Meopham Community Academy

Enjoy, Learn, Aspire

DRAFT
Mathematics Policy

This policy was reviewed by: Sarah Dean – Mathematics Subject Leader
Date: September 2018
Approved by Governors: DRAFT
Next Review Date: July 2019

INTRODUCTION

Mathematics is a creative and inter-connected subject which provides a powerful form of communication and a way of interpreting the world around us. Mathematics equips pupils with the uniquely powerful set of tools to help understand and change the world. These tools include logical reasoning, problem solving skills and the ability to think in abstract ways.

AIMS

a. **General**
At Meopham Community Academy, we believe that all pupils should be able to:

- Use mathematical concepts, facts and procedures appropriately, flexibly and fluently;
- Recall number facts with speed and accuracy to enable them to calculate and work out unknown facts
- Have sufficient depth of knowledge and understanding to reason and explain mathematical concepts which enables them to solve a range of problems
- Develop the ability to work independently and cooperatively to reason and solve problems

b. **Specific**
At Meopham Community Academy we follow the 2014 National Curriculum for Mathematics which aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately

- reason mathematically by following a line of enquiry, conjecting relationships and generalisations, and developing an argument, justification or proof using mathematical language

- can 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.

PRINCIPLES FOR TEACHING AND LEARNING IN A MASTERY CURRICULUM

At Meopham Community Academy we use a range of teaching and learning styles in Mathematics lessons. Pupils are in mixed ability classes and the large majority of pupils progress through the curriculum content at the same pace. Differentiation is provided through the use of questioning, scaffolding and reasoning opportunities within lessons. Those pupils who grasp concepts rapidly are challenged through more complex problems which deepen their knowledge and understanding further. Teachers use precise questioning in class to help develop conceptual and procedural understanding. This also allows teachers to identify pupils who need additional intervention and support. Children are exposed to a variety of manipulatives and representations

to help to develop understanding. There is also an emphasis on children developing a rapid recall of number bonds and times table facts.

PLANNING

Planning is undertaken at three levels –

Long term planning is based on the yearly teaching programmes set out in the 2014 National Curriculum. Teacher use the White Rose framework as a guide for planning series of lessons across the year.

Short term planning is carried out weekly. These plans include: learning intentions and success criteria for the mental oral starter and the main activity; key questions; resources to be used; and activities and reasoning opportunities. Planning is written on a standard planning sheet throughout school.

CROSS-CURRICULAR LINKS

Mathematics is taught mainly as a separate subject but every effort is made to link mathematics with other areas of the curriculum. We try and identify the mathematical possibilities across the curriculum at the planning stage. We also draw children's attention to the links between mathematics and other curricular work so children see that mathematics is not an isolated subject.

ENRICHMENT

Events will take place each year to promote the profile of Mathematics across the school. Each year group will try and identify the possibilities of maths enrichment activities at the planning stage.

ORGANISATION

In Years 1 and 2, mathematics lessons are held on a daily basis and last for approximately 45 minutes. When children start in EYFS, the organisation is more flexible, building up to a daily 45 minute lesson in the summer term. In KS2, the daily mathematics lessons last for approximately one hour. All children are taught in mixed ability classes.

DISPLAY

We recognise the important role display has in the teaching and learning of mathematics by having mathematics work displayed in the school. Every class displays materials that provide a visual support the children's understanding.

CHILDREN WITH ADDITIONAL EDUCATIONAL NEEDS

Wherever possible, we aim to fully include AEN pupils in the daily mathematics lesson so that they benefit from participating with other children in demonstrating and explaining their methods. If a child's needs are particularly severe they will work on an individualised or group programme written in consultation with the appropriate staff. When planning, teachers will try to address the child's needs; this may be through simplified or modified tasks or the use of support staff. Where appropriate, children who are included on an intervention programme will be monitored through a provision map.

HOME LEARNING

Children are given mathematics home learning once a week. The amount of home learning follows school home learning guidelines. Teachers set work which makes use of the home context and to reinforce learning within the lessons using Mathletics as well as other styles of tasks and activities. Teachers also encourage children to practice their multiplication tables and number facts at home.

RESOURCES

Resources for the delivery of the mathematics curriculum are stored both centrally and in classrooms. Everyday basic equipment is kept in classrooms. Additional equipment and topic-specific items are stored centrally.
We use a variety of published materials to facilitate the teaching of mathematics but recognise the need for the teaching of mathematics to be 'scheme assisted not scheme driven'.
Materials are constantly updated, as new and relevant items become available. The Subject Leader orders new resources after consultation with the staff.

MARKING

At Meopham Community Academy we recognise the importance of giving feedback to the children about their learning. Feedback in mathematic is given both verbally and in written format. When verbal feedback is carried out, a few notes are recorded by either the teacher or children about the key points of the feedback.

Written feedback -

- Identifies achievement and set a task to extend learning
- Provide children with focussed feedback
- Identify errors and misconceptions

Numerical errors and modelling -
• Numerical errors are identified to the children by being circled.
• Where appropriate (e.g. if the mistake is a careless mistake and the child has demonstrated a clear understanding of the mathematics involved through other written work in the same or similar pieces of work,) the part of the work containing the numerical error is circled so that the child can then identify the specific numerical error; the correct parts of the child's work are ticked.
• Sometimes it is appropriate to demonstrate to the child how to set work out clearly (e.g. formal and informal calculations). In these instances the correct method, notation and presentation is modelled alongside the child's work to exemplify good practice.
• At the front of the children's Maths Books are Expectation Sheets (see Appendix 2). These are guidelines for the children which outline how they are expected to present their work.

