Malvern Parish CE Primary School

'Learning Together for an Exciting Future'

At Malvern Parish, our vision is for all children and adults to become aware of their God given gifts so they can flourish as individuals, achieve academically and build firm foundations for the future.

This vision is deeply rooted in strong Christian tradition and based upon:

"I come that they may have life and have it to the full". *John 10.10*

"For I know the plans I have for you," declares the LORD**, *"plans to prosper you and not to harm you, plans to give you hope and a future."*** Jeremiah 29.11

We seek to develop our vision through our Christian values of Friendship Respect, Trust, Peace, Truthfulness and Forgiveness and live out these values in every part of school life.



Malvern Parish C of E Primary School is part of The Diocese of Worcester Multi Academy Trust, which is a charitable company limited by guarantee and registered in England and Wales with registered number 10390487. Its registered office is at Field House, 29 Sansome Walk, Worcester, WR1 1NU.

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Approach to teaching Mathematics

At Malvern Parish CE Primary School, we value every child and the contribution they have to make. We aim to ensure that every child flourishes and that all are enabled to develop their skills in accordance with their level of ability. Mathematics is both a key skill within school and a life skill to be utilised throughout every person's day to day experiences.

Our curriculum intent

Mathematics equips children with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways. Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. It is integral to all aspects of life and with this in mind, we endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them.

It is vital that a positive attitude towards mathematics is encouraged amongst all of our children in order to foster confidence and achievement in a skill that is essential in our society. At Malvern Parish, we use the National Curriculum for Mathematics (2014) as the basis of our mathematics programme. We are committed to ensuring that all children achieve mastery in the key concepts of mathematics, appropriate for their age group and/or ability, so that they make genuine progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on fluency, efficiency and accuracy, the development of mathematical thinking and development of teacher subject knowledge are therefore essential components of the Malvern Parish approach to this subject.

We aim for our curriculum to:

- Foster a positive attitude towards mathematics as an interesting and attractive part of the curriculum.
- Equip children to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that children develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Equip children to reason mathematically by following a line of enquiry, describing relationships and making generalisations, and developing an argument, justification or proof using mathematical language
- Equip children to solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.
- Develop personal qualities such as perseverance, independent thinking, cooperation and self-confidence through a sense of personal achievement and success.

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Our curriculum implementation

At Malvern Parish, we have adopted a mastery approach to maths teaching, where the belief is that all children can achieve. Quality first teaching is vital. Sequences of lessons are planned using the White Rose schemes of learning, though there is still flexibility for teachers to use their professional judgement regarding sequence length and time for each of the small steps, depending on their class's needs, 'lingering longer' when required. Children are taught in year groups and are generally seated in mixed ability groups. We believe that all children can attain highly in mathematics and understand that every child will have different strengths and development areas. Therefore, groupings within classes are flexible and children will sometimes work in different groups dependent on their need.

- **Curriculum and lesson design**

  Mathematics is a core subject in the National Curriculum and we use the objectives from this to support planning and to assess children's progress. Staff use long-term and medium-term planning (guided by White Rose Maths Hub small steps planning) to ensure coverage of all areas of the National Curriculum. It is the class teacher who completes the weekly and daily plans and flipcharts for the teaching of mathematics. These plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher keeps these individual plans, which they may annotate according to the success of the lesson.

  Lessons are crafted with similar care and set out in detail well-tested methods to teach a given mathematical topic. Maths lessons begin with revisiting of prior learning through the use of Flashback 4 – this material offers 4 questions asking children to recall knowledge from their current unit of learning, their previous unit of learning and learning from prior year groups. A starter activity will then activate children's prior knowledge relevant to that lesson's content before teachers move on to their instruction for that lesson's content. Teacher input will include a variety of representations needed to introduce and explore a concept effectively and also give related explanations and questions to children. Children will then complete guided activities to practise this concept before moving on to independent tasks in their maths books to consolidate their learning.

- **Adaptive teaching**

  The large majority of children progress through the curriculum content at the same pace. Differentiation is achieved through individual support and adaptive teaching for all. The questioning and scaffolding individual children receive in class as they work through problems will differ and children who grasp concepts rapidly are challenged through more demanding problems which deepen their knowledge further. Those who take longer to grasp concepts or need additional support to do so will benefit from the use of scaffolds such as concrete apparatus and further adult support. Please see **'Strategies to remove potential barriers in Maths'** for more information on how we support our learners. A small minority of children will benefit from a more personalised curriculum, following curriculum statements from outside their year group, to help close the gaps.

