Mathematics Policy

Aims and objectives

Mathematics teaches us how to make sense of the world around us. We endeavour to develop each child's ability to calculate, to reason and to solve problems. Mathematics enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives.

The aims of mathematics are 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, conjecturing 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.

Teaching and learning styles

Organisation. The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics, in order to achieve the above statements. Each mathematics lesson throughout the week will contain elements of mental maths, class teaching, group teaching and independent work. Reception children in the Foundation Stage experience manageable chunks of mental maths, class teaching, independent and some group work throughout the week.
Children 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, often choosing for themselves from the mathematics' toolkits. Children and adults alike use ICT in mathematics lessons where it will enhance the children's learning.
Wherever possible, we encourage the children to use and apply their learning in everyday situations.

Teaching styles. We teach using a range of strategies including directing, instructing, demonstrating, explaining and illustrating, questioning and discussing, consolidating, evaluating pupils' responses and summarising. We use a variety of teaching styles including interactive oral work; focused direct teaching to classes or groups (with specific learning objectives from planning); effective use of resources, worksheets, I.C.T, promoting correct mathematical language and posing questions (open and closed).

Differentiation In all classes there are children of differing mathematical abilities. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task and the resources which are provided to the ability of the child. Objectives will be chosen from the appropriate year group to meet the needs of every child. We achieve differentiation through a range of strategies – in some lessons through differentiated group work, in other lessons by organising the children to work on open-ended problems or games and also, through specific questions aimed at specific groups of children. We use teaching assistants to support all children in turn throughout a week and to ensure that work is matched to the needs of individuals, which we build into our planning and teaching in a precise manner. Within our short-term weekly planning grids, the differentiation of groups is provided through mild, spicy and hot activities.

Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, and we use the New National Curriculum 2014 as the basis for implementing the requirements of the programme of study for mathematics.

Sub-divisions within the subject are:-

Number
Numbers and Place Value
Addition and Subtraction
Multiplication and Division
Fractions
Measurement
Geometry
Properties of Shape
Position and Direction
Statistics

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). Short term planning is developed by individual class teachers and involves discussion within the year group. We currently use White Rose maths planning and adapt it to suit each class and year group in our school setting. All planning is reviewed by the curriculum team when mathematics is the focus subject on the curriculum team rolling programme, by the subject leader and also by the leadership and management team on an annual basis. The head teacher reviews all mathematics planning on a weekly basis.

The Foundation Stage

Reception classes are part of the Foundation stage and therefore relate the mathematical aspects of the children's work to the objectives set out in the Development Matters section of the EYFS Curriculum.

Mathematics is a Specific Area of the EYFS Curriculum and is divided into:
Number
Numerical patterns

In the early years, the emphasis is certainly on practical work, in both inside and outdoor classrooms. The Foundation Stage do however, begin to teach children how to record their mathematics. They give all the children 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. Their mathematics teaching is very closely linked with the other areas of learning in the EYFS Curriculum, since we believe children young children make most sense of their learning when they can make connections through their first hand experiences.

SMSC
SMSC is embedded into our mathematics Curriculum through:
SPIRITUAL
Through reasoning, children are taught to delve deeply into their mathematics, which complements them thinking deeply about spiritual issues in RE education.
MORAL
Following the classroom rules and taking care of the maths' equipment.
SOCIAL

Children work in many different groupings in mathematics, which support their social development and understanding through problem-solving, team work, respecting others' view within the group, sharing opinions and explaining answers to others;
Celebrating mathematical achievements in class and in golden book assembly.
CULTURAL
Where possible, we use mathematics from other cultures and this works especially well through Geometry, such as rangoli patterns.

Teaching mathematics to children with Special Educational Needs

Equal opportunities.

All children have access to all aspects of the mathematical curriculum, as part of the School Curriculum policy to provide a broad and balanced education to all children, where all pupils make progress.

At Galley Common School we have a graduated approach to SEN Support and this includes support in mathematics. Ultimately teachers are responsible and accountable for the progress and development of the children in their class, including where pupils access group support from teaching assistants during mathematics lessons. We understand that high quality teaching and suitable learning challenges differentiated for individual pupils' needs are the first steps in responding to pupils who have or may have SEN.

Assessment will be made against the appropriate criteria and depending upon the individual child this could either be the National Curriculum, the Early Years Foundation Stage Curriculum, Pre Key Stage Standards or P scales. This allows us to consider each child's attainment and progress against expected levels and beyond. When progress falls significantly outside the expected range, the child may have special educational needs. Children who need mathematical support above and beyond what is given may be identified as needing individual SEN support. Such intervention aims to help to close gaps in the children's maths learning so they can fully participate more confidently in class.

