

**St Barnabas C.E. Primary School**  
**Mathematics Policy**



St Barnabas C.E. Primary School

**POLICY DOCUMENT**

<b>Title:</b> Maths Policy
<b>Reference and Source Document:</b> Worcestershire County Guidelines
<b>The key purpose:</b> Guidance for Maths
<b>Lead Staff Responsibility:</b> Maths Subject Leaders: Nikki Sheen, Anna Smith
<b>Governing Body Responsibility:</b> Curriculum Team
<b>Reviewing Cycle and next date:</b> Annually. May 2023
<b>Approved by Leadership Team on:</b> October 2021
<b>Approved by Governing Body on:</b> 13.6.22



## **Inspire, Nurture and Achieve**

We believe, as Jesus did that in our happy, purposeful and welcoming **Christian school** and pre-school **all** are **valued, encouraged** and **cared for**:

- **Inspire** each child to think and feel positively about themselves and others.
- **Nurture** each child so that they grow with others in a secure and happy environment; where they enjoy a wealth of opportunity and experience a love of learning.
- A place where **achievements** are celebrated and expectations are high for all.

This is underpinned through the understanding that in Jesus, **all** are welcome and unique and have a God given purpose and place in the world. Jesus inspires us that **all** people can flourish.

**Matthew 19 v14**

Jesus said, "Let the children come to me, and do not hinder them, for the kingdom of heaven belongs to such as these."

### **We aim to:**

***Inspire** a positive approach to life and learning;*

*Value and **nurture** each child as an individual: developing **resilience, independence**, and an **understanding** of what they bring to the world;*

*Create a rich, stimulating environment where **achievements** are celebrated and **team work** and **co-operation** are expected;*

*Promote **high expectations** and **self-confidence** for each individual;*

*Ensure each child strives towards **excellence** supporting those who find learning difficult and challenging the most able children;*

*Develop and foster **motivation** for learning and **enthusiasm** for life;*

*Promote a sense of **belonging** and build outstanding **relationships** between school, home, church and the wider community.*

*Help every child understand their **unique purpose** and **place** in **God's world**.*

# St Barnabas C.E. Primary School

## Mathematics Policy



### 1. Introduction:

At St. Barnabas CE Primary School, we see mathematics as a key life skill, and we aim to create confident and inquisitive mathematicians. This policy has been developed to ensure that our teaching of mathematics is underpinned by all three of the school's core values - to **inspire**, **nurture** and **achieve**.

### 2. Intent statement.

We want our children to build a deep conceptual understanding of mathematics which will enable them to apply their learning in different situations. Through mathematical talk, our children will be able to explain their thinking and develop their reasoning skills. We use real-world contextualisation to **inspire** our children and to maximise their progress. We **nurture** the self-confidence and resilience of the children to become able mathematicians and we promote positive Growth Mindset thinking. We want all children to **achieve**, enjoy and experience success in mathematics.

### 3. Agreement date of Policy:

The policy was developed by the Subject Leaders for Maths, reviewed by SLT in September 2021 and approved by Governors in June 2022.

### 4. Aims:

The National Curriculum for Mathematics aims to ensure that all pupils:

- 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.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- can **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.

(Mathematics programmes of study: Key stages 1 and 2 National Curriculum in England -September 2013)

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The aim of our teaching of mathematics is to support and increase all children's access to excellent teaching, leading to exciting and successful learning. This in turn will lead to confident mathematicians.

Our aims in mathematics are...

- To promote confidence, resilience and competence by encouraging an 'I can do it!' attitude towards Maths.
- To promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion.
- To challenge children through high expectations and equip children with the skills needed to rise to the challenge.
- To have a 'deep' conceptual understanding of mathematics through carrying out practical activities, involving calculation, measurement, shape and space and statistics.
- To be able to use and apply mathematics across the curriculum and in real life.
- To describe and explain their thinking using correct mathematical vocabulary.
- To develop a good 'feel for number' through knowledge and understanding of numbers and the number system.
- To achieve fluency in mental mathematics and the four operations.
- To develop logical thinking and reasoning skills to solve problems in all areas of mathematics.

**5. Curriculum Development and Organisation:**

Mathematics is a core subject and at St Barnabas we follow the National Curriculum for Maths 2014 as the basis for implementing the statutory requirements of the programme of study for mathematics. We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). We have a mapped out progression of skills in each area of mathematics from Reception to Year 6. (See Appendix 1). As a school, we use White Rose Hub planning supported by Power Maths resources. Power Maths is designed to spark curiosity and excitement and help nurture confidence in maths.

Our medium-term plans give details of the main teaching objectives for each term, defining what we teach. They ensure an appropriate balance of work throughout the year. Class teachers follow the progression outlined by White Rose Hub for medium term planning.