- **Building mathematical fluency and number sense**

  Practice and consolidation play a central role to mathematics learning. We understand the importance of ensuring children regularly retrieve previous learning to ensure learning is not 'forgotten'. Daily maths lessons are supplemented by regular fluency sessions that are designed to reinforce and provide regular practice in the basic skills. Fluency in maths is often linked to number sense and calculations.

When children are fluent, they are able to calculate accurately and efficiently and be flexible in their choice of strategies. They feel confident in working with numbers and can explain their thinking and apply their understanding in different contexts.

In Key Stage 1, teachers use the White Rose Education Fluency Bee programme to revisit and secure knowledge from prior year groups. In 15-minute, daily sessions, all pupils revisit the fundamentals of number sense and mathematical fluency through frequent practise, the use of key representations and concrete resources to support conceptual understanding and exposure to mathematical talk.

In Key Stage 2, teachers use discrete arithmetic sessions to revisit and secure knowledge from their prior year groups. At least three times a week, all pupils have the opportunity to revisit the fundamentals of number bonds or times tables, practise or consolidate mental and written methods for calculation and revisit any gaps from their current learning. Staff draw on resources from Maths Shed, White Rose Education and Classroom Secrets as well as other resources to support these sessions.

Children's progress and attainment in fundamentals such as number bonds and times tables is monitored through weekly, low-stakes testing in both KS1 and KS2.

- ## Assessment

This section details the various assessment methods and practices used to ensure that children are making appropriate progress and that the activities they take part in are suitably matched to their ability and level of development.

- **Formative Assessment (AfL)** - (monitoring children's learning)
  Assessment is an integral and continuous part of the teaching and learning process at Malvern Parish and much of it is done informally as part of each teacher's day to day work. Teachers use formative assessment strategies such as effective questioning, observation, informal testing, feedback and responses to their input and marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

- **Summative Assessment** – (evaluating children's learning)
  More formal methods are used to determine the levels of achievement of children at various times during the school year:

  - **End of Unit and Termly Assessment**: Children complete a termly assessment as a way of recording children's progress in objectives covered across that specific term. In addition, we use mini-assessments at the end of each maths unit to assess and record children's progress against that unit's objectives. This information is then used to inform Teacher Assessment at each data collection point and identify where children may need further support.

  - **Statutory End of Key Stage Assessment**: The National Curriculum requires that each child is assessed, and assigned a Level of attainment for each of the Attainment Targets in Mathematics. This is to be carried out at the end of Key Stage One and Key Stage Two. The majority of children will be working at the expected level for their age.

- **Mathematics in Early Years Foundation Stage**

  Mathematics within the EYFS is developed through purposeful, play-based experiences and will be represented throughout the indoor and outdoor provision. The learning will be based on children's interests or current themes and will focus on the expectations in Number and Numerical Patterns from the Statutory Framework for the Early Years Foundation Stage. As the children progress through, we aim for children to gain a deeper understanding of the number system with a key focus on numbers to 10 in preparation for KS1.

  As the children make progress towards the Early Learning Goal, they have opportunities to demonstrate their mastery skills in a range of appropriate activities both inside and outside of the classroom. They will be introduced to some of the models found within the KS1 mastery curriculum such as the use of tens frames, part-part whole models and the representation of numbers in different ways. This will help them to develop a sound early understanding of the number system.

  Adults in all areas of the classroom will model mathematical language and use questioning to deepen the children's understanding and enhance their learning. Some activities will be child initiated and others will be planned focus activities. It is important that children develop positive attitudes and interest in mathematics, look for and recognise patterns and spot connections. Children will be encouraged to have a go and talk about what they have noticed and not be afraid to make mistakes.

Our curriculum impact

At each stage, pupils should develop secure and deep understanding of mathematical concepts with sustainable foundations ready to be built on in the next stage of their education. Pupils should be able to apply mathematical knowledge, concepts and procedures appropriately for their age. They should also develop detailed knowledge and skills across the mathematics curriculum and, as a result, achieve well. Children will have a positive and resilient attitude towards their mathematics learning and be able to work confidently within their maths lessons.

- **Monitoring of mathematics**

  The impact of our maths curriculum is monitored half-termly by the Headteacher, SLT and/or Maths lead as part of our 'Maths monitoring week'. We use a deep-dive methodology which includes visiting lessons (including fluency sessions), speaking to children and having professional discussions with staff. We may also look at Maths books or other class-based records such as those mentioned above for assessing maths.

  We monitor assessment data termly and follow this up in subsequent pupil progress meetings between class teachers and the Headteacher. Maths is also a focus of some staff meetings e.g. staff meetings have included time for teachers to familiarise themselves with key resources and learn about new strategies for the teaching of maths. Future staff meetings may be planned to undertake further training in the teaching of maths.