



Policy title: Maths

Date created: April 2022

Date ratified:

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Signed:

1. Introduction

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

(National Curriculum 2014)

2. Quality of Education

2.1. Intent of the Curriculum

2.1.1. Curriculum design and coverage

Our curriculum intent for mathematics is:

- **HEAD:** Develop critical thinking and reasoning skills to solve problems. Encourage pupils to consider the efficiency of methods and build mathematical fluency.
- **HEART:** Value the contributions of all learners and encourage pupils to share knowledge with others. Develop a love of the subject and build resilience when faced with challenging tasks.
- **HANDS:** Start with the concrete before moving to the abstract. Be contextual and relatable to pupils. Involve creative, engaging activities and make use of a variety of resources including outdoor learning.

2.1.2. Knowledge and skills – National Curriculum

The National Curriculum sets out year-by-year programmes of study for key stages 1 and 2. This ensures continuity and progression in the teaching of mathematics. The aims are for our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations.
- Develop an argument, justification and proof by using mathematical language.
- Problem solve by applying knowledge to a variety of routine and non-routine problems. Breaking down problems into simpler steps and persevering in answering.

2.1.3. Knowledge and skills – EYFS Statutory Framework

This sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development matters' non statutory guidance. The EYFS Framework in relation to mathematics aims for our pupils to:

- Develop and improve their skills in counting
- Understand and use numbers
- Calculate simple addition and subtraction problems
- Describe shapes, spaces, and measures the purpose of mathematics in our school is to develop:
- Positive attitudes towards the subject and awareness of the relevance of mathematics in the real world
- Competence and confidence in using and applying mathematical knowledge, concepts and skills
- An ability to solve problems, to reason, to think logically and to work systematically and accurately
- Initiative and motivation to work both independently and in cooperation with others
- Confident communication of maths where pupils ask and answer questions, openly share work and learn from mistakes
- An ability to use and apply mathematics across the curriculum and in real life
- An understanding of mathematics through a process of enquiry and investigation





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2.1.4. Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's IEP's incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson.

Maths focused intervention in school helps children with gaps in their learning and mathematical understanding. These are delivered by trained support staff and overseen by the class teacher with support from the SENCO. Within the daily mathematics lesson teachers have a responsibility to not only provide differentiated activities to support children with SEND but also activities that provide sufficient challenge for children who are high attainers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

2.1.5. Cultural capital and diversity

Each year group has a specific mathematician to learn about during their year. These historic figures are chosen carefully to promote diversity from the world around us.

2.2. Implementation of Teaching and Learning

2.2.1. Subject knowledge – Long Term Planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long-term planning for mathematics taught in the school.

2.2.2. Subject knowledge – Medium Term Planning

Years 1-6 use the White Rose Maths Hub and Pearson schemes of learning to influence their medium-term planning documents. These schemes provide teachers with exemplification for maths objectives and are broken down into fluency, reasoning and problem solving, key aims of the National Curriculum. They support a mastery approach to teaching and learning and have number at their heart. They ensure teachers stay in the required key stage and support the ideal of depth before breadth. They support pupils working together as a whole group and provide plenty of time to build reasoning and problem-solving elements into the curriculum.

2.2.3. Subject knowledge – Short Term Planning

Lessons are planned using a common planning format and are monitored at intervals by the mathematics subject leader. All classes have a daily mathematics lesson where possible. In KS1 lessons are 45-60 minutes and in key stage two at least 60 minutes. Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child-initiated activities both inside and outside of the classroom.

The emphasis in lessons is to make teaching interactive and lively, to engage all children encouraging them to talk about mathematics. Lessons involve elements of:

- Instruction – giving information and structuring it well;
- Demonstrating – showing, describing and modelling mathematics using appropriate resources and visual displays;
- Explaining and illustrating – giving accurate and well-paced explanations;
- Questioning and discussing;
- Consolidating;
- Reflecting and evaluating responses – identifying mistakes and using them as positive teaching points;
- Summarising – reviewing mathematics that has been taught enabling children to focus on next steps

2.2.4. Formative assessment

Marking of children's work is essential to ensure they make further progress. Work is marked in line with the school marking policy and includes next steps. Children are encouraged to self-assess their work and given time to read teachers' comments and make corrections or improvements. Some pieces of work in





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mathematics can be marked by children themselves, exercises involving routine practice with support and guidance from the teacher.

Teachers make assessments of children daily through;

- Regular marking of work
- Analysing errors and picking up on misconceptions
- Asking questions and listening to answers
- Facilitating and listening to discussions
- Making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily, and short-term planning evaluated in light of these assessments.

2.2.5. Resources

Each class has a stock of core resources that are age appropriate and within maths toolkits or storage trays. Additional mathematical equipment and resources are stored centrally in the resources room. A range of online mathematics learning tools for children are used by teachers to support mathematics learning both in class and at home. Children are set homework on these platforms in line with the homework policy.

2.2.6. Learning environment

Each classroom should have a display dedicated to Maths; this could be in the form of a working wall; strategy board or problem-solving area and pupil voice should be evident.

