. To decode this language, symbols need to come alive and speak so clearly to children that it becomes as easy to understand as reading a story. We believe that all children, when introduced to a key new concept, should have the opportunity to build competency in this topic by taking the concrete-pictorial-abstract approach.

Concrete – students should have the opportunity to use concrete objects and manipulatives to help them understand what they are doing.

Pictorial – students should then build on this concrete approach by using pictorial representations. These representations can then be used to reason and solve problems.

Abstract – with the foundations firmly laid, students should be able to move to an abstract approach using numbers and key concepts with confidence.

All classrooms have concrete resources that can be used in the teaching and learning of mathematics. These are provided for the children in earlier years but children are encouraged to be more independent in selecting resources as they progress through Key Stage. They are not just used for teaching new concepts but for children to explain and demonstrate their understanding to themselves and others.

We assess the children formatively and summatively not only used to track progress, but also to make decisions on what to prioritise to teach. Assessment in mathematics takes place daily using a range of strategies such as marking and feedback of work and verbal feedback discussions with children.

All marking in books is done with a black pen by the adult and green by the child. The left page is left blank for corrections and feedback. Each lesson has a specific success criteria and all children are expected to respond to their learning using a smile for confident independence; a straight line for support or scaffold and a frown for the need for intervention at a 1:1 level. Staff must sign this off and recheck feedback has been addressed.

Children are formally tracked using our progression in Rising Stars Classroom Monitor. This data is used by the Maths Subject Leader and Headteacher to review children against Age Related Expectations based on their Key Stage starting points.

We know that children need to have basic number and calculation skills in order to access the many different concepts to be taught throughout both key stages, so we focus on the teaching and assessment of number bonds to 20 and times tables.

During our daily lessons we encourage children to count aloud, practise fluency, problem solving and reasoning skills and ask mathematical questions. We develop the children's ability to represent problems using visual skills, including jottings and pictorial representations. Wherever possible, we provide meaningful contexts and encourage the children to apply their learning to everyday situations. Although mathematics is best taught discretely, it has many cross-curricular links and teachers use opportunities in other subject areas to rehearse skills in a context. Mathematics involves developing confidence and competence in number work, geometry, measures and statistics and the using and applying of these skills.

The Early Years Foundation Stage Curriculum feeds into the National Curriculum. It is good practice to make use of cross curricular links to enable the children to use their learning in a real life context. Therefore pupils are given plenty of opportunities within sessions to use and apply mathematical skills and concepts they have learned.

All classrooms will have a display area specifically for mathematics. This is called a working wall and will display items the children need to support and develop the unit's learning. For example, key vocabulary. In the EYFS Stage, there will also be specific mathematical areas for children to access in their everyday learning.

Planning will be accessed from a range of resources but Maths No Problem is a consistent mastery resource we use from Year 1 to Year 6. Daily teaching will involve elements of reasoning and problem solving and aim to build resilience and purpose in the children's learning. We also use Catch Up periods within the school day (8.40 to 9am) and a Registration period (9am to 9.30am) to address Know More to Remember More.

The Maths Lead also monitors Maths throughout the school termly, reviewing books, lessons, resources and by talking to the children.

Impact :

- learners develop detailed knowledge and skills across the curriculum and, as a result, achieve well. Where relevant, this is reflected in results from national tests.
- learners are ready for the next stage.
- Pupils develop a secure understanding and confidence in maths with resilience and problem solving skills to aid learning in all subject areas. They develop a growth mindset and understand the relevance of mathematics.
- Learners who can clearly explain their reasoning and justify their thought processes using mathematical language and apply it to new problems in unfamiliar situations
- Quick recall of facts and procedures
- Ability to recognise relationships and make connections in mathematics
- Articulate learners with an understanding of the need to explore and explain.