

Woodcroft Primary School



Maths Policy

Audience: All staff

Date of issue: September 2017

Mathematics Policy

Mission Statement

'Together Towards Success'

Together we aim for all the pupils, parents/carers and staff, to increase their participation within our school. This is achieved through the development of inclusive cultures, policies and practices; creating a secure, accepting, collaborative community where everyone feels valued.

Towards an appropriate curriculum for everyone; where we accept our responsibility to provide broad and balanced learning experiences for all pupils, and groups of pupils, based on the three principles set out in the National Curriculum of: Setting suitable learning challenges, responding to the diversity of needs and overcoming potential barriers to learning and assessment.

Success is expected for every pupil, to reach their full potential, recognising their own strengths and celebrating the achievements of others.

Aims

Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and patterns in both number and space in their everyday lives. Through their growing knowledge and understanding children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

At Woodcroft Primary our objectives in the teaching of mathematics are to:

- Promote enjoyment of learning through practical activity, exploration and discussion;
- Promote confidence and competence with numbers and the number system;
- Develop the ability to solve problems through decision making and reasoning in a range of contexts
- Develop a practical understanding of the ways information is gathered and presented;
- Explore features of shape and space, and develop measuring skills in a range of contexts;
- Help and develop children's understanding of the importance of mathematics in everyday life;
- Develop the cross-curricular use of mathematics in other subjects.

Teaching and Learning

The school uses a variety of teaching styles to cater for the variety of learning styles of pupils in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-directed teaching. During these lessons we encourage children to ask as well as answer questions. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Mathematical dictionaries are available in school. Children use ICT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

In all classes, children have a wide range of mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies- in some lessons through differentiated group work and in other lessons by organising the children to work in pairs or groups to solve open-ended problems or undertake mathematical games. We use classroom assistants to support some children, and ensure that work is matched to the needs of the individuals.

For further guidance of teaching and learning principles at Woodcroft please refer to the Teaching and Learning policy.

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum and we use the National Numeracy Strategy as the basis for implementing the statutory requirements of the programme of study for mathematics.

We carry out the curriculum planning in mathematics in three stages (long-term, medium-term and short-term). The National Numeracy Strategy Framework for Teaching gives a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the objectives in mathematics that we teach in each year group. Due regard is given to the key objectives for each year group.

Our medium term plans are adapted from the Framework and give details of the main teaching objectives for each term to meet the needs of the pupils. They ensure an appropriate balance and distribution of work across each term,

Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. The class teacher takes into account the differing needs and abilities of pupils when preparing the weekly plan. The head teacher and mathematics subject leader are responsible for monitoring the mathematics planning within the school.

Planning Process

At Woodcroft we follow a model of planning for first three days of progression to teach skills, knowledge and understanding of a concept followed by two days of using and applying within everyday contexts, problem solving activities or reinforcement tasks. It is positively encouraged that plans are annotated with identified assessment for learning opportunities and adaptations showing how lessons have been changed to meet the needs of the individuals or groups of pupils. Changes could include notes about tasks, resources to use, varied teaching approaches or individual pupils.

Assessment and recording

We make ongoing short-term assessments which we use to help us adjust our daily plans. These assessments are mainly informal and not always recorded. Teachers use them to inform their day to day teaching and they help to inform future planning noted on the weekly plans.

We make medium term assessments to measure progress against the key objectives. We use the class record of key objectives to record this. Half-termly assessments provide a National Curriculum level which contributes to their individual assessment tracking.

We make long-term assessments towards the end of the school year and we use these to assess progress against school and national targets. The information is passed on to the next teacher via the individual tracking so that she/he can plan for the new school year. We make these assessments with the help of end of year tests and teacher assessments. We use national tests in Year 2 and Year 6 and optional national tests for children in Years 3 4 and 5.

Teachers have access to portfolios to review examples of pupil's work and the national exemplification material produced by QCA.

Relevant assessment information is shared with staff from the secondary schools to which our Year 6 pupils transfer.

The Foundation Stage

We teach mathematics in our Nursery and Reception classes. As the classes are part of the Foundation Stage of the national Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals. We give the pupils ample opportunity to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics. Early Years Foundation Stage mathematics is now divided into two areas of learning – Number and Shape, space and measures and all pupils are assessed and work towards a final early learning goal in each area.

Contribution in mathematics teaching to other curriculum areas

ICT

The effective use of ICT can enhance the teaching and learning of mathematics when used appropriately. When considering its use we take into account the following points.

- ICT should enhance good mathematics teaching. It should only be used if it supports good practice.
- Any use of ICT in a lesson must be directly related to the learning objective of that lesson.
- ICT should only be used if the teacher and/or the pupils can achieve something more effective with it than without it.

Science and a cross-curricular approach

Almost every scientific investigation is likely to require one or more of the mathematical skills of classifying, counting, measuring, estimating and recording in tables and graphs. In science pupils will order numbers, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

Mathematics is encouraged to be used in other areas of the curriculum for example, shape and space and pattern in history, R.E. e.g. the Egyptian pyramids, Tudor costume design, Rangoli or Islamic patterns and Data Handling activities in D.T. and geography.

Teaching Mathematics to Children with Special Needs

At Woodcroft Primary we aim to support a broad and balanced education for all children. We provide learning opportunities that are matched to the needs of pupils of all abilities. We aim to include all children in the daily mathematics lesson. Work in mathematics takes into account the targets set for individual children in the Individual Education Plans and intervention activities to support identified groups or individuals.

Gifted Pupils

Where possible more able students will be taught within their own class and stretched through differentiated group work and challenges. Special arrangements will be made for exceptionally gifted students e.g. follow an individualised programme with more challenging problems to tackle.

Resources

There is a range of resources to support mathematics teaching. All classrooms have a wide range of appropriate small apparatus. These are outlined in the “Base Camp” guidelines. Mathematical dictionaries are available. Calculators and a range of audio-visual aids are available from the central storage areas. A range of IWB software is available to support maths lessons and Mathletics is available for all pupils to access in school and at home. Mathletics main purpose is to develop a sense of enjoyment for Maths and provide an opportunity to apply skills and understanding in a variety of interactive contexts.

Responses to children’s work

We recognise the importance of responding to children’s work and both orally and in writing. We seek to encourage children by highlighting positive achievements this may include praise for use of a viable method or strategy even if the end result is incorrect. We also offer next steps to their learning so to develop their understanding further. Children are actively encouraged to explain their work to others and reason about maths through active discussions. They are encouraged to value and respect the work of others.

Monitoring and Review

Monitoring of the standards of children’s work and of quality of teaching in mathematics is the responsibility of the head teacher and link governor supported by the mathematics subject leader. The work of the subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the school. A named member of the governing body is briefed to over-view the teaching of mathematics. The governor meets regularly with the co-ordinator to review progress.

Feedback from staff to the subject leader is on an informal basis but there is also a formal termly curriculum evaluation.

Parental involvement

Home/school links are encouraged. Parents are informed of homework through weekly brain builder homework tasks. Additional tasks are included dependent on the pupils’ age and ability, e.g. KS2 include times table and mental maths practise. Guidance booklets are available to support mathematical strategies taught in school. There are school expectations for homework to reinforce work done in class. Each year group sets weekly maths homework appropriate to the age of the children with opportunities to be open-ended.