

Greenslade School Maths Policy

Introduction

This document is a statement of the aims, principles and strategies for the teaching and learning of mathematics at Greenslade Primary School.

It provides information and guidance for teachers, governors and other interested persons and should be read in conjunction with our teaching and learning policy.

At Greenslade School we believe that the teaching of maths is integral to the development of children's thinking skills, such as problem solving, reasoning, evaluating, and making connections. We appreciate that children learn best in contexts that are meaningful and relevant to their lives and with this in mind we have created cross-curricular plans that are inspiring and motivating. Being numerate and confident in maths is also essential in everyday life and therefore we work hard to promote a positive and enthusiastic atmosphere in our lessons where all children can feel a sense of success and achievement.

Aims

-  To develop a positive attitude to maths so pupils are confident and competent in their ability to apply maths in different contexts.
-  To develop pupil's ability to work both independently and collaboratively
-  To plan opportunities for all children to develop their speaking and listening skills in a range of mathematical contexts, allowing them to describe, illustrate, interpret, predict and explain
-  To enable pupils to develop correct mathematical vocabulary necessary for them to express their thinking and strategies in an appropriate way
-  To ensure that there is continuity and progression in maths throughout the school in line with the guidance from the Early Years Foundation Stage and the National Curriculum.

Objectives

-  to provide a relevant, challenging and enjoyable curriculum and learning experiences for all pupils
-  to foster an enjoyment of mathematics as a fascinating and creative subject in its own right, and an understanding of its importance in everyday life
-  to develop independent thinking skills such as creativity, problem solving and enquiry
-  to encourage children to work systematically and to appreciate the importance of accuracy and meaning
-  to develop mental imagery
-  to value the contribution made to the world by mathematicians from both genders and from all cultures
-  to develop skills in correct use of equipment
-  to provide opportunities for reinforcement and consolidation of concepts and skills
-  to provide opportunities for pupils to use ICT equipment within maths lessons as appropriate in the development of maths concepts
-  to identify maths in other curriculum areas and make appropriate links
-  to involve parents as much as possible in their children's mathematical learning

Principles for the teaching and learning of mathematics

As far as possible we plan and set our work in meaningful contexts, giving the maths we teach a real purpose. Our curriculum maps highlight the opportunities for making maths work cross-curricular and relevant to the children's learning in other areas. Although we use the objectives from the Framework and the Early Years Foundation Stage as a basis for our planning, we have extended these medium term plans by adding relevant games, investigations and the appropriate use of ICT to enhance the learning. Our planning is also flexible and can be adapted to fit in with special occasions and celebrations, ensuring that the children experience maths as a vital and vibrant subject, which is an essential part of their world.

Learning experiences, teaching styles and lesson structure provide opportunities for pupils to consolidate their previous learning, use and apply their knowledge, understanding and skills and pose and answer questions, investigate mathematical ideas, reflect on their own learning and make links with other work.

Teachers use their professional judgement concerning the most appropriate grouping and teaching styles for the activities. Modelled, shared and guided approaches are selected to develop whole class, targeted groups and independent learning needs for all children.

Guided Groups

Guided groups are fluid and flexible and used to identify those children who require additional focused teaching to address misconceptions.

Problem solving:

There are two aspects to teaching problem solving: teaching specific strategies to solve particular types of problem and posing questions in 'everyday' teaching for pupils to practise and develop their general mathematical thinking and reasoning skills across the full maths curriculum. At Greenslade we believe that the ability to solve problems lies at the heart of mathematics. All teaching staff will:

-  Identify problems of a particular type and the strategies that children can use to solve them;
-  Construct teaching sequences for teaching problem solving;
-  Develop children's reasoning and explanation skills;
-  Engage in whole staff discussion of the above.

Speaking and listening:

Language is an integral part of most learning and oral language in particular has a key role in classroom learning and teaching. In their daily lives, children use speaking and listening to solve problems, speculate, share ideas, make decisions and reflect on what is important. In maths we believe that it is important for children to use the correct terms and vocabulary and to be given opportunities to describe, articulate thinking, discuss, interpret, predict and hypothesise. Oral work allows the essential skills involved in using and applying maths – problem solving, reasoning and communication and is appropriate for all three parts of the daily maths lesson.

Continuity and Progression

We ensure continuity and progression in the development of children's mathematical skills by planning from the objectives in the Framework and the Framework for the Early Years Foundation Stage. Teachers may need to plan objectives from another year's teaching programme to allow for differentiation when appropriate. Each objective is included and

covered at least once during the year. We plan to revisit topics termly, each time at a slightly higher level.

Short term planning in maths is carried out on a daily basis allowing teachers to respond to the needs of the children. These plans include learning objectives for the mental oral starter and the main activity, resources to be used, differentiation, guided groups, key vocabulary and key questions and opportunities for formative assessment.

During the 'Handover' time allocated at the end of the year, teachers have the opportunity to discuss each child's strengths and needs in maths. This, alongside teacher's assessments, both formative and summative, provide an accurate picture of the child's achievements which enables teachers to plan for future work.

Assessment

Assessment is ongoing and is based on the learning objectives for the lesson. In our school we see assessment as central to the teaching and learning process, enabling us to plan work appropriately to match the needs of the children. We do this as much as possible through direct observations, discussion, questioning, marking, testing and note taking. These assessments directly inform planning.

The APP materials are used to support identification of learning needs which are addressed by effective guided group work to support targeted children's needs.