2.3. Impact

2.3.1. Summative assessment

Termly assessments are carried out across the school using the End of Term White Rose Maths materials. These materials used alongside judgements made from class work support teachers in making a summative assessment for each child which, in line with the assessment policy, they enter onto SIMS Teacher App. Teachers in years 1-6 also track the progress of children in mathematics against Teacher App statements. The statements cover the mathematics objectives for the year group. This process of careful tracking adds to helping teachers form an assessment for each child. Pupil Progress meetings are timetabled each half term for all classes. Progress of pupils is discussed, and appropriate intervention considered and put in place where appropriate.

Y2 and Y6 complete the national tests (SATs) in May, Y4 complete the multiplication check in June and EYFS statutory reporting of number and numerical pattern are also completed in June as well as a baseline being completed in the first half term.

2.3.2. Preparation for next stage of education

Every transition to the next year is taken carefully and teachers need to ensure they are ready for their next stage of education.

2.3.3. High quality pupil work

High expectations of work produced in books is expected but there is also a range of other methods to record learning – on tables and in practical maths activities.

2.3.4. Applying learning

Children are encouraged to apply their learning within other subjects – for example Design Technology. Following the introduction of the new National Curriculum in 2014 the emphasis has been to ensure that all children:

- Become FLUENT
- REASON and EXPLAIN mathematically
- Can SOLVE PROBLEMS





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3. Behaviour and Attitudes

3.1. Attitudes to learning

Children are taught a variety of methods for recording their work and are encouraged and helped to use the most appropriate and convenient. Children are encouraged to use mental strategies and their own jottings before resorting to more formal written methods. Children's own jottings to support their work is encouraged throughout all year groups.

3.2. Positive and respectful culture

Staff and children will respect each other's abilities in maths and aim to support each other to be the best they can be in a safe and supportive environment.

3.3. Supporting colleagues

Colleagues will be supported by the maths lead and provided with CPD or key ideas to develop their teaching.

4. Personal development

4.1. Extended curriculum and wider outcomes

We will participate in competitive events, such as the Cambs Year 5 Maths Challenge and the National Young Mathematicians' Award run by Explore Learning in conjunction with Cambridge University.

4.2. Social, Moral, Spiritual, Cultural

Children will:

- Work together to solve problems
- Make responsible moral decisions and act on them, helping others
- Make an active contribution in maths sessions
- Understand, appreciate and contribute to a positive mind-set culture

5. Leadership and management

5.1. Roles and responsibilities

Leadership

- To lead in the development of maths throughout the school.
- To monitor the planning, teaching and learning of mathematics throughout the school.
- To help raise standards in maths.
- To provide teachers with support in the teaching of mathematics.
- To provide staff with CPD opportunities in relation to
- To monitor and maintain high quality resources.
- To keep up to date with new developments in the area of mathematics

Staff

- To adhere to the policies and provide children with challenging yet engaging activities within a supportive and understanding atmosphere

Parents

- To It is important that parents and carers are actively involved in the children's education.
- To attend parent information sessions
- To understand new methodologies for delivering the teaching of Maths and also changes relating to assessment/testing arrangements.

Children:

- To be positive when approaching mathematics
- To try their best





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5.2. Continuing professional development

Staff needs in CPD in relation to maths may come through performance management, recognition of a whole school need or through the needs of individual pupils.

5.3. Community links

We participate in competitive events, such as the Cambs Year 5 Maths Challenge and link with Cambridge University Maths Faculty.

5.4. Working with governors

The maths coordinator links with a key governor who reports back to the Full Governing Body progress in maths teaching, learning and data. Learning Walks including governors are taken annually

5.5. Inclusion and equal opportunities

Positive attitudes towards mathematics are encouraged, so that all children, regardless of race, gender, ability or special needs, including those for whom English is a second language, develop an enjoyment and confidence with mathematics. This policy is in line with the school's 'Equality' policy. The aim is to ensure that everyone makes progress and gains positively from lessons and to plan inclusive lessons. Lessons involving lots of visual, aural and kinaesthetic elements will benefit all children including those for whom English is an additional language (EAL). Differentiated questions are used in lessons to help children and planned support from Teaching Assistants and other adults.

5.6. Safeguarding

The safety of children is paramount in all situations. If a child's behaviour endangers the safety or learning of themselves or others the adult in charge will cease the activity. A senior member of staff will be called if the child needs to be removed. Great Wilbraham CE Primary School is committed to safeguarding and promoting the welfare of all children.

5.7. Health and safety

At all times a safe and healthy environment is maintained. Any hazards and concerns are reported to the Headteacher or the Office. Risk assessments are undertaken to ensure there is a safe working environment, should any activities take place outside of the classroom.

5.8. Reviewing and monitoring

This policy will be renewed biennially in accordance with updates on mathematics arrangements.

6. **Links to other policies**

- 6.1. Calculation Policy
- 6.2. Curriculum Policy
- 6.3. Assessment Policy
- 6.4. Feedback Policy
- 6.5. Special Needs Policy
- 6.6. Equalities Policy

7. **Appendices**

