

GRESHAM PRIMARY SCHOOL
MATHS POLICY

Policy Updated: April 2020

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Introduction

At Gresham we aim to inspire children to realise and reach their academic potential. This policy outlines the ways in which this is achieved through teaching and learning and management of mathematics. This policy aims to ensure continuity and progression in the learning and teaching of mathematics.

The National Curriculum

The national curriculum identifies three key strands in Maths.

Fluency – the ability to recall fundamental mathematical concepts and skills rapidly and accurately.

Reasoning – being able to explain an answer, prove something correct or incorrect, use enquiry skills to ask key questions, and make predictions and spot patterns within mathematics.

Problem Solving - applying mathematics to a variety of problems, including breaking down problems into a series of simpler steps and persevering in seeking different solutions.

Mathematics is a subject containing many opportunities for pupils to make links to prior learning. Pupils need to be able to move fluently between these different links and representations of mathematical ideas. The programmes of study are, by necessity, organised into distinct areas, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content.

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Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

Aims

In mathematics we aim for children to:

- Have a strong conceptual understanding of maths, its structures and its relationships.
- Recall and apply their knowledge confidently and efficiently
- Show a secure understanding in using written methods for which they have a clear understanding
- Have a positive attitude to their learning and welcome challenge.

In mathematics we aim for teachers to:

- Place problem-solving and investigative skills at the heart of mathematics teaching.
- Recognise that collaboration and communication are crucial life skills and should be developed through mathematics teaching.
- Use careful assessment, planning and preparation to ensure that children show a deeper level of understanding in each topic taught.
- To actively foster a positive attitude and to encourage enjoyment of mathematics.
- To ensure that there is challenge in every lesson for every child in all groups (SEN, PP, FSM etc).

Implementing and Monitoring the policy

Structure of Lessons

- Lessons are delivered with the key objectives from the National Curriculum in mind. All of the objectives for each year group are covered across an academic year.

- Teachers plan lessons from their own year groups curriculum only. (I.e. a Year 2 child will work only from the Year 2 curriculum). This allows children to fully consolidate and embed key skills. This 'mastery' of the curriculum allows for children to be able to reason about what they have learnt. This secure understanding also allows them to make links across the maths curriculum.

- Maths lessons may be delivered through a range of approaches. These may vary from learning through play and explorative learning to teacher-led and child-led sessions.

- The expectation in every maths lesson is that children make progress through being suitably challenged. Similarly to the delivery of maths lesson, this may happen in a range of different ways. These include, but are not limited to:

- Children selecting their own challenge.
- The teacher modelling a mathematical concept or skill.
- Groups of children completing different tasks.
- Children having specific and tailored learning support from teaching assistants.
- Open ended investigations and problems available for children who have mastered the content of the lesson.

- Assessment happening throughout lessons. This may be the marking of a child's book, verbal feedback with a child or group of children, plenaries and observations throughout a lesson. Teachers then use this assessment to inform their planning and the next steps for all children.

- Children will be given a next step at the end of a lesson. This may be verbal feedback or a written comment in their book. In the majority of cases this will happen on a daily basis. Children will then be given the opportunity to respond to this feedback.

Planning

- Opportunities for problem-solving should be richly embedded across each week of maths lessons. Children should have opportunities to hone their problem solving and enquiry skills throughout these lessons.
- Lessons should be designed to stretch children's thinking through questioning, with opportunities for children to prove their understanding.
- Children should not be rushed through different content (i.e. working from the year group above), instead, they should be offered a rich range of problems in varying contexts to show an increasingly secure and in-depth understanding.
- Different groups and individuals will be catered for by careful planning; this can take many different shapes including adult support, differentiated tasks and use of resources.
- Planning lessons to include challenge for every child. These challenges can take a range of different forms including practical activities and mathematical games, problem solving, individual, small group and whole class discussions, open and closed tasks, a range of methods of calculating e.g. mental, paper and pencil and calculator and working with ICT.
- Resources such as White Rose Maths or Classroom Secrets can help provide a framework and structure when planning. However, whilst teachers should make use of these readily available resources it is also expected that teachers plan and adapt lessons based on the needs of their class.

Assessment and Marking

- Assessment for learning should occur throughout each maths lesson, enabling teaching to be adapted where required.
- Children have an opportunity to provide an age-appropriate response to their learning in each lesson through a range of different ways.
- Children should self-assess against the learning objective and success criteria, giving them a sense of success. Children should know when they are meeting their targets and be self-assessing against those too.
- Children are able to use learning journals and other assessment tools specific to their class to identify areas of success and areas of development. This ensures reflective and independent thinking and an early introduction to setting their own next steps.

