TUTSHILL CHURCH OF ENGLAND SCHOOL

Mathematics Policy

'Love One Another, Know Ourselves, Believe and Grow'

Written: October 2022
Review: October 2024

Signed Headteacher……

'Our Christian Vision is rooted in 1 John 4:7
'Dear Friends, let us love one another, for love comes from God'

Signe Committee chair……

Introduction

Our Curriculum focuses on ensuring that all our children have the best chance to achieve our Christian Vision; Love One Another, Know Ourselves, Believe and Grow.

Our School Vision is rooted in 1John 4:7 *'let us love one another, for love comes from God'.*

Tutshill C of E Primary School is an inclusive school where all people are valued and nurtured to flourish and become the best version of themselves and responsible members of God's family.

Curriculum Drivers

Throughout each subject that we teach, we want to ensure that children leave Tutshill School ready for the next chapter of their life. Therefore, we want our children to:

- understand and use our school values
- be resilient and curious learners
- be globally aware
- be able to play a role in wider society

Subject intent

At Tutshill C. of E. Primary School we aim to provide a stimulating, challenging mathematics curriculum for our children, underpinned by the objectives set out in the National Curriculum of 2014. We follow The White Rose Maths curriculum which is designed to provide children with a solid foundation in mathematics. Our aim is that children will gain a deep understanding of mathematics and will be able to think mathematically and solve problems with confidence.

We do this by:

- Providing opportunities for FLUENCY, REASONING AND PROBLEM-SOLVING.
- Adopting the 'Do it, Twist it, Solve it, Prove it' approach. Linking this to our ABCDE model of learning which allows the children to understand how they learn and how to improve (metacognition).
- Employing the 4Cs approach to problem-solving which also develops skills in metacognition by allowing children to plan and monitor their own learning.
- Providing a Mastery approach that is child-led without pre-conceived ideas of attainment and achievement to challenge all learners.
- Delivering a curriculum that represents Mathematics through CONCRETE, PICTORIAL and ABSTRACT representations encouraging deeper understanding of mathematical concepts.
- Emphasising the importance of 'Number Talk' – with a deliberate emphasis on key mathematical vocabulary to explain and reason.

- Creating real-life contexts for our Mathematics learning which increases the children's Global Awareness, understanding of the importance of maths within society and the wider world.
- Using our core Christian Values and key learning behaviours to overcome challenges and work effectively.

Legal Framework

This policy has due regard to statutory legislation and guidance including, but not limited to, the following:

- DfE (2013) 'National curriculum in England: mathematics programmes of study'
- DfE (2017) 'Statutory framework for the early years foundation stage'
- Equalities Act 2010

Roles and Responsibilities
Governing Board

- Link Governor will meet with the subject leader to be able to understand the programme of study.

The headteacher is responsible for:

- Holding the subject leader to account for pupils' attainment.
- Assisting the subject leader in reviewing and updating this policy annually.
- Supporting the subject leader in identifying CPD opportunities for themselves and classroom teachers.
- Promoting the needs of all pupils and ensuring they can access a well-rounded and inclusive curriculum.

The subject leader is responsible for:

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Attending training courses and undertaking CPD opportunities for themselves.
- Reviewing changes to the national curriculum and advising staff on new developments and assisting in their implementation.
- Working with classroom teachers to plan lessons and ensure continuity and progression from year group to year group.
- Monitoring the learning and teaching, providing support for staff where necessary.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all resources.
- Liaising with teachers and holding them to account for the attainment achieved.
- Communicating developments in the subject to all teaching staff.

- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessment.
- Advising on cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for development of geography in subsequent years.
- Identifying areas for improvement and ensuring these are included in a subject specific action plan and form part of the SDP.
- Liaising with subject leaders from local Primary and Secondary Schools.

The classroom teacher is responsible for:

- Working with the subject leader to ensure the high-quality delivery of the curriculum and continuity between year groups.
- Acting in accordance with Tutshill C of E School policies.
- Ensuring progression of pupils' skills with due regard to the national curriculum.
- Planning engaging and interesting lessons, ensuring a range of teaching methods are used to cover the content of the national curriculum.
- Monitoring the progress of pupils in their class and reporting this on an annual basis.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary in order to effectively teach the subject and improve practice.
- Reporting on pupils' progress at parents' evenings and in end of year reports.

The Specialist Educational Needs and Disabilities Co-ordinator (SENDCO) is responsible for:

- Liaising with the subject leader in order to implement and develop the subject throughout the school.
- Organising and providing training for staff for pupils with special educational needs and disabilities (SEND).
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of objectives in pupils' individual education plans.
- Advising staff on the use of teaching assistants in order to meet pupils' needs.

The Curriculum

Early Years Foundation Stage

Mathematics in EYFS is delivered through the Early Learning Goals Number and Numerical Pattern.

National Curriculum

The curriculum is delivered following the White Rose Scheme.

