

# MATHEMATICS POLICY

## **Introduction**

This policy outlines the aims, organisation and management for the teaching and learning of mathematics at Henry Prince C of E First School.

It is based on Excellence and Enjoyment, the National Curriculum (NC) programmes of study (PoS), and is supported by the Renewed Primary Framework for mathematics.

This policy will be reviewed on a regular cycle.

## **Aims**

Mathematics is a life skill. It is an essential element of communication, widely used in society, both in everyday situations and in the world of work.

### **Our aims in teaching mathematics are:**

- To equip pupils with the mathematics they need to become numerate.
- To develop their ability to apply mathematical skills with confidence and understanding when solving problems.
- To enable pupils to express themselves and their ideas using the language of mathematics with assurance.
- To develop positive attitudes to mathematics, recognising that mathematics can be both useful and enjoyable.
- To nurture a fascination and excitement of mathematics
- To be able to use and apply the skills in other curricular areas.

## **Teaching Mathematics**

### **Organisation**

- A daily mathematics lesson of 45 - 60 minutes is taught in Year 1 - 4.
- EYFS is being used for children at the foundation stage. At this stage pupils experience mathematics on a daily basis. This early introduction to mathematics will generally be undertaken orally and often in the context of a class theme, e.g. a particular story. Opportunities for mathematics should be developed through daily routines and all areas of learning.
- Pupils are taught in small groups within the class, according to their needs.
- The skills acquired in the numeracy lesson are applied across the curriculum.

A typical 45 - 60 minute lesson in Year 1 - 4 will be structured like this:

- Oral work and mental calculation (about 5 to 10 minutes)  
This will involve whole-class work to Rehearse, Recall, Refresh, Refine, Read, Reason mental and oral skills.
- The main teaching activity (about 30 to 40 minutes)  
This will include both teaching input and pupil activities and a balance between whole class, guided group work, paired and individual work.  
Children may work in mixed or ability groups according to the intended learning outcome.
- A plenary (about 10 minutes)  
This will involve work with the whole class to refer back to Learning objective and success criteria, address misconceptions, identify progress, to summarise key facts and ideas, clarify what needs to be remembered, to make links in other work and to discuss next steps in learning.

## Teaching strategies

In order to provide the children with active and stimulating learning experiences, a variety of teaching and learning opportunities are adopted:-

- Children may work individually on a task, in pairs or in a small group, depending on the nature of the activity.
- Wherever possible practical 'real' activities are used to introduce concepts and reinforce learning objectives.
- Opportunities to transfer skills learnt, to real situations, are used whenever possible.
- Activities are planned to encourage the full and active participation of all pupils.
- Teachers differentiate tasks throughout the lesson in order to meet the needs of all abilities.
- Teachers place a strong emphasis on correct use of mathematical language; this is supported by key vocabulary being displayed.
- Teachers value pupils' oral contributions and create an ethos in which all children feel they can contribute.

## Curriculum Planning

### Medium Term Planning

Teachers use the Renewed Primary Framework to plan teaching sequences that build learning over time e.g.; for 2 or 3 week units. The emphasis is to develop a sequence of teaching and learning that encompasses the cycle of assess, plan, teach, practise, apply, and review through every unit. A strong emphasis on Using and Applying mathematics is embedded within the curriculum.

We follow the planning structure from the Renewed Primary Framework, that organise the 7 strands of mathematics into five blocks across the year:

Block A: Counting, partitioning and calculating

Block B: Securing number facts, understanding shape

Block C: Handling data and measures

Block D: Calculating, measuring and understanding shape

Block E: Securing number facts, relationships and calculating

Links and connections between the strands of mathematics are made within the blocks

Each block consists of 3 units, each comprising of 2 or 3 weeks of teaching. For each unit, teachers use the previous learning, learning overviews, assessment for learning questions and other resources provided in the Primary Framework.

