



## Maths Policy

### Introduction

#### **We want to teach Maths in a way that:**

- creates a lively, exciting and stimulating environment in which the children can learn Maths
- promotes high standards in numeracy and a range of other mathematical skills and apply these skills with confidence and understanding when solving problems
- gives opportunities to apply mathematical learning in everyday situations and enable children to use and apply their knowledge in the world outside.
- ensures children can calculate accurately and efficiently, both mentally and with pencil and paper, drawing on a range of calculation strategies and understanding of the required operations
- encourages children to use mathematical vocabulary to reason and explain and to judge whether their answers are reasonable and have strategies for checking them.
- allows time for partner talk in order to stimulate and develop a curiosity for Maths
- challenges children to stretch themselves and take risks in their learning
- creates a sense of awe and wonder surrounding Maths and to be inspired to appreciate the mathematics of other cultures
- ensures children are secure in their understanding of number and number relationships - have a sense of the size of a number and where it fits in the number system and know by heart number facts such as number bonds, multiplication facts, doubles, and halves.
- provides children with the opportunity for low entry-high ceiling challenges

### Approach

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

#### **Become FLUENT**

- Children in Y2 – 4 take part in a 'Mathletes' programme to ensure they know their times tables and corresponding division facts
- The Times tables Rock Stars programme is regularly used by children in school and at home to practise and different competitions are set throughout the year to encourage participation
- Y1 – 4 run a 20, 50 or 100 club competition weekly to practise instant recall of facts
- Y 5 - 6 run a Maths Ninja competition weekly to practise mental strategies
- Y5 & 6 complete arithmetic speed tests on a weekly basis

#### **REASON and EXPLAIN mathematically**

- 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 will adopt 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.
- At Rainbow Forge, we place great emphasis in our teaching of mathematics on the importance of discussion and the development of thinking and reasoning skills. Children will be actively encouraged to use pictures, diagrams and written methods to support and show



their thinking. This will include the development of jottings, empty number lines, bar models and formal written methods for addition, multiplication, subtraction and division.

### **Can SOLVE PROBLEMS**

- Children need to be regularly exposed to opportunities involving increasingly complex problem solving which allows them to apply their Maths knowledge.
- 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.

### **Maths in EYFS**

- Children all take part in 'Maths meetings' daily where the children discuss the day, date, month and weather as well as some type of daily counting and looking at a numeral line. This develops over time in the EYFS.
- Children in FS2 also have a daily Math's lesson in mixed ability groups where language is a vital part of the session and children are encouraged to work closely with a partner explaining their reasons for answers.
- Maths areas are well resourced and an enhancement is planned for the week which will relate to the teaching points of the week. Staff question the children to move their learning forward and support children where appropriate.

### **Planning and Assessment**

Teachers will use the national curriculum to work in pairs within each year group to plan and deliver lessons to respond to the needs of the children within the year group. Teachers will use the White Rose Premium resources to ensure that there is progression through fluency, reasoning and problem solving. This is to be supported the SPINE documents produced by the NCETM and other resources to ensure that children are given a range of activities that encourage Greater Depth. 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. Individual, paired and group work will be used across a series of lessons and children will be given the opportunity to work through varied fluency, reasoning and problem-solving tasks at an appropriate pace.

Planning will demonstrate the various challenges available to children, together with AfL (Assessment for Learning) opportunities (speaking and listening and self/peer assessment) and teacher assessment.

Review and Do tasks are used to assess children at the start of each lesson to ensure that children are moved on quickly to an appropriate task. At the start of a new concept, all children should be accessing the taught session by the teacher to ensure that they are secure in the fluency of the new knowledge. Maths will be taught through a Teach, Do structure. Children will mark each Do activity with the teacher and those, who complete it successfully, then move on to the independent activities. These activities will work through varied fluency questions and reasoning and problem solving questions. When they have mastered a concept, children will also be given the opportunity to access Greater Depth tasks designed by the teacher in line with government guidance.

In order to inform planning and to assess children's progress, teachers will maintain an assessment grid in their mark books which tracks the children's progress and understanding across a range of



assessment criteria objectives. This will be updated regularly and informed by work in children's books.

Termly, children will be assessed through the application of tests. End of unit test and summative assessment will be used in conjunction with the assessment grids to identify next steps and therefore inform planning.

Children will be provided with feedback either verbally or through written marking. Often, in order to clarify understanding of a concept, children will be asked to correct work or complete additional tasks, but not for every lesson; these should be completed by the children at the next earliest opportunity after the lesson. Children will mark most of their work at the end of the lesson with the teacher using the agreed symbols and making corrections. When marking work teachers should adhere to the school's Marking & Feedback Policy.

### **Inclusion**

In line with the Academy's Inclusion Policy, each child will have an equal entitlement to all aspects of the Maths curriculum and to experience the full range of Maths activities.

Pre-learning sessions are planned to ensure children working at a lower attainment have the necessary prior knowledge to access the learning planned. Post learning sessions and tasks are planned to ensure all children reach their expected level. 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.

### **Resources and Displays**

Each classroom will be resourced with materials to support the delivery of Maths; such items might include number lines, multiplication tables, 100 squares, 2D and 3D shapes, multilink cubes, dice and other smaller items.

Children should be encouraged to use whatever resources are available to them in the classroom and which they feel would be beneficial to help them when completing Maths work.

Each classroom should have a display dedicated to Maths, in the form of a working wall which will be based on the CPA approach - concrete, pictorial, abstract - and pupil voice should be evident. Each working wall should have a Show it, Draw it, Prove it and Explain it section which shows the children a model for the concept they are working on. The working wall should also include the Mathematical vocabulary that the children will be expected to use during the coverage of a concept.

### **Related policies:**

- SEND
- Teaching and Learning
- Curriculum
- Behaviour
- Equalities
- Assessment
- Homework
- Marking & Feedback
- Presentation
- Early Years Foundation Stage