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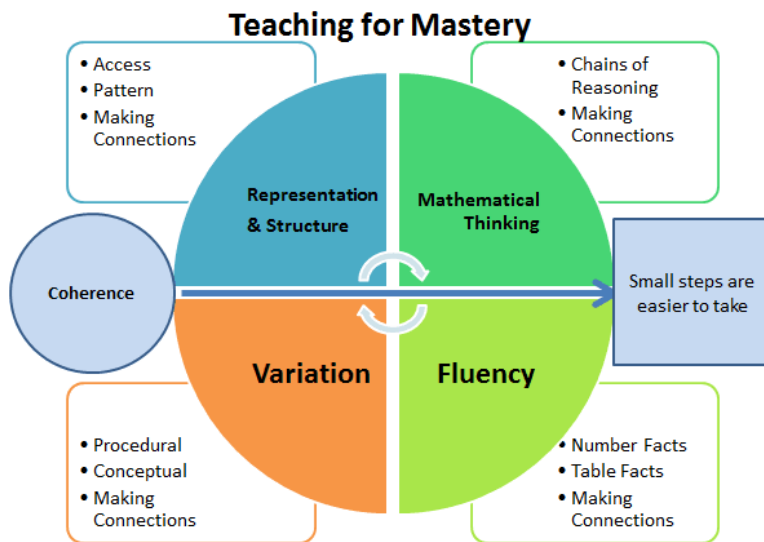
Each class teacher completes weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson. Problem solving and reasoning are integral in our day to day teaching. There is emphasis placed on promoting maths talk and children are encouraged to justify their thinking, using phrases like 'Convince me...', 'Prove to me...' 'Explain to me...'

Daily lessons include teacher modelling through 'My Turn Your Turn' to regularly revisit key skills. Mental maths skills are practised daily.

### 6. Teaching and Learning:

The school uses a variety of teaching and learning styles in mathematics lessons. Our main aim is to develop children's knowledge, skill and a deep conceptual understanding. We aim to develop the children's understanding through adopting a CPA approach to teaching- concrete (using equipment), pictorial (using pictorial representations) to abstract.

We adopt a mastery approach to teaching.



Mastery is...

- Achievable for all.
- The ability to build on something that has already been sufficiently mastered.
- Deep and sustained learning.
- The ability to reason about a concept and make connections.

There are three levels of learning:

- Shallow learning: surface, temporary, often lost.

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- Deep learning: learning that can be recalled and used.
- Deepest learning: can be transferred and applied in different contexts.

The deep and deepest levels are what we are aiming for by teaching mathematics using the Mastery approach. A mathematical concept or skill has been mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations. Mastery is a journey and long-term goal, achieved through exploration, clarification, practice and application over time. At each stage of learning, children should be able to demonstrate a deep, conceptual understanding of the topic and be able to build on this over time.

Teaching for Mastery involves:

- High expectations for all children.
- Fewer topics covered in greater depth over a longer time.
- Number sense and place value coming first.
- Problem solving is central, ensuring an understanding of why it works so that children understand what they are doing rather than just learning rules.
- Challenge being provided through greater depth, rather than accelerated content (moving into next year's concepts) – this allows children to deepen their knowledge and improve their reasoning skills rather than accelerating on to new curriculum content.

Children are asked to work independently, in pairs and in groups. The children work in mixed ability classes across all year groups and we plan each lesson so that it offers challenge at different levels with no glass ceilings.

The children have the opportunity to use a wide range of resources such as Numicon, Base 10, place value counters, number lines/ squares, digit cards and small apparatus to support their work. Bar models are used as one form of pictorial representation. Children and teachers use ICT in mathematics lessons where it will enhance their learning, and to assist with modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

Children are set a weekly homework task in order to strengthen their learning in Mathematics. In Years 1, 2, 3 and 4 the children are given weekly 'Maths Missions' to explore Maths at home. In Years 5 and 6 the children are given homework tasks. Each task directly links with the current unit of learning for each Maths group and problem solving and reasoning are integral to all homework tasks. This school year we will be using SeeSaw to share Maths homework and respond to the children's work. We also place emphasis on learning Times Tables facts as part of our weekly homework and as a school we subscribe to Times Tables Rockstars to motivate the children to practise their recall of multiplication and division facts.

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**7. Inclusion and Equal Opportunities:**

All children are provided with equal access to the mathematics curriculum. We aim to provide suitable learning opportunities regardless of gender, ethnicity or home background. Teachers use a range of open-ended questions that allow all children to take part. Teachers encourage children to use practical equipment and represent mathematics visually to deepen the children's understanding. We plan each lesson with 'tiered learning' and children are challenged according to their understanding of different concepts.

It is part of our school policy to provide a broad and balanced education for all children. We provide learning opportunities for individual children in their Individual Provision Plans (IPMs). Pupil progress is monitored to ensure all children achieve their full potential.