Assessment and recording

We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). We make short-term formative assessments which we use to inform and adjust our daily plans based on informal observations during all parts of the mathematics' lesson. These short-term assessments are closely matched to the teaching objectives and will usually be recorded on cube sheets or as annotations in the children's maths' books. These assessments will highlight both strengths and weaknesses and will be used to inform both the next day and the next week's maths' plans.

We make medium-term summative assessments based upon all of our evidence of short-term assessments across a term. We measure progress against the key objectives which helps us to plan the next steps for subsequent term. This is then recorded on tracking sheets which are filled in termly and discussed at progress meetings. Tracking also identifies if children are making below expected, expected or above expected progress. In KS1, we are working on a daily formative assessment document, where children are assessed as red-emerging, yellow-expected or green-exceeding for each lesson/objective in each unit. This will inform both medium and long term assessments.

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. Both the short term and medium term assessments will inform these judgements. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We are continuing to use the optional

national tests for children in Year 2. Throughout reception, the children's progress is measured against the Development Matters and in June, it is measured against the Early Learning Goals.

Moderation

Time during key stage PPA sessions and staff meetings will be dedicated on a termly basis to moderating levels for children in mathematics. We compare a child who, by the end of the school year will be at the expected standard in mathematics. Staff also attend termly cluster moderation meetings where judgements across the cluster are moderated. All of the above help to standardize and support judgements across the school.

Reporting. This is done in a variety of ways. Children's general termly progress, level of attainment and most recent targets are reported to parents at termly consultations and progress over the year is shared with parents in their annual report. EYFSP and S.A.T.S. results are communicated to parents as part of each child's end of year report on an individual sheet.

Resources

There is a range of resources to support the teaching of mathematics across the school. Staff also create their own differentiated resources. All classrooms have number resources on display and a wide range of appropriate small apparatus, most of which is kept in mathematics toolkits which the children access independently. A further range of visual and practical resources are available from the maths storage area, together with a range of resources which are stored in the Mathematics folder on the school computer network.

Home/ school partnership. Homework. Y1 and Y2 children are allocated maths activities on Education City each week, which relate to the current mathematics being taught in their year group. Such work enables the children to demonstrate their skills and knowledge to their family and practise and consolidate skills.

Parental Involvement. Parents are kept informed about mathematics teaching by :- curriculum meetings (e.g. the parents' mathematics day, transition from FS to KS1 meeting, SATS meeting); non-negotiables going home annually; displays and key vocabulary up in classrooms. Information about what will be covered each half term also goes out to parents on a topic web.

Monitoring and review/ Staff responsibilities

Monitoring within mathematics must address the standards of children's work and the quality of teaching in mathematics.

Subject Leader. The work of the subject leader involves supporting colleagues in the teaching of mathematics and being informed about current developments in the subject. The latter is mainly achieved through mathematics Training meetings once a term.
The role also includes providing a strategic lead and direction for the subject in the school. Results of work trawls, lesson observations, pupil interviews and looking at class planning all help to keep the subject leader informed.

The curriculum team supports her/him in this role, when mathematics is the focus of the curriculum team.

Head Teacher. The Head Teacher allocates some management time to the mathematics subject leader so that s/he can review samples of children's work and undertake lesson observations of mathematics teaching across the school. The Head Teacher needs to keep well informed about mathematics in school and particularly does this through weekly monitoring of the planning and the annual planning, work and learning environment trawls of the leadership and management team. During some of the Head Teacher's teaching time, s/he is able to see mathematics first hand and s/he observes mathematics around the school, throughout each academic year.

Governors. A named member of the school's governing body is briefed to oversee the provision for mathematics. This link governor is welcome to meet or communicate via e-mail with the subject manager to review progress as part of the governors' monitoring cycle. They are also welcome to observe mathematics in school at any time.

Class teachers. The class teachers have responsibility for implementing the National Curriculum for mathematics in their classrooms. They plan and evaluate mathematics lessons daily, weekly and termly/half-termly. Teachers also attend staff meetings and inset training that have relevance to the mathematics curriculum. Teachers plan for and instruct teaching assistants who support the various elements of a Mathematics provision.

Teaching assistants. Teaching assistants support mathematics work within the classroom. They discuss daily plans with the class teacher and aim to carry out these plans. They help and encourage all children to participate in all aspects of mathematics. They feedback to the teacher, concerning children with either difficulties or successes. They are also involved in some inset training concerning mathematics.

Signed:

Date: March 2024

Review: March 2026