Maths Policy

Contents

Approved	SLT and Governors
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Introduction
This policy is based on the document the 'National Curriculum' published in September 2014. The policy has been created as a result of recommendations from the mathematics co-coordinators and staff discussion.

Statement
At Grand Avenue, the aim is for all children to become fully numerate and to develop a life-long love of mathematics. In Key Stages 1 and 2 children are taught according to the National Curriculum. In Nursery and Reception classes the Early Years Foundation Stage Curriculum is followed. The implementation of this policy is the responsibility of all teaching staff.

At Grand Avenue, we believe that mathematics is a creative and highly inter-connected discipline that is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. We acknowledge that high-quality mathematics education provides a foundation for understanding the world.

Aims and objectives
At Grand Avenue, we believe that each child should be able to think and solve problems mathematically by using the appropriate skills, concepts and knowledge. Children will be provided with rich and enjoyable experiences related both to individual needs and to the wider requirements of society.

At Grand Avenue, we:

- Use active and involving teaching approaches.
- Actively encourage reflection on learning.
- Use representations in lessons to expose the mathematical structure being taught.
- Use rich questioning and discussion.
- Take time to explore each new concept.
- Divide lessons into small connected steps that gradually unfold a concept.
- Introduce and use mathematical vocabulary using agreed definitions.
- Expect children to use the correct mathematical vocabulary.
- Focus on using and applying skills to extend mathematical knowledge.
- Identify misconceptions as starting places for concept building.
- Are responsive to needs of each pupil and allow additional time before moving on, when required.
- Ensure that children enjoy challenging mathematics.
- Use a range of individual learning strategies.
- Make cross curricular links, where appropriate, to extend the children's knowledge and understanding.
- Encourage quick and efficient recall of facts and procedures and the flexibility to move between different representations of mathematics.
- Use variation to represent concepts in more than one way, to draw attention to critical aspects and develop deep understanding.

We aim for each child to:

- Have a positive attitude towards mathematics.
- Have self-confidence in their ability to deal with mathematics.
- Work systematically, co-operatively and with perseverance.
- Think logically and independently.
- Experience a sense of achievement regardless of age or ability.

- Apply previously acquired concepts, skills, knowledge and understanding to new situations both inside and outside of school.
- Understand and appreciate pattern and relationship in mathematics.
- Communicate with peers and adults, ideas, experiences, questions, clearly and fluently, using the appropriate mathematical language.
- Explore problems using the appropriate strategies, predictions and deductions.
- Have equality of opportunity regardless of race, gender, or ability.
- Be aware of the uses of mathematics beyond the classroom.
- Use mental and written calculations and efficient strategies to work out answers.
- Understand the appropriate underlying skills, concepts and knowledge of place value, number, measurement, shape, position and handling data.

We ask that parents:

- Become actively involved in their child's mathematical learning both in school and at home.
- Understand and support the school's Mathematics and Home Learning Policy.

Equal Opportunities

We ensure that every child has equal access to the mathematics curriculum regardless of physical, sensory, intellectual, emotional and behavioural needs, gender, social and cultural background, religion, ethnic origin or home language.

Using a maths mastery approach the whole class moves through the content of the learning at the same pace and each topic is studied in depth.

Staff ensure that:

- Differentiated activities or '*low floor/high ceiling'* tasks are planned into units of work to support less able and broaden and deepen the understanding of more able children and support those with EAL.
- Children with learning difficulties are diagnosed and provision is made for individual needs.
- Adult support is used in school to support groups/individual children.
- Children have access to a range of resources and manipulatives to deepen the understanding of the concept.
- More time may be allocated to a topic to ensure all children are secure in their understanding.

Provision for more able pupils:

Staff ensure that:

- More able pupils are taught within their own class.
- Differentiation is offered through depth and application rather than acceleration.
- Children are tasked with challenging and sophisticated problems.
- Targeted questioning is used to broaden and deepen understanding of concepts.
- Time is given to explore a variety of methods to solve a problem, and to explaining reasoning behind a conclusion e.g. working backwards.

Provision for pupils for whom EAL:

Staff ensure that:

- The daily Mathematics lesson is appropriate for all pupils.
- All pupils are involved in learning through differentiation.
- Key mathematical vocabulary and stem sentences are available and used for support.

- Pre-teaching of relevant vocabulary is also available.

Provision for pupils with special educational needs and individual provision maps:
Staff ensure that:

- All pupils are fully involved in a daily mathematics lessons.
- There is an emphasis on oral and mental work.
- Repeated opportunities to embed understanding are provided including the use of manipulatives.
- There are opportunities for participating in watching and listening to other children demonstrating and explaining their methods.
- Pupils with difficulties which are severe or complex are supported with an individualised programme (please refer to the SEN policy).

The role of the Co-ordinator
The mathematics co-ordinator will:

- Create, review and monitor the mathematics policy, especially with regard to national and local agendas.
- Keep up to date with current developments and initiatives.
- Support staff in the planning and delivery of the mathematics curriculum.
- Observe mathematics lessons and undertake book looks and feedback to staff.
- Attend relevant courses and disseminate information in school.
- Signpost staff to relevant courses and CPD opportunities.
- Manage, update, order and monitor the use of resources.
- Monitor planning to ensure continuity, coverage and progression.
- Deliver INSET.
- Ensure moderation of assessments takes place between year groups and across key stages.
- Analyse the SATS papers each year and report findings to SLT regarding strengths and areas for development.
- Provide parent workshops.