**8. Subject Monitoring**

The Maths Team and Team Leaders are responsible for monitoring standards of children's work, the quality of teaching in mathematics and evaluating progress.

**Roles and Responsibilities of the Maths Team:**

- To oversee the teaching of mathematics across the school.
- To monitor the provision for mathematics by carrying out book trawls, lesson observations, learning walks and pupil conferences. These then inform Termly Action Plans which support the main priorities identified in the School Development Plan.
- To ensure all children are making progress by analysing the data for each Year Group and tracking the progress of specific children.
- To contribute to Pupil Progress Meetings and identify next steps for intervention for specific children.
- To moderate work in mathematics with staff and ensuring judgements are accurate.
- To keep up to date with developments in mathematics teaching and share with staff.
- To contribute to INSET training of staff to further staff expertise and subject knowledge.
- To lead by example in the way of teaching in own classroom and supporting colleagues.
- To prepare policy documents, such as Maths Policy, Calculation Policy.
- To liaise with the Head Teacher, Deputy Head Teachers, Team Leaders and governors as appropriate.
- To make purchasing decisions based on identified needs.

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- To liaise with the Maths Governor.
- To lead Maths Workshops for Parents/ Carers.

### **9. Pupil Assessment:**

Assessment is regarded as an integral part of our teaching and learning and is a continuous process. Assessment is carried out through:

- Open ended questions.
- Opportunities for the children to explain, convince and prove.
- Observation of the children at work.
- Peer and self-assessment.
- Marking the children's work in line with school Marking Policy.
- Informal assessments that take place continually and teachers record the children not achieving/ exceeding expectations in a lesson on daily plans.
- Planned assessment tasks.
- Termly PUMA tests (Years 2-5) and regular practice SATs papers (Years 2 + 6).

We use these assessments to inform our future planning and identify our children needing intervention. Attainment is recorded using ITrack to ensure children are making good progress and children's work is moderated in regular Team Meetings and with other local primary schools.

In September, each child's progress and prior attainment are considered before a target level is set for the end of the academic year.

We make the long-term assessments with the help of end-of-year tests and ongoing teacher assessments to assess the children's progress in line with ARE (age related expectation). Children are also formally assessed at Year 2 and Year 6 according to SATs tests and tasks. These SATs tests will be in line with the National Curriculum.

In Green Lane Pre-School and Reception we follow the EYFS Maths:-Number and Shape, Space and Measure strands. Observations in child initiated, adult led play and focused tasks are made and judgements regularly recorded using the Tapestry or SPTO tracking system. Parents/Carers are also encouraged to send in observations from home. These observations inform future planning and interventions. Data is regularly analysed throughout the year and discussed with Team leaders/SLT. At the end of Pre-School/ Reception a judgement is made as to which age band children are working within and whether are 'Emerging', 'Expected' or 'Exceeding' within this band. This information is sent to County and used to inform provision in the child's feeder school or Year 1.



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Times tables are monitored through regular testing and we teach times tables in a systematic way with high profile placed on quick recall of all related tables facts and applying knowledge of known facts.

#### **10. Health and Safety Issues:**

Please refer to the school Health and Safety Policy.

#### **11. The role of mathematics across the curriculum:**

At St. Barnabas, we have a cross-curricular approach to teaching mathematics and our Curriculum Plans outline cross curricular opportunities. These are shared with parents via our Year Group pages on our school website.

ICT is used when appropriate to support the children's learning in this subject. Children benefit from the use of a wealth of ICT resources such as: computers, digital cameras, visualisers, I-Pads, interactive whiteboards with digital projector, recording equipment etc. and opportunities are taken to develop their knowledge, skills and understanding.

All children have access to a wide range of maths games and activities. We provide useful leaflets for parents with links to useful websites to support the children's learning in mathematics. These are available on our Maths page of our school website.

#### **12. Home / school links:**

We see the relationship with parents as very important in supporting their children's mathematical skills. We involve the parents in their children's learning by:-

- Providing parents' evenings which give them verbal and written information on their child's progress and their 'next step' targets.
- Sharing curriculum plans.
- Writing an end of year report which outlines progress and attainment in mathematics.
- Providing meetings to inform parents on how we teach mathematics and how they can help.
- Providing leaflets with activities/ ideas and links to websites for maths opportunities at home.
- Giving opportunities for maths homework.
- Celebrating National Number Day and promoting positive attitudes to mathematics through inviting parents into school to enjoy learning with the children.
- Inviting parental guest speakers to talk about 'maths at work' to inspire the children and their future aspirations.

#### **16. Copyright:**

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We follow the county guidelines regarding software copyright and data protection. All software licenses are kept securely within school.

**17.Date to be reviewed**    May 2023

**Appendix 1- Progression of skills in Maths – Year R - 6**

**Appendix 2- Our School Calculation policy in line with Power Maths and White Rose Hub.**