

Gagle Brook Primary and Nursery School **Mathematics Policy**



Mathematics Curriculum Intent

At Gagle Brook Primary and Nursery School, we value mathematics as an important part of a child's entitlement to a broad and balanced curriculum.

Mathematics forms part of our core curriculum and equips children to be able to be fluent in the fundamentals of mathematics, reason mathematically, be able to investigate and solve problems and use the 4 operations to calculate mentally and with written methods.

Through mathematics, children learn to be deep thinkers through a range of Higher Order questions and apply their learnt skills in to solving problems. We encourage children to develop their own curiosity and challenge themselves in all their learning.

We ensure that the statutory requirements of the National Curriculum 2014 are met and so too are their aims:

- To become fluent in the fundamentals of mathematics;
- Reason mathematically;
- Solve problems.

At Gagle Brook Primary and Nursery School we have adopted the Mastery approach for teaching and learning of mathematics. This means the children will be taught the skills from the National Curriculum for their year group. The curriculum has been split in to the six terms of the year and each unit of work will be taught for longer enabling the children to learn for longer and to go deeper in to each concept. It is expected that the majority of the class will then achieve their age related expectations as outlined in the National Curriculum.

Intended Outcomes

Our children will learn to:

- Develop the appropriate mathematical language associated with number, shape and position;
- Use and apply mathematics in practical tasks, in real life problems and in acquiring further knowledge, skills and understanding in the subject itself;
- Understand and use the four operations of number in relevant contexts;
- Understand relationships between numbers, learn basic number facts and develop a range of computational methods (in line with the calculation policy);
- Understand place value in our counting system and understand how it can be extended into numbers below zero;
- Use their mathematical skills in simple problem solving;
- Collect, interpret and represent data in tabular, graphical and diagrammatic form;
- Develop mental methods of calculation;
- Recognise, describe and represent shapes and patterns in terms of their properties, location and movement;
- Measure quantities including length, area, volume/capacity, angle, temperature, time and mass;
- By the time children reach Year 6 they will be introduced to ratio/ proportion and language of algebra as a means for solving a variety of problems.

We will judge the success of our mathematical teaching by:

- The motivation and interest displayed by our pupils;
- KS1 and KS2 SAT results;
- Success in meeting targets;
- Data analysis;
- Book and planning scrutiny;



- Observations of the teaching of mathematics;
- Pupil Voice;
- Percentage of children reaching 'greater depth'.

Teaching and learning style

The school uses a variety of teaching and learning styles in mathematics lessons. Our principle aim is to develop children's knowledge, skills and understanding in mathematics. We do this through daily lessons that are split in to two parts: whole-class teaching (where new learning is tackled) and independent learning (where skills are refreshed and the fluent recall of key skills is the intention). During these lessons we encourage children to ask as well as answer mathematical 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.

Children use Computing 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.

We challenge the children to take ownership of their own learning by giving them challenges related to the learning objective.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children whereby they are encouraged to challenge themselves. We use classroom assistants to support some children and to ensure that work is matched to the needs of individuals. Some children also take part in maths intervention programmes to further support the key skills and fundamentals of mathematics so they are more-able to access the learning in the daily lesson.

Mathematics curriculum

We carry out the curriculum planning in mathematics weekly and daily using the Medium Term planning document and our calculation policy.

It is the class teacher who completes the weekly/daily plans for the teaching of mathematics. These weekly plans list the specific learning objectives, taken from the National Curriculum, for each lesson and give details of how the lessons are to be taught.

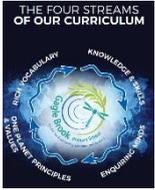
The maths lead monitors these plans and will often discuss them on an informal basis with the class teacher. Work is planned to suit the needs and abilities within the class.

As an ongoing programme to enhance the teaching of mathematics across the school we use our working walls and double page individual working walls. This outlines the focus of the teaching and learning for that week, detailing the previous learning, what the new learning will be and how the children can challenge themselves.

Early Years

At Gagle Brook Primary and Nursery School we teach the Early Years Foundation Stage curriculum in our reception and nursery classes. We relate the mathematical aspects of the children's work to the objectives set out in the Early Years Education Programmes, which underpin the curriculum planning for children aged three to five.

We have a whole class teaching session each day and adult led activities through the week. The children also have the opportunity to use a wide range of maths resources to develop their understanding in their child initiated learning time. We give all the children ample



opportunity to develop their deeper understanding of number, number patterns, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

Contribution of mathematics to teaching in other curriculum areas

At Gagle Brook Primary and Nursery School we teach through enquiry based topics where a lot of the learning takes place in a cross-curricular way. Mathematics skills are used through applying their knowledge in to other subject areas. For example:

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain their reasoning and present their work to others during their learning time. Younger children enjoy stories and rhyme that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

Science

Science and mathematics skills overlap in almost all areas and as such enable children to demonstrate their understanding and abilities in real world contexts. These include, but are not limited to Addition and Subtraction, Division, Measurements, Statistics, Time, Fractions, Decimals and Percentages.

Computing

Children use and apply mathematics in a variety of ways when solving problems using their skills in computing. Younger children use computing to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle. They use simulations to identify patterns and relationships.

Personal, social and health education (PSHE) relationships and citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present older children with real-life situations in their work, for example, spending of money, reading timetables.

Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. Children are expected to work together, and we give them the chance to discuss their ideas and results. The study of famous mathematicians around the world contributes to the cultural development of our children.

Teaching mathematics to children with special educational needs

At our school we teach mathematics to all children, whatever their ability. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels.



When progress falls significantly outside the expected range, the child may have Special Educational Needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

We enable pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom, for example, a maths trail, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

Assessment and recording

We assess children's work in mathematics to develop learning, pupils will be continuously assessed using a variety of strategies - observation, questioning, marking in accordance with our school marking policy and personalised targets set. These short-term assessments are closely matched to the teaching objectives and help us to adjust our daily plans.

We undertake formal written assessments towards the end of the school year, and we use these to assess progress against school and national targets. 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 they can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments.

We use the national tests for children in Year 2 and Year 6. We also make annual assessments of children's progress measured against the National Curriculum expectations for each year group.

In the Early Years assessment is carried out through use of observation of their play and against the Early Learning Goals at the end of the reception year.

Resources

There is a wide range of resources to support the teaching of mathematics across the school. All classrooms have a 'Maths Shop' or similar with a wide range of appropriate small apparatus. Calculators and a range of audio visual aids are available from the central storage area. The library contains a range of books to support children's individual research and each class has a mathematics dictionary. A range of software is available to support work with the computers. The mathematics cupboard holds a range of resources for all teachers to access.

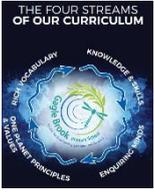
Monitoring

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the Maths Lead and the Senior Leadership Team.

The work of the mathematics 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 subject in the school.

The headteacher allocates regular management time to the Maths Lead so that s/he can review samples of children's work and undertake lesson observations of mathematics teaching across the school.

These reviews also include a learning walk of maths across the school and looking at examples of children's work.



Signed: **Mr M Street**

Date: **July 2022**

Review date: **July 2024**

