



Mathematics Policy

Date of policy:	December 2015
Date last review adopted by governing body:	28/01/2016
Frequency of review:	3 years

1. Overview

Mathematics is the study of relationships in number, measures, space and data-handling and their application to solving problems in a variety of situations.

It provides children with a way of viewing and making sense of the world in which they live. Building on their own experience, it encourages thinking and reasoning skills, embraces natural curiosity and develops the confidence to tackle problems which arise not only in mathematics but other areas of the curriculum. Mathematics is an integral part of everyday life. We endeavour to ensure that all children develop a positive and enthusiastic attitude towards mathematics.

2. Teaching aims

- To foster a positive attitude to maths for all children enabling them to approach mathematical activities with confidence, understanding, pleasure and excitement.
- To provide a curriculum which meets the needs of The Foundation Stage and KS1 National Curriculum, which is appropriate to the needs and learning styles of all children, and will develop enquiring, logical, investigative and problem solving approaches.
- To build upon and extend the children's previous experiences and ensure progression in the development of their understanding, knowledge and use of mathematical language.
- To develop the ability to apply knowledge, skills and ideas in real life contexts outside the classroom and become aware of the uses of mathematics in the wider world.
- To inform parents of their child's progress and suggest ways they can support them in their learning.

3. Mathematical objectives

- Enabling children to become numerate.
- The ability to communicate mathematical ideas and concepts using appropriate language.
- Understanding of mathematical symbols and conventions including mathematical language.
- Appreciation of a variety of recording methods.
- Ability to select and use a range of mathematical resources.
- To value the process of enquiry as well as the answer and to appreciate that the definitive answer is not always possible.

4. Teaching and learning

At Writtle Infant School we believe that progression should be planned at an individual rate.

Children will be given time to:

- use trial and adjustment approaches

- undertake mental work
- develop their own methods
- discuss their methods and explain their reasoning with adults and other children.

5. Foundation Stage

In the Foundation Stage the organisation and management of mathematics lessons is tailored to meet the needs of the children who arrive from different settings, e.g. nursery, playgroup etc., and will therefore have had different learning experiences. The yearly teaching programme for Reception is in line with the Early Learning Goals and provides a bridge from the goals to the National Curriculum that begins in Year 1. In Foundation Stage, a wide range of activities supports the teaching and learning of mathematics, including stories, songs, rhymes, imaginative play, board games and outdoor play. Over a week, the teaching of maths will include whole class activities, e.g. counting, discussion of main teaching objectives, group activities, and short plenary sessions. These are approached flexibly to accommodate the needs of the children. Towards the end of the year the lesson structure will prepare pupils for Year 1.

6. Years 1 and 2

In Years 1 and 2 we have adopted the 4-part lesson structure for the majority of the teaching of maths. The lesson usually begins with a session on developing mental and oral skills. The purpose of this part of the lesson is to keep skills sharp and to develop fluency and confidence. This section may or may not relate to the rest of the lesson.

The next part is the introduction to the lesson. Through direct teaching the objectives of the lesson are shared with the children and the pupil activity is modelled. Models and images are used to support children's learning.

Pupil activity – this can be with the whole class, groups, pairs or individuals. Guided group work is common and is led by the Class teacher or TA.

In all lessons a range of differentiated activities or questions will meet the needs of individual learners. Opportunities are taken to identify misconceptions. The children work on a variety of activities, usually practical with some recording.

Plenary sessions relate to the objectives covered and may take place at any time during the lesson. Progress and misconceptions are identified and links can be made to future work.

7. Mathematical activities

Practical work – Mathematical activities are introduced to the children via concrete experiences and at all levels abstract work is reinforced through practical activities. We encourage children to select and use appropriate equipment as much as possible. Much of this practical work does not need to be recorded.

Mental work – All children are encouraged to develop mental methods of calculation, recall of number facts and mental imagery.

Oral work – Oral work is a major aspect of all activities, including discussion with peers, describing, and explaining, clarifying ideas, predicting and reporting outcomes and asking questions, all of which fosters the development of mathematical language.

8. Recording and presentation

Children should not be encouraged to move too quickly to written work. In the early stages mental, oral and practical work take precedence. As children develop, they are encouraged to record their work in a variety of ways, develop personal methods of recording, compare and discuss alternative methods, refine and practise useful methods. These will vary according to the type of activity. They may include symbolic, statistical, diagrammatic, pictorial, verbal reporting or the construction of a model. As children become more involved in investigative activities the onus is on them to decide the most appropriate methods of recording.

