

MATHEMATICS POLICY
FOR
MELOE BRACE C OF E PRIMARY SCHOOL AND NURSERY

Updated by: Karen Cooke on 24th March 2014

INTRODUCTION

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Meole Brace C of E Primary school and Nursery. The school's policy for mathematics is based on 'The National Curriculum in England 2013.' The policy has been drawn up as result of staff discussion and has full agreement of the Governing Body. The implementation of this policy is the responsibility of all the teaching staff.

Subject Definition:

Mathematics is a way of communicating. It is a language through which ideas can be explained, explored and developed, and one through which relationships can be expressed, hypothesis made and tested and pattern identified.

Numeracy is a proficiency that involves confidence and competence with numbers and measures. It requires an understanding of the number system, a repertoire of computational skills and an inclination and ability to solve number problems in a variety of contexts with a range of methods. Numeracy also demands practical understanding of the ways in which information is gathered by counting and measuring, and is presented in graphs, diagrams, charts and tables.

Aims:

Our aims in teaching mathematics are that all children will:

- Become fluent in mathematics
- become numerate and tackle mathematical problems with confidence
- develop the skills which are needed to meet the demands of adult life
- develop the ability to reason
- use mathematical language effectively and confidently
- develop positive attitudes to mathematics, recognising that mathematics can be both useful and enjoyable
- be able to solve problems and apply the skills in other curricular areas.
- show initiative and an ability to work both independently and in cooperation with others;
- develop an understanding of mathematics through a process of enquiry and experiment.

The Mathematics Curriculum:

Mathematics is a core subject of the National Curriculum. The knowledge, skills and understanding are set out in "The National Curriculum in England 2013". The programmes of study contain what pupils should be taught and the attainment targets set out the expected standards of pupils' performance. The school has adopted the NNS Renewed Framework for Teaching Mathematics (2006) as its scheme of work, but modified it in the light of the new demands of the curriculum for September 2014.

In mathematics there are seven strands of learning

- Using and applying mathematics
- Counting and understanding number
- Knowing and using number facts
- Calculating
- Understanding shape
- Measuring
- Handling data.

Organisation of teaching and learning

- The EYFS principles have been adopted for children at the foundation stage. At this stage pupils experience mathematics on a daily basis. This early introduction to mathematics will generally be undertaken practically and within context . Wherever possible, opportunities for mathematics are exploited such as when taking the register. Maths is focussed upon in small groups during the day.

- In Key Stages 1 and 2 every child takes part in a daily maths lesson.
- The skills acquired in the maths lesson are applied across the curriculum.

Mathematics lessons normally take place each morning. Each lesson lasts between 45 and 60 minutes (apart from Foundation Stage) and consists of the oral and mental starter, the main teaching activity, and the plenary. Additional mathematics is done in other areas of the curriculum.

Teachers spend as much time as possible in direct teaching and questioning of the whole class, a group of pupils, or individuals. For a proportion of the lesson children will be taught as a whole class with the teacher using a range of questions to develop mathematical thinking. Teaching strategies will be varied and will encourage a high level of interaction. Teachers place strong emphasis on the development of mental calculation skills. Children are asked to explain their methods and to check for reasonableness. There is also strong emphasis on the development of mathematical vocabulary, and the usefulness of mathematical skills in the wider world. Key words are displayed and teachers ensure that they model the correct use of mathematical words. Teachers value pupils' oral contributions and create an ethos in which all children feel they can contribute. Activities are planned to encourage the full and active participation of all pupils and teachers differentiate tasks during the main part of the lesson in order to meet the needs of all abilities. Children normally sit in ability groups to enable focused teaching to one group during pupil activities. For mixed age classes, the objectives for both year groups are included in the planning,

but children will still be working within differentiated groups to suit the ability of the individual. The school does not set children for mathematics.

Monitoring and Evaluation

Monitoring and evaluation will be carried out by the

- Headteacher
- Mathematics Subject Leaders
- Mathematics governor
- Member of the LEA Inspection/Advisory team (on request)

Monitoring will entail:

- scrutiny of short-term planning weekly by Headteacher/ maths subject leader.
- classroom observation and feedback by Headteacher, Deputy Headteacher or Maths subject leaders once per year.
- reviewing children's work in books every term.
- analysis of test data (*SAT, QCA, NFER depending on the year and term*) by class teacher, once every term, or teacher assessment
- use of APP materials to track progress three times within the year, before every half term holiday.
- monitoring of assessment and tracking record half termly by teacher and Head teacher

Environment

The school aims to provide a mathematically stimulating environment:

- through displays that promote mathematical thinking and discussion
- by providing a good range of resources for teacher and pupil use.

In every classroom, resources such as number lines, hundred squares, place value charts, vocabulary and multiplication squares are displayed as appropriate and used as resources for whole class or individual work, for children to become confident in their use and understanding of the number system.

