

MATHEMATICS POLICY



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Grange Park Primary School

Mathematics Policy

Introduction

At Grange Park Primary School, the teaching of maths is geared towards enabling each child to develop their learning and achieve their full potential. We endeavour to not only develop the mathematics skills and understanding required for later life, but also an enthusiasm and fascination about maths itself.

We aim to increase pupil confidence in maths, so they are able to express themselves and their ideas using the language of maths with assurance. We want the children to see mathematics as being relevant to their world and applicable to everyday life as well as being something that they will need as they move on through their school life and ultimately to the world of employment.

The national curriculum for mathematics aims 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.

(New National Curriculum July 2014)

Following the introduction of the new National Curriculum in 2014 the emphasis has been to ensure that all children:

- Become **FLUENT**
- **REASON** and **EXPLAIN** mathematically
- Can **SOLVE PROBLEMS**

This means that children need to be regularly exposed to opportunities involving increasingly complex problem solving which allows them to apply their maths knowledge. In doing so they should be encouraged to develop an argument and line of enquiry which they can prove and justify using mathematical vocabulary. This includes the ability to break down problems, both routine and non-routine, into a series of steps.

Aims

At Grange Park Primary School, we aim to teach maths in a way that:

- delivers maths in line with new National Curriculum guidelines
- ensures the delivery of maths is filled with cross curricular opportunities
- creates a lively, exciting and stimulating environment in which the children can learn maths
- promotes the concept that acquiring maths knowledge and skills provides the foundation for understanding the world around the children
- develops mental strategies
- encourages children to use mathematical vocabulary to reason and explain
- stimulates and develops a curiosity for maths
- challenges children to stretch themselves and take risks in their learning
- creates a sense of awe and wonder surrounding maths
- ensures children have the ability to instantly recall key facts

Approach

At Grange Park Primary School, we use a variety of curriculum resources to enhance the implementation of the National Curriculum Programs of Study for Mathematics, including: White Rose Maths, Nrich and NCETM to ensure continuity and progression in the teaching of mathematics.

It is important that children are allowed to explore maths and present their findings not only in a written form but also visually; to that end, the school has embraced the CPA approach: concrete, pictorial, abstract. This will allow the children to experience the physical aspects of maths before finding a way to present their findings and understandings in a visual form before relying on the abstract numbers.

The curriculum is delivered by class teachers. Children are taught in class groups from Foundation Stage to Year 5, with children streamed in Year 6. In all classes children are taught in a variety of flexible groupings; whole class, groups, pairs, one to one, relevant to the task in hand, and teaching is adapted in order to make the learning journey accessible for all learners, as well as providing an important element of challenge. Teachers apply adaptive teaching techniques whereby tasks are ENABLED to ensure all learners can access the small step of learning, and EXTENDED to ensure learners can deepen their understanding through challenges. Where appropriate these groups/individual children are supported by Teaching Assistants.

In line with the new curriculum, and using guidance from the White Rose Maths Hub, the school adopts a mastery approach to teaching.

Staff are kept up to date on current thinking, new teaching methodologies and ideas by the subject leader through staff meetings and Inset. CPD will be available, where possible, for staff who need to improve their understanding of the requirements of the new national curriculum, new methodologies and assessment/testing arrangements.

It is important that parents and carers are actively involved in the children's education. In order to help keep them informed of what is happening within school we aim to run annual information sessions which will look at current developments within the school, projects in which we are involved, new methodologies for

delivering the teaching of Maths and also any new statutory changes such as curriculum or assessment/testing arrangements.

Planning and Assessment

Teachers will plan and deliver lessons that suit the particular learning styles of the children within the year group. They will use their own judgement and use of formative assessment to ensure a flexible approach is adopted which recognises the pace of learning within the classroom. Planning is organised to ensure deeper understanding: this is achieved through longer blocks of learning with smaller steps to success. Children will be given the opportunity to engage in fluency, reasoning and problem solving activities to demonstrate their understanding.

In order to inform planning and to assess children's progress, teachers will carry out a range of summative and formative assessments and keep a record of termly teacher assessments on Cornerstones Maestro.

Teachers conduct pre- and post- block assessments to help inform curriculum focus and possible intervention needs. This is also a useful tool to analyse progress within an individual block of learning.

Termly, children will be assessed through the application of tests; this summative assessment, alongside Teacher Assessments, will be used to identify next steps and therefore inform planning.

Children are also assessed using periodic GL Assessments where diagnostic data is generated, and this is also used to inform future planning and interventions.

Children will be provided with feedback either verbally or through written marking. Often, in order to clarify understanding of a concept during the lesson, children will be given verbal feedback.

Misconceptions are discussed with the children at the earliest opportunity, and often inform important learning opportunities within the lesson.

At Grange Park Primary School we embrace misconceptions and mistakes, as they help children learn and grow. We want to normalise mistakes and misconceptions, and for children to ultimately see these as a positive part of the learning process.

Monitoring

As part of the monitoring cycle within Grange Park Primary School, an annual Co-ordinator Curriculum Review for Maths is conducted, and feedback shared during the following half-termly Pupil Outcome Meeting. There is also staff meeting time assigned to Mathematics, following the above, whereby any areas for development can be discussed and appropriate CPD offered. A follow-up review will then be conducted within 3 half-terms to monitor impact.

Inclusion

In line with the School's Inclusion Policy, each child will have equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities. Therefore, in delivering Maths, care will be taken to ensure that a variety of learning styles are accessed and teaching methods adopted.

Intervention groups will take place both within the Maths lesson and outside; these sessions may be delivered by the teacher or teaching assistant and may involve individual or small group work, accessing both ends of the learning spectrum.

Review

This policy will be reviewed every year but will be updated before that time if necessary. Any changes will be verified with senior management.