At regular intervals we use commercially produced tests to review the progress the children have made in relation to the key objectives. As a result of these assessments, targets are discussed with the children. Parents are kept informed of these targets through academic review days and levels are shared at the end of the year.

We make use of the QCA end of year tests to help us measure children's attainment and match it against school and national targets. Results are analysed by the senior management team so that appropriate intervention programmes or individual or group support can be put into place.

All parents receive an annual written report in which there is a summary of their child's efforts and progress throughout the year. There are also two academic review days where teachers meet with parents, discuss the child's progress and set appropriate targets. At the end of the Foundation Stage the early Learning goals are used as a basis of checking pupil's attainment. At the end of Key Stage 1 and 2 each child's level of achievement against national standards is included as part of their annual written report.

Homework

Parents are provided with a homework sheet which outlines the learning objectives for the week and suggests activities to be carried out at home which will help to consolidate and develop their child's learning. These may include number games or puzzles, some number facts to learn, or activities that make use of the home context or require children to collect data or take measurements. Parents are encouraged to record how their child has responded

to the activities, by using the homework sheet as a form of communication with the teacher.

Parental Involvement

Parents are encouraged to support their children's learning in maths in a variety of ways. These include working with their child at home on the activities set by the class teacher, and playing a range of maths games in school with small groups of children. Teachers produce a termly curriculum newsletter for parents. This informs them of the areas of mathematics to be covered and gives parents the opportunity to support their children at home to consolidate their learning at school. Academic review days provide an opportunity for teachers to share in more detail the work and progress made by each child.

Inclusion

All pupils are included in the daily maths lessons and experience direct, interactive and lively teaching appropriate to their age and stage of development.

We believe that every child has an entitlement to a broad, balanced, meaningful and relevant maths curriculum. We recognise that each child is unique in terms of characteristics, interests, abilities, motivation and learning needs. At Greenslade we recognise children's different learning styles and preferences and aim to provide learning contexts for visual, auditory and kinaesthetic learners. Those children with exceptional learning needs have equal access to high-quality and appropriate maths education.

The progress children make in their mathematical knowledge, understanding and skills is monitored by analysing performance data throughout the school to ensure that there is no disparity between groups of children regardless of their gender, race, cultural background or disability.

When planning, teachers will differentiate activities around a single mathematical theme and will address the child's needs through simplified or modified tasks or through the use of support staff. Where necessary, teachers, with the help of the Senco, will draw up an Individual Education Plan for a child.

Management of the subject

Our Maths coordinator will

-  seek to enthuse pupils and staff about maths and promote high achievement
-  advise and support staff in the planning, delivery and assessment of maths
-  manage and develop all maths resources
-  monitor and evaluate maths throughout the school (including lesson observations, work scrutiny and data analysis)

- ✎ monitor the Maths Curriculum and update the school's policy and Schemes of work in accordance with national guidelines and curriculum statements
- ✎ attend courses and disseminate this information to staff through Inset and informal conferencing
- ✎ ensure continuity and progression from year group to year group
- ✎ advise on in-service training to staff
- ✎ advise and support staff on the implementation and assessment of maths throughout the school
- ✎ Take an active part in the setting up and running of Network Clusters of Schools to ensure that best practice in mathematics is disseminated and government funding is used to advance and enhance the quality of teaching and learning in our local schools.

How the subject is monitored and evaluated

Maths lessons are monitored by the Head teacher and the maths co-ordinator and work is sampled on a termly basis. The maths co-ordinator collects maths planning and gives appropriate feedback. As a result of these monitoring and evaluation procedures individual teachers and whole school needs are identified and provision may be made to enable teachers to observe colleagues' lessons or to observe leading maths teachers. Relevant Maths Inset is planned to match teachers' needs and is in line with the School Development Plan.

The role of governors

We have one named governor who assumes responsibility for the curriculum in the school by meeting regularly with the Head teacher and the curriculum co-ordinator and taking an overview of provision and standards in mathematics.

Organisation of resources

A basic range of maths equipment is provided in each classroom to ensure continuity of experience as the child progresses through the school. These materials can be supplemented according to need from the central maths room. Additional maths resources for Key Stage 1 are stored on the middle floor.

Each classroom computer and the computers in the ICT suite have a range of maths software and access to the Internet.

The school library houses a range of books for both teachers and pupils to refer to and use in the classroom to support their work.

We are building up a bank of maths board games, which are stored on the middle floor and in the maths room. We believe that playing games consolidates and teaches a variety of mathematical skills, such as problem solving and strategic thinking as well as number

facts. These games are played on a regular basis in our classrooms, and the children are supported by older pupils, support staff, parents and teachers.

We have interactive white boards in every classroom. We ensure, at the planning stage, that we include the use of maths software and websites to enhance the children's learning in many areas of maths.

Each teacher has a copy of the New Framework for Numeracy or the Framework for Early Years Foundation Stage as appropriate, a copy of the Maths Vocabulary book, the Models and Images CD, Anita Straker Mental Maths Teachers' books and a selection of Mental Maths books for children in years 1 to 6. We have recently purchased the 'Maths Out Loud' books and CDs for teachers in Key Stage 1 and 2, and Mike Askew's Big Books of Word Problems. Nelson Teachers' Files and Problem solving packs are stored in the Maths Room and must be returned after use.

Success Criteria

This policy will support teachers in the delivery of the objectives from the Framework and the Early Years Foundation Stage Framework. It will enable our school to meet our aims and objectives and to ensure that we foster an understanding and enjoyment of mathematics. It will be reviewed on a two yearly cycle: next review Spring Term 2018