The role of the Governors
Governors will:

- Become familiar with the key aspects in the teaching of mathematics.
- Be familiar with the mathematics policy.
- Support the implementation of the policy.
- Visit the school to observe the teaching of mathematics.
- Ensure budgetary provision to support the teaching of mathematics.

The role of the Class Teacher
The class teacher will:

- Plan and teach the mathematics objectives, during daily lessons, as stated in the National Curriculum and Early Years Foundation Stage.
- Plan and record lessons on agreed proforma.
- Record each child's progress in mathematics as set out in the Assessment Policy.
- Inform parents of their child's progress in mathematics on a termly basis.
- Provide examples of children's work to be monitored on a regular basis.
- Use whole school agreed methodology and vocabulary when teaching mathematics lessons e.g. maths mastery approach, bar method.

- Alert the SENCO to any child showing severe learning difficulties which cannot be managed through differentiation within the classroom.
- Provide challenge for able pupils to ensure progression and mastery of skills
- Arrange, alongside other members of the year group team, pre-teach and booster groups as needed.
- Alert parents/carers should a child not be returning mathematics home learning on a regular basis.
- Ensure TA's have access to planning before the lesson and an opportunity to clarify the teaching points, learning and feedback required.
- Ensure TA's work with a variety of children throughout the week (not only supporting less able).

Organisation and Time Allocation

Teaching time

Each class teacher will provide a daily mathematics lesson for their class. This may vary in length but will usually last for about 20 minutes in Reception and 60 minutes in Key Stages 1 and 2.

Early Years Foundation Stage

In Nursery and Reception, the class will be organised to promote social skills and the development of mathematical language and understanding. The children learn through whole class teaching and then explore mathematical concepts through structured activities and child-initiated play.

Learning wall and Learning Journey

Each class will have displayed a learning wall which shows current vocabulary, examples of concepts being explored, explanations of strategies to be used and children's work.
A learning journey will also be clearly displayed showing the stages and steps of the exploration of a concept and the aim of the unit of learning…

Use of Anchor Tasks

During math lessons, students will engage in Anchor Tasks. Anchor Task will pose the days learning in a real life context. The children will have to work with their peers to work out the answer in multiple ways. The anchor task will encourage students to notice multiple methods of solving problems following the CPA (concrete, pictoral and abstract) approach. The teacher will facilitate student led discussions and pose misconceptions to promote a deeper understanding in the class. High level questioning will further promote discussion and mathematical reasoning and articulation..

Planning

Long term and medium term

Long term and medium term planning is structured following guidance set out in the National Curriculum. There are end of year expectations and non-negotiables for each year group as outlined on Sonar Pupil Tracker. .

Short term

Short term plans are used on a weekly basis focussing on the children's learning journey throughout a concept; these may include examples from the National Curriculum, other published resources or the teachers' own ideas. The school has access to White Rose and Power Maths resources. Resources used will be adapted to meet the needs of the children.

There is a consistent approach to planning across Grand Avenue and teachers use the school format to record their weekly planning which includes learning challenges, steps to success, resources, key vocabulary, key questions, support, tasks, activities and grouping for the lessons. There is an emphasis on repetition of basic number skills, as appropriate for each year group, through mental and oral practice. Where necessary, teachers will also plan times where pre-teaching of concepts is necessary for groups of children.

Assessment

Assessment will take place at three connected levels: day to day, in-school summative, and statutory summative. These assessments will be used to inform teaching in a continuous cycle of planning, teaching and assessment.
There are agreed non-negotiables for each year group focussing on the concept of number. These are displayed in the classroom and each child is expected to achieve the non-negotiables by the end of the academic year. Teachers will keep records and monitor each child's progress towards the end of year expectations.

Resources

A wide variety of resources are available throughout the school, including mathematical equipment and models and images. The main resource used is the National Curriculum and White Rose Maths

Each classroom has a bank of resources to support the teaching and learning of mathematics. This includes number squares, timers, dienes, dice, rulers, digit cards. There is also a shared central store of resources for all staff to use.
IT will be used in various ways to support teaching and motivate children's learning, e.g. computers, visualisers, calculators and websites. However, IT resources will only be used in a daily mathematics lesson when it is the most efficient and effective way of meeting the lesson challenges and support learning.

Home Learning.

In Early years a weekly letter goes home via Google Classroom outlining the mathematics that has been explored in school and how parents can help at home.
In Year 1 optional maths tasks are set weekly.
From Year 2, differentiated activities are set using Google Classroom. Fortnightly during Autumn and Spring terms, and weekly during the Summer term. The tasks will be short and focused, giving pupils an opportunity to embed skills taught in lessons, apply concepts taught or recall previous learning.
Home learning will focus on basic skills.
Websites such as 'Mathletics' and 'Rock star times tables' are used as part of Home Learning.