### Short term planning

- Staff use a proforma approved by the Staffordshire Maths Team to plan learning over a series of lessons.
- These plans must include learning objectives, outline activities for the mental and oral starter, whole class teaching focus, guided group work, independent tasks, and resources to be used, differentiation, key vocabulary and key questions.
- Planning clearly shows which group the teacher will be focusing on each day and which group could be supported by any additional adults.
- Teachers evaluate units of work, making notes on pupils who have exceeded or not achieved expectations.
- APP is used on a regular basis during class and guided sessions.

The medium and short term planning is collected and monitored by the maths subject leader where needed. A copy of it is to be found in the Head Teacher's Office.

## **Teaching methods and approaches**

In order to provide the children with active and stimulating learning experiences, a variety of teaching and learning opportunities, as recommended in the primary framework, are adopted:

- Children may work individually on a task, in pairs or in a small group, depending on the nature of the activity.
- The school has agreed a marking policy within the teaching and learning policy.
- Children are taught a range of strategies for calculation and these are shared with parents.
- ICT (including Interactive white-boards), is used where appropriate by teachers and pupils to support teaching and learning in Mathematics.
- The use of the calculator is introduced in year 4. The school adopts the guidance on their use as outlined in the Primary Framework.

## **Assessment, recording and reporting**

Assessment takes place at three connected levels: short-term, medium-term and long-term. These assessments are used to inform teaching in a continuous cycle of planning, teaching and assessment.

### **Day-to-day assessments**

As part of the ongoing teaching and learning process, teachers will assess children's understanding, achievement and progress in mathematics. Assessment may be based upon observation, questioning, informal testing and the marking and evaluation of work. This will inform day to day teaching and learning and provide feedback to children. Learners will also be taught to assess and evaluate their own achievements by recognising successes, learning from their own mistakes and identifying areas for improvement. Annotated copies of planning are kept by class teachers in order to inform future planning.

### **Periodic assessments**

These take place every half term. Teachers assess key ideas, End of Year Expectations, targets and areas of concern that have been covered during these units, using APP grids.

The outcomes of short and medium term assessments will be recorded through the annotating of short and medium term plans.

### **Transitional assessments**

Carried out towards the end of the school year to assess and review pupils' progress and attainment. This enables attainment to be tracked year on year and will inform groupings and intervention programmes.

These are made through National Curriculum mathematics tests for pupils in Years 2 and 6 and supplemented by other tests. Teachers also draw upon their class records of attainment and supplementary notes and knowledge about their class to produce a summative record. Accurate information is then reported to parents and the child's next teacher.

### **Intervention programmes**

Teaching is targeted where necessary to support children who are at risk of not reaching age related expectations. Regular Pupil Progress meetings are held between class teachers and the head teacher to identify and target children at risk.

## Equal Opportunities

All pupils will have equal opportunity to reach their full potential across the mathematics curriculum regardless of their race, gender, cultural background, ability or physical disability.

## Inclusion

The school's equal opportunities policy applies to the teaching of mathematics as to all other subjects.

## Environment

It is important that the classroom environment supports both the learning and teaching of mathematics.

The school aims to provide a mathematically stimulating environment:

- through the development and use of working walls to support learning and teaching in a lesson or series of lessons.
- through interactive displays that promote mathematical thinking and discussion
- through displays of pupils' work that celebrate achievement
- by providing a good range of resources for teacher and pupil use.

In every classroom, resources such as number lines, hundred square, place value charts and multiplication squares are displayed as appropriate and used for whole class or individual work.

## Homework

We recognise the importance of making links between home and school and encourage parental involvement with the learning of mathematics. We run regular parent sessions on maths and how it is taught in school and our maths policy is available on the school web-site.

Homework provides opportunities for children

- to practise and consolidate their skills and knowledge,
- to develop and extend their techniques and strategies, and
- to share their mathematical work with their family
- to prepare for their future learning.

Jackie Naylor

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