- In key stage 1, the principal focus of mathematics teaching is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the four operations, including with practical resources [for example, concrete objects and measuring tools]. At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money. By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency. Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.
- In lower key stage 2, the principal focus of mathematics teaching is to ensure that pupils become increasingly fluent with whole numbers and the four operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers. At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work. Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word reading knowledge and their knowledge of spelling.
- In upper key stage 2, the principal focus of mathematics teaching is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio. At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them. By the end of year 6, pupils should be fluent in written methods for all four operations, including long multiplication and division, and in working with fractions, decimals and percentages. Pupils should read, spell and pronounce mathematical vocabulary correctly.

Subject Implementation

We provide two Maths sessions daily which include a full Mathematics lesson based on the White Rose Maths Scheme and a Mini-Maths Meeting or Number Talk session.
Our Mini Maths Meetings focus on key skills and related vocabulary. This session may also be used to deepen understanding of concepts taught in Maths lessons and also address misconceptions.
Number talk sessions focus on the use of key vocabulary to explain ideas/ methods/ reasoning.
Maths sessions include a balance of Fluency (Do it), Reasoning (Twist it) Problem-solving (Solve it). Children use key learning behaviours in order to: take risks by challenging themselves; problem-solve with curiosity; work co-operatively with learning buddies to share methods, ideas and approaches; use resilience and resourcefulness to overcome mistakes and misconceptions and use reflection and evaluation to celebrate and improve on their learning. These learning behaviours are underpinned by our Christian values of Respect, Responsibility, Creativity, Courage and Perseverance.
We provide differentiated challenges that the children choose from based on confidence/ understanding within a lesson (again developing children's individual metacognition). Greater depth challenges are provided to deepen understanding.
The use of concrete resources including Numicon, Base10 and place value counters and pictorial representations (paper-based and use of programs such as Maths Bot) are used to help learners understand the structure of the Maths they are learning.
The 4Cs approach to problem-solving helps to develop the link between pictorial and abstract and a deeper understanding of mathematical concept.

Assessment and reporting

Throughout the year, teachers will plan on-going assessment opportunities in order to gauge whether pupils have achieved the key assessment criteria.

- Assessment in mathematics is based upon knowledge and understanding shown in both maths sessions and summative assessment.
- Formative assessment, which is carried out informally throughout the year, enables teachers to identify pupils' understanding of subjects and informs their immediate lesson planning.
- In terms of summative assessments, the results of end of year assessments will be passed to relevant members of staff, such as the pupil's future teacher.
- Parents will be provided with a written report about their child's progress during the summer term every year.
- Verbal reports can be provided at parental consultations during the Autumn and Spring terms.
- Pupils with special educational needs and disabilities (SEND) will be monitored by the special educational needs coordinator.

<u>Assessment will take place through the following ways:</u>

1. Formative assessment tasks take many forms including individual work, teacher observation, mental and oral questions, practical and written tasks
2. Children in Year 2 take KS1 National Tests.

3. Children in Year 6 take KS2 National Tests.
4. Use of an online assessment program to track children's achievement and understanding through the year. This information is used to inform teacher assessment, planning and teaching
5. Targets set for individuals/groups/classes, as appropriate.
6. Homework tasks.
7. Assessment in EYFS through Early Learning Goals and Baseline assessment.
8. Assessment tracked using INSIGHT.

Health and Safety

All staff will act in accordance with the schools Health and Safety policy.
Staff immediately will report any concerns to the Office Manager and Executive Headteacher, Deputy Headteacher in Heads absence.
Specific risk assessments are completed when required eg, outdoor learning activities, visits or visitors to school.

Equality statement

- All pupils will have access to the mathematics curriculum, including practical experiments.
- Gender, learning ability, physical ability, ethnicity, linguistic ability, cultural circumstances and/or any other factors, will not impede pupils from accessing all mathematics lessons.
- Where it is inappropriate for a pupil to participate in a lesson because of reasons related to any of the factors outlined above, the lessons will be adapted to meet the pupil's needs and alternative arrangements involving extra support will be provided where necessary.
- All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.
- We aim to provide more academically able pupils with the opportunity to extend their mathematical thinking through extension activities such as problem solving, investigative work and research of a mathematical nature.

Subject Impact

- Children are confident, engaged and enjoy their mathematics learning.
- Children use key mathematical vocabulary with confidence to explain ideas, methods and reasoning
- Lesson observations show a variety of resources, approaches and representations are used to promote understanding as well as a balance of Fluency, Reasoning and Problem-solving.
- The percentage of children reaching the expected standard at the end of KS2 is above the national average.
- Children produce high-quality work showcasing a deep understanding of mathematical concepts.

- Progress tracker (INSIGHT) shows attainment and progress made by individuals and key groups.
- Teachers and children enjoy the experience of teaching and learning in Mathematics and understand how it can help them in their future.