9. Resources and display

Each class has a basic set of resources required to implement the Curriculum that are appropriate for each age group. Resources are made accessible to children who are encouraged to be responsible for the selection and replacement of apparatus. Mathematical vocabulary and visual teaching and learning aids should be displayed and be clearly visible. Mathematical work should be displayed in the Classroom and around the school to encourage a positive attitude towards mathematics. We have a centrally based selection of resources, which are available to staff at all times. The outdoor area is also available for each year group. Staff ensure that mathematical skills are taught in a variety of environments and should provide regular opportunities for learning outside of the classroom.

10. ICT

Interactive whiteboards are extensively used by teaching staff, the whole class, groups or individuals throughout all aspects of lessons. ICT is used in maths lessons where appropriate. A range of resources including I-pads, tablets and Beebots are used to support and enhance learning.

11. Equality statement

“The governors and staff are committed to providing the full range of opportunities for all pupils regardless of gender, disability, and ethnicity, social, cultural or religious background. All pupils have access to the curriculum and the right to a learning environment which dispels ignorance, prejudice or stereotyping.”

12. Special Educational Needs

Through our assessment procedures we aim to identify children with additional needs to enable all children to achieve their full potential. Those children who are experiencing difficulties are given extra support as outlined in their One Plans and Class provision maps. This is monitored by the Class teacher and SENCO. We provide learning opportunities that are matched to the needs of the children in line with our SEND and Inclusion policies. Teachers will ensure that they match work to differing levels of ability and development, supporting those who need to make progress in smaller steps. Intervention support programmes are run to scaffold the learning of the children making less than expected progress.

13. Able and gifted children

Children who show a particular aptitude for mathematics will have opportunities to work on more challenging investigations and problem solving activities within their class. These children will also be

challenged through direct questioning within lessons. Activities will be planned to develop mastery of skills and ensure a deepening breadth of study.

14. Planning

Long term – Planning ensures coverage of the Early Learning Goals in the Foundation Stage. The National Curriculum for mathematics has been used to plan the long term teaching of mathematics in Year 1 and Year 2.

Medium term – Half termly overviews are used throughout the school to plan children's mathematical development.

Short term – Detailed weekly plans for each Year group showing mental and oral and lesson objectives, whole class teaching and differentiated independent and teacher focus group activities.

15. Assessment and record keeping

The assessment and record keeping policies of the school are applicable to the area of mathematics. Assessment is based on the key objectives for each year group. Staff will be involved in moderating results in order to ensure consistency in monitoring of progress.

16. Methods of assessment

Teacher observation – Teacher observation and intervention is based on professional expertise and forms our major method of assessment. Information is gathered by means of careful observation and discussion and informed planning for individual work.

Marking – Marking in mathematics follows the marking policy for the school. The purpose of marking is to give the child and teacher feedback on progress. For this reason we aim to mark work with children present. Thus we can emphasize achievements, discuss difficulties and suggest areas for improvement.

Recording pupils' progress – Class teachers keep records of individual children's progress directly linked to the learning objectives within the National Curriculum. These records are updated termly and inform teacher assessment, which is recorded via Target Tracker.

17. Reporting to parents

Parents are informed formally of children's progress at twice yearly Parents' Evenings and through the annual end of year report. Appropriate information about teaching in each year group are also given to parents. However, staff are involved in informal discussions with parents throughout the year, particularly if they have cause for concern about a child's progress.

Children undertake National tests and assessments at Foundation Stage and at the end of Year 2.

18. Monitoring and review

Continuity, consistency and progression are ensured by the following:

- The Mathematics subject leader and SLT will monitor, long, medium and short term planning.
- Analysis of data and assessment results.
- Observations
- Discussion with staff and pupils
- Feedback to staff and CPD opportunities.
- Climate walks and work scrutiny.

- Subject leader report
- Moderation of work within school, with schools in the local network and other KS1 schools.
- Liaison with Writtle Junior School

19. Role of Governors

Governors determine, support, monitor and review the school policies. They support the use of appropriate teaching strategies by allocating resources effectively. They ensure that the building and equipment are safe. They monitor pupil attainment across the school and ensure that staff development and performance management promote good quality teaching.

20. Subject leaders role

- To facilitate the development of mathematics identified in the School Development Plan.
- To review Maths Policy periodically.
- To work collaboratively with staff to promote continuity and progression.
- To create and monitor Schemes of work.
- Monitoring including lesson observations, pupil voice surveys, work sampling and climate walks.
- To attend relevant INSET courses, and encourage and support staff where possible.
- To organise and if relevant deliver staff training.
- Monitoring and organization of centrally held resources.
- Purchase of resources in consultation with staff and in line with the allocated budget.