

Burnt Tree Primary School Mathematics Policy.



Commencing date: 9th February 2016

Review date: March 2017

Introduction

Mathematics equips pupils 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 important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them.

We aim to provide the pupils with a mathematics curriculum which will produce individuals who are literate, creative, independent, inquisitive, enquiring and confident. We also aim to provide a stimulating environment and adequate resources so that pupils can develop their mathematical skills to their full potential.

The New National Curriculum order for mathematics describes what must be taught in each Year Group. Burnt Tree Primary School follows this, which provides detailed guidance for the implementation of the National Curriculum for mathematics. This ensures continuity and progression in the teaching of mathematics. In the early years the curriculum is guided by the Early Learning Goals.

Our pupils should:

- Have a sense of the size of a number and where it fits into the number system.
- Know by heart number facts such as number bonds, multiplication tables, double, halves and decimal and percentage conversions.
- Use what they know by heart to figure out number mentally.
- Calculate accurately and efficiently, both mentally and written methods, drawing on a range of calculation strategies.
- Make sense of number problems, including non-routine problems and recognise the operation needed to solve them.
- Become **fluent** in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils have conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to problems.
- **Reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- **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.

- Explain their methods and reasoning using correct mathematical terms.
- Judge whether their answers are reasonable and have strategies for checking them where necessary.
- Suggest suitable units for measuring and make sensible estimate of measurements.
- Explain and make predictions from the numbers in graphs, diagrams, charts and tables.
- Develop spatial awareness and an understanding of the properties of 2D and 3D shapes.

Teaching and Learning

Pupils are provided with a variety of opportunities to develop and extend their mathematical skills in and access each phase of education. Lessons in each year group follow the same format with a mental oral starter, a main teaching activity, differentiated tasks and a plenary session. Teachers ensure that tasks are carefully selected so that they match pupils' attainment levels and challenge pupils to achieve to the best for their ability.

The teaching of mathematics at Burnt Tree Primary School also provides opportunities for:

- Group work
- Paired work
- Mixed ability work
- Whole class teaching
- Individual work

Pupils engage in:

- The development of mental strategies
- The development of arithmetic skills
- Written methods
- Practical work
- Investigational work
- Problem solving
- Mathematical discussion
- Consolidation of basic skills and number facts

At Burnt Tree Primary School we recognise the importance of establishing a clear progression in mental calculation and written methods. Methods for both mental

calculations and written methods have been clearly identified, using the New National Curriculum guidelines, to ensure progression throughout the school.

Mathematics contributes to many subjects through the Irresistible Curriculum, children are given weekly opportunities to use and apply their mathematics skills in different contexts.

Children are grouped by ability, into sets, from years 1 to 6 in order to challenge and scaffold learning as and where necessary through assessment.

Daily arithmetic sessions ensure that gaps in pupils' learning are identified and scaffolded instantly. The sessions will also provide pupils with the ability to regularly develop and practice mental and calculation skills. Children will be tested weekly, based upon the arithmetic questions that they have completed during the week, ensuring that they have applied what they have learnt.

Problem solving and reasoning activities will occur weekly to ensure that pupils are using and applying their skills in both routine and non-routine problems, including breaking down more complex problems into a series of simpler steps. Pupils will be provided with opportunities to make connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. Children will solve a variety of problems: finding all possibilities, finding rules, describing patterns, logic problems, story problems and worded problems linked to the skills learnt.

Assessment

Assessment is regarded as integral part of teaching and learning as is a continuous process. It is the responsibility of the class teacher to assess all pupils in their class. Through the use of the number, measure and geometry assessment standards teachers will assess pupils and record their progress. Information for assessment will be gathered in various ways: by talking to the children, observing their work, marking their work, etc. Teachers will use these assessments to plan further work and thus have a positive impact of pupils' progress.

Role of the Subject Leader

The subject leader is responsible for co-ordinating mathematics through the school. This includes:

- Ensuring that all year groups are following and teaching the new curriculum.

- Are aware of the recent developments in policies and schemes to enable staff CPD.
- Ensuring continuity and progression from year group to year group.
- Providing all members of staff with guidelines and a scheme of work to show how aims are to be achieved and how the variety of all aspects of mathematics is to be taught.
- Providing training through staff meetings and INSET days to staff, where appropriate this will be in line with the needs identified in the School Improvement Plan.
- Advising and supporting colleagues in the implementation and assessment of mathematics throughout the school.
- Assisting with requisition and maintenance of resources required for the teaching of mathematics.
- Monitoring planning and pupils' books to ensure that all pupils are being challenge to the best of their ability and offer support to staff where needed.
- Moderation teacher assessments to ensure that pupils have been accurately assessed.
- Ensuring cross curricular links are made and there is evidence in science and topic books.
- Provide support for parents and keep them up to date with any improvements made to the provision of mathematics.
- Write, implement and review sections of the SIP, as well as write actions plans to improve the provision of mathematics.
- Report to the school Governing Body on a regular basis.
- Work co-operatively with the Head Teacher, SENCO and other Subject Leaders.

Role of the Class Teacher

The class teacher must:

- Ensure progression in the acquisition of mathematical skills with due regard to the National Curriculum for mathematics.
- Develop and update skills, knowledge and understanding of mathematics.
- Identify inset needs in mathematics and take advantage of training opportunities.
- Keep appropriate assessment records and accurately assess pupils' progress in mathematics through the use of the assessment standards.
- Plan effectively for mathematics, liaising with the subject leader when necessary.

- Make use of prior assessment information when planning the next steps in learning.
- Direct support staff effectively to maximise progress.
- Use equipment and ICT correctly and creatively to make learning accessible, active and enjoyable for all pupils.
- Ensure
- Individual needs of all children are met through strategies such as differentiation, scaffolding and additional support.
- Support EAL learning by modelling and encouraging appropriate use of new vocabulary.
- Use classroom displays and working walls to support pupils' learning.
- Inform parents of pupils' progress, achievements and attainment.

Equal Opportunities

All children have equal access and inclusive rights to the curriculum regardless of their age, gender, race, religion, belief, disability or ability. We plan work that is differentiated for the performance of all groups and individuals. Burnt Tree Primary School is committed to creating a positive climate that will enable everyone to work free from intimidation and harassment and to achieve their full potential. The equal opportunities policy expands on this further.

This policy should be read in conjunction with:

- Teaching and Learning Policy
- Assessment Policy
- Marking Policy
- Curriculum Policy
- Special Educational Needs Policy

This policy was agreed by the Governing body on _____ and will be reviewed in March 2017.

Chair of Governors: _____