Mathematics Policy

1st November 2022
Next review date: 1st November 2024

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This policy should be read in conjunction with the *Quality of Education Policy*, any related subject policies and the following:

Other documents that support the teaching and learning of Mathematics:
Mathematics programmes of study for Key Stage 1 and Key Stage 2
Marking guidelines

Throughout this policy 'parents' denotes those with parental responsibility.

1. Subject Intent

Mathematics involves confidence and competence with number, measures, geometry and statistics. The acquisition of skills, which improve because of practice, can help to develop powers of logical thinking, imagination and an awareness of accuracy.

We aim to inspire young people to see the true beauty of mathematics and encourage them to engage in their maths-learning journey. Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems.

At Belmont, we intend to:

- Ensure our children have access to a high quality maths curriculum that is both challenging and enjoyable.
- Encourage children to have a positive, confident, enthusiastic and curious attitude towards maths.
- Develop children's fluency in the fundamentals of mathematical skills and knowledge with quick recall of basic facts.
- Expose our children to a variety of mathematical opportunities, which will enable them to make the connections in learning needed to enjoy greater depth in learning.
- Enable children to feel confident and develop initiative and motivation to work both independently and in cooperation with others.
- Fully develop independent learners with inquisitive minds who have secure mathematical foundations and an interest in self-improvement.
- Encourage children to make rich connections across mathematical ideas to develop fluency, reasoning and competence in solving increasingly sophisticated problems. We intend for our pupils to be able to apply their mathematical knowledge across the curriculum.
- Teach children that maths skills are essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.
- Encourage children to foster the use of mathematical knowledge to solve real-life problems; to develop an awareness of the uses of maths in the world beyond the classroom and to give children skills for the future (e.g. for managing their own finances and punctuality).
- Develop the understanding and correct use of mathematical vocabulary.
- Encourage confident communication of maths where pupils ask and answer questions, openly share work and learn from mistakes.
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2. Approaches to Teaching and Learning (Implementation)

Maths is a journey and long-term goals are achieved through exploration, clarification, practice and application. 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.
There are three levels of learning:

- Shallow learning: surface, temporary, often lost
- Deep learning: it sticks, can be recalled and used
- Deepest learning: can be transferred and applied in different contexts (long term memory)

A mastery approach is at the heart of maths at Belmont. Key stage 1 and 2 children have a daily maths lesson. The whole class work together on activities related to a particular area of maths. All children have access to fluency, problem solving and reasoning opportunities. Differentiation, is according to support needed, questioning and challenge is provided for all children. There is a balance between oral and written work to develop and consolidate skills and understanding. Discussion and collaboration between pupils is encouraged and pupils often work in pairs or groups as well as individually. Teachers are encouraged to use the classrooms, hall space and outdoor areas creatively during maths lessons.

2.1 Language development
Maths has its own vocabulary and certain words have a mathematical definition, which is distinct from the more common meaning e.g. difference. Correct mathematical vocabulary is introduced daily in maths lessons, displayed in classrooms, and built upon as children progress through the school. Children are encouraged to 'talk maths' using accurate vocabulary.

2.2 Times Table Challenges
The quick recall of multiplication and division facts (times tables) is essential for all children. The ability to recall these facts quickly enables children to answer related questions with ease. It is therefore important that we approach the teaching and testing of times tables in a similar and progressive format from Year 1 to Year 6. At Belmont, we are ensuring the children are learning these facts progressively through our weekly Times Tables Challenge and through the Times Tables Rock Stars platform, which works through multiplication facts and derived division facts, with a test/quiz at each stage to assess speed and accuracy.

3. Resources
Each class has a designated area for maths, containing class-based resources to enable children to select certain materials appropriate for a task. Other resources are centralised under the supervision of the Mathematics Subject Leaders. Teachers deliver the curriculum, using the White Rose scheme, which matches the National curriculum, and MyMaths.

4. Learning Environment
Please refer to the Quality of Education Policy.

5. Planning (Implementation)
At Belmont, we plan for continuity and progression throughout the school by using the mathematics programmes of study for Key Stages 1 and 2 and the White Rose Scheme of work.
Weekly planning is completed by individual teachers in order to meet the needs of their class and may be adapted, as required.

6. Assessment
Please refer to the Quality of Education, Assessment and Early Years Foundation Stage Policies.

7. Cross Curricular Opportunities
Pupils are encouraged to apply their mathematic knowledge to science and other subjects.

7.1. Reading, writing, communication, maths and computing
The interactive nature of lessons provides opportunities for children to develop skills in the key areas of speaking and listening, using skills in reasoning, generalising and explaining. Other language skills are developed through independent and guided activities. Children use reading skills to draw out relevant information that will enable them to solve problems. They develop and refine appropriate methods of recording and explaining their maths through written, oral, symbolic and diagrammatic means.

Computing, is integrated into the delivery of maths where applicable. It is an essential tool to assist in calculation, generating patterns and organising and interpreting data. Teachers use interactive resources as a tool to enhance the children's learning. Specific software and websites used are White Rose Premium resources, Times Tables Rock Stars, MyMaths, Discovery Education and Sumdog.

7.2 Foundation subjects
The school's topics provide many appropriate contexts for the teaching and learning of mathematics. Mathematical skills are also developed within the context of other subjects. For example:
Science and D.T. – measurement of temperature, capacity, weight and data handling
Art, R.E. and Music – symmetry, patterns and sequences
Geography – map skills: co-ordinates, scale
History – chronology: timelines, dates
P.E. – shape, balance, transfer of weight, scoring, averages

7.3 Spiritual, Moral, Social and Cultural development (SMSC)
Please refer to the Quality of Education Policy.

8. Enriching the Curriculum

During our annual STEM enrichment week, there are opportunities for the children to take part in a range of activities to enhance the maths curriculum. The children also have the opportunity to take part in national, local and borough enrichment days.

9. Inclusion

Please refer to the Quality of Education Policy.

10. Health and Safety and Safeguarding

Please refer to the Quality of Education Policy.

11. Roles and Responsibilities

Please refer to the Quality of Education Policy.

12. Policy Review

In addition to the review cycle, the mathematics policy will be updated to reflect changes to the curriculum.