Termly planning

- Teachers teaching the same year group generally plan and evaluate together.
- Using the programme of study for Maths, and using information from assessment of pupil progress, teachers draw up unit plans, pacing the term so that all units will fit into the time allocated. Each unit is taught three times during the year, with skills building upon prior knowledge each time.
- Teachers with mixed age groups in the class plan a unit which is for the higher year, but will include objectives for both year groups to ensure coverage and progression. These will be clearly shown on planning.

Weekly planning

- Using the agreed format for weekly planning, teachers write plans for their mathematics lessons
- Teachers teaching the same year group plan and evaluate together at a weekly meeting.
- Teachers plan all five lessons and submit their plans for scrutiny by the Headteacher and subject leaders onto the 'server' at the beginning of the week.
- Teachers make amendments to plans according to their assessments of pupil progress.
- Teachers evaluate their weekly planning, making notes on pupils who have exceeded or not achieved expectations.
- Planning clearly shows which group the teacher will be focusing on each day and which group will be supported by the teaching assistant.
- Planning will show any use of ICT and which group is to access this.
- Planning will identify provision made for SEN and GAT pupils

Differentiation

In general, teachers plan a core activity for the majority of pupils and adjust the activity to make it appropriate for more able and less able pupils by the use of:

- teaching assistants/ teacher support
- appropriate types of activity
- additional resources and extension activities
- targeted questioning
- open questions.

Special Educational Needs

- All pupils take part in the daily maths lesson.
- Teachers plan lessons so that all pupils can be included and can make progress in the lesson.
- In oral work teachers plan a range of differentiated questions, with some targeted at specific pupils.
- Teachers also ask open questions that allow all children to take part.
- Teachers use a wide range of visual resources to illustrate meaning.
- During whole class teaching, discreet help is given to particular children by teaching assistants where available.
- During activities, children are supported by teaching assistants, and teacher focussed help.

Booster, Springboard and "catch-up" programmes

- In year 2 and year 6 children will access booster lessons in maths in the lead up to end of year SATs in May.

- In KS2 years, children who are deemed to be in need of reinforcement of concepts, , will have access to the Wave2 materials. These are used in the afternoons as an addition to the maths lesson, as and when required by children.
- In all years, children who are deemed to have greater need of intervention that Springboard, will have access to the Wave 3 Maths materials, which staff have been trained in using. Wave 3 materials can be used within a maths lesson, where appropriate, and also outside the maths lesson to give extra support.
- In KS1, children who are identified to have additional needs, will have access to additional support materials.

Marking of written work

All work is marked, either by the teacher, the teaching assistant or the children.

Written feedback for the focus group provides pupils with guidance on how to improve their work. Other marking in books may use "close the gap" type comments or simple acknowledgement of the work completed.

See **Marking** policy for further details.

ICT in the Mathematics Lesson Teachers incorporate the use of ICT in their mathematics lessons when appropriate.

- Computers are used during whole class work to provide a starting point as well as to demonstrate concepts and encourage problem solving.
- Computers are also used by groups of children working independently within the classroom on programs relating to the mathematical objectives being addressed that day.
- Calculators are used in mathematics for a range of purposes depending on the age of the children:
 - All pupils at Key Stage 1 are introduced to calculators, learning how to check their own calculations.
 - Pupils at Key Stage 2 are taught the basic functions of a calculator
 - calculators are not used for basic calculation where a mental or written method is more appropriate but are used for calculations where numbers are long and difficult and where it enables children to concentrate on the problem.

Homework

We recognise the importance of making links between home and school and encourage parental involvement with the learning of mathematics. Frequency and nature of homework depends on the age of the child. Homework provides opportunities for children

- to practise and consolidate their skills and knowledge,
- to develop and extend their techniques and strategies, and

- to share their mathematical work with their family
- to prepare for their future learning.

See **Homework** policy for further details

Assessment/Record Keeping/Target Setting

Assessment is carried out:

- orally through questioning
- by observation of children at work
- marking of children's work
- through planned assessment activities linked to the key objectives
- using formal assessments at the end of units, or end of term
- using APP and making and adjusting judgements accordingly
- pre and post unit assessments

Informal assessment takes place continuously and teachers record their own notes about children who have exceeded/not achieved expectations, to inform planning.

An assessment week is set aside each half term for planned assessment of attainment in the key objectives and units of work. QCA optional tests are used in years 3, 4 and 5 at the end of each term. [Teachers compare children's work with the examples in QCA/ NNS booklet "Standards File" when making APP judgement]

Record-keeping

- Teachers keep a record of the children's assessment data throughout the year on I-track.
- Teachers record half termly assessment data to track pupils' progress throughout the year.

Target setting

- Analysis of children's performance in class work and in tests helps the school to identify and set termly mathematics targets for individuals and groups of pupils.
- Targets are reviewed and set every half term. These are then reported to parents and carers.
- School targets are set for pupil attainment for the end of Key Stage 1 and 2, but are continually revised to ensure 'value added' achievement.

Resources

In both key stages, most resources are kept inside the classroom. Unit related equipment, such as mirrors, 3D shapes and scales are kept centrally in the corridor storage spaces. Teacher resources are kept in both planning rooms.