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- Children are reflective and are able to identify their own next steps and targets, as well as reflecting on lessons where they have enjoyed success.
- Pupils' work is marked in line with school policy, and children are given opportunities to respond to the marking in their books.
- Class teachers receive data, based on current class from the previous year and current year to ascertain underperforming children and/or groups.
- Subject leaders or senior leadership lead Pupil Progress Meetings with staff on a termly basis.
- Teachers assess children in a range of formal or informal methods based on the needs of the child. This can be verbal feedback, marking books, questioning during a lesson or flexible groupings within a lesson.

Differentiation and support (Including provision for SEN, More Able, PP, EAL etc)

- Setting challenging age-related reasoning and problem solving tasks based on accurate assessment of pupils' prior skills, knowledge and understanding.
- Where appropriate, using small, differentiated target steps for all children to move through the curriculum at a pace that suits their needs.
- Adult support and intervention, effectively assessing and checking pupils' understanding throughout lessons and offering feedback through different forms.
- Ensuring that marking and constructive feedback is personal, frequent and of a consistently high quality. Feedback also includes a 'next step' for teachers to encourage children to think about their learning.
- Teachers use a range of practical-real life resources used to support all stages of learning within the class.
- Intervention programmes/extra teacher support delivered where needed both in class and through extra sessions.

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Display and Resources

- In the classrooms there should be, either on display or easily accessible to children, age appropriate resources.
- Mathematical vocabulary should be displayed so that children use this to demonstrate their understanding.
- There should be maths learning on display in classrooms to encourage a positive attitude and enthusiasm towards mathematics for all groups of children.
- A 'learning wall' (a collection of children's learning over a period of time) should be visible in class to promote the teaching and learning of mathematics, to enjoy their successes and to make links to prior learning.

Leadership

- The subject leader is responsible for updating the mathematics policy, and making sure it reflects current mathematic schemes and initiatives both nationally, and within Gresham.
- Identifying key focuses from the SIP and ensuring that teaching and learning in maths is helping Gresham to meet these targets.
- Monitoring and checking that lessons include suitable challenge, and that problem solving and reasoning skills are being built into lessons rather than taught in one off sessions. This can take the form of book scrutinies, lesson observations, learning walks and pupil interviews.
- The subject leader carries out Pupil Progress Meetings with staff on a termly basis to discuss mathematics achievement within each class.
- Being responsible for managing intervention 'booster' groups for children across the school either before or after school.
- Maintaining a positive attitude to mathematics and actively encouraging this throughout the school by 'drop-ins' to classes, speaking to pupils and by enthusing with them about their learning in maths.
- To read updates from the DfE regarding the introduction of new government initiatives.

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- Organising and running staff training and providing CPD and INSET training for staff.

Home Learning

- Home learning is used to embed and consolidate the mathematical learning that has been happening in class.
- Children from Year 1 to Year 5 complete Rainbow Maths on a weekly basis. Children progress through the different colours, tackling harder questions as they do so. Children compete against themselves to improve on their own scores. Rainbow Maths consists of a range of problems including multiplication and division facts, addition and subtraction questions and problems involving fractions.
- Children from Year 1 to Year 6 are given a specific times table to learn weekly. They are tested on this times table and the scores are recorded. Times tables underpin a many mathematical concepts and can help children make links to prior learning with increasing ease. Year 4 children will be tested on their times tables up to 12 x 12 and this practise will prepare them for this.
- Children may be given a specific maths task to complete as part of their home learning. This could be a written task or they may be asked to practise a specific skill. This will often be a way to consolidate or pre-teach the mathematics objectives the children are studying in class.
- Online learning is used for children to practise and consolidate their recent work in class. Children in Year 1 to Year 6 use MyMaths where teachers log in to set specific tasks for children to complete from home. Reception children are given access to similar online programmes and websites from both home and school.

Challenge for All

- All staff at Gresham are committed to ensuring that **every** child is challenged to make progress in their maths lessons.
- We have the same expectations for every child regardless of gender, ethnicity, religion or background. This is embodied by our motto 'Gresham Pupils Succeed'.
- Through maths we challenge children to view themselves as confident mathematicians, embracing challenge and demonstrating resilience in their learning.

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The Gresham Learning Toolkit, which includes all of Gresham's key values is used to help children understand the skills they need to succeed.

- Children are given opportunity to demonstrate their maths knowledge by careful planning for cross-curricular opportunities. The introduction of the International Primary Curriculum (IPC) has allowed for more of these links to be made through topics such as:

- Science (capacity, measurement, data handling)
- History (timelines, dates, roman numerals)
- Geography (co-ordinates, temperature, data handling)