Self – evaluation -
• Children should be provided with opportunities to give constructive feedback in relation to their own work.

Responding to feedback –

- Where needed and as soon as possible, children are given time to respond to the verbal or written feedback given. This is clearly marked in their book with the symbol R →

ASSESSMENT AND RECORD KEEPING

At Meopham Community Academy we are continually assessing our pupils and recording their progress. We see assessment as an integral part of the teaching process and endeavour to make our assessment purposeful, allowing us to match the correct level of work to the needs of the pupils, thus benefiting the pupils and ensuring progress. Assessment is carried out on three levels. Short term assessments are an informal part of every lesson and are closely matched to the teaching objectives. These tend not to be recorded because they are for the teacher's immediate attention and action; however pertinent comments can be recorded on the short term planning sheets. We also include children in the assessment process through considering how well they have met the learning intentions for a particular lesson and giving them opportunities to give constructive feedback in relation to their own work. These are then assessed against the key learning objectives which are kept in the back of the children's exercise books which form an ongoing assessment the teacher can use to track attainment and progress.

Formative assessments are carried out in Terms 1, 3, 4 and 6 when pupils' attainment is measured against school targets. This is done by the use of White Rose Maths Tests and previous SATs tests for Years 2 and 6. The purpose of these assessments is to review and record the progress the pupils have made in relation to towards their targets and the whole school maths focus. This helps to identify pupil attainment against the National Curriculum. Gap Analysis is carried out at this time to identify whole school focuses and, consequently inform future planning for the following academic year. At the end of year, teachers highlight/identify key objectives achieved/not achieved. This information is passed on to the next teacher.

In the Foundation Stage, class teachers assess progress against the Early Learning Goals and to check that the children are 'On track' to meet their targets.

MANAGEMENT OF THE SUBJECT

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

a. ensuring continuity and progression from year group to year group through monitoring of planning, books and lessons.
b. providing all members of staff with guidelines to show how aims are to be achieved and how the variety of all aspects of mathematics is to be taught.
c. advising on in-service training to staff where appropriate. This will be in line with the needs identified in the Development Plan and within the confines of the school budget.
d. advising and supporting colleagues in the implementation and assessment of mathematics throughout the school (See Timetable of Support for Newly Qualified Teachers and New Staff).

e. liaising with other KS2/KS3 schools to help promote continuity and a smooth transition from the two key stages.
f. disseminating good practice.
g. monitoring, ordering and organising mathematics resources within the confines of the school budget.
h. keeping up to date with current developments and sharing this with others.
i. informing Headteacher and Mathematics link Governor of issues affecting mathematics within the school.
j. monitoring of the implementation of the policy by all staff through work sampling/observations and looking at planning.

ROLE OF THE CLASS TEACHER

The role of the class teacher is:

a. to ensure progression in the acquisition of mathematical skills with due regard to the National Curriculum for mathematics
b. to develop and update skills, knowledge and understanding of mathematics
c. to identify inset needs in mathematics and take advantage of training opportunities
d. to keep appropriate on-going records
e. to plan effectively for mathematics with year group partners
f. to inform parents of pupils' progress, achievements and attainment
g. to mark the work and give feedback to the children (as in line with the assessment for learning policy)
h. to set weekly homework tasks based on the children's learning using Mathletics / homework books.

EQUAL OPPORTUNITIES

We incorporate Mathematics into a range of cross curricular subjects and seek to take advantage of multicultural aspects of mathematics eg Islamic patterns in Religious Education

Inclusion and equal opportunities

Equal opportunities are given to all children, whatever their age, gender, ethnicity, attainment and background. The teaching and learning, achievements, attitudes and well-being of every child matters, taking into account their varied life experiences and needs. All pupils have all areas of the curriculum. We monitor the progress of each child through agreed assessment procedures.
We pay attention to the provision made for different groups of pupils within the school -

- girls and boys
- Pupil Premium pupils including Ever6
- minority ethnic and faith groups. Travellers, asylum seekers and refugees
- pupils who need support to learn English as an additional language (EAL)
- pupils with specific educational need
- gifted and talented pupils
- children "looked after" by the local authority

- other children, such as sick children; young carers; those from families under stress; and
- any pupils who are at risk of disaffection and exclusion
- summer babies (summer born children)

We promote the participation and success of these groups of pupils and make sure that they are not disadvantaged in school. We identify pupils who are underachieving or seem disengaged. We actively promote tolerance and understanding in a diverse society.

PARENTAL INVOLVEMENT

At Meopham Community Academy we encourage parents to be involved by:

- inviting them into school twice yearly to discuss the progress of their child
- inviting parents into school in the summer term to discuss the yearly report if requested
- inviting parents to curriculum evenings when appropriate
- circulating information via termly curriculum newsletters
- inviting them to help in classrooms

GOVERNING BODY

At Meopham Community Academy we have an identified Governor for Mathematics. The governor has reviewed the policy and may be invited to attend relevant school INSET.
The Mathematics Governor reports back to the curriculum committee when necessary.

LINKS WITH OTHER SCHOOLS

In Year 6 we aim to make links with the secondary schools that we feed to and share the children's attainment and progress in order to ensure a smooth transition to Year 7.

The following appendices are available upon request from the subject leader:

APPENDIX 1: An approach to a standard written method of calculation.

APPENDIX 2: Inserts for children's books - Maths Expectations