



Mathematics Policy

Rationale

At Stone C.E. School we recognise that Maths is **essential to everyday life**, science, technology and most forms of **employment**. It enables us to understand the world, reason, appreciate the beauty and power of maths (eureka moments). A sense of **enjoyment** and **curiosity** about the subject is key.

Aims

- ◆ **Create a positive attitude** towards mathematics and an awareness of the fascination of mathematics.
- ◆ **Fluency in Mathematics** – frequent and varied practice developing rapid recall and a deep, conceptual understanding.
- ◆ **Solve problems** – applying maths in routine questions and non-routine problems with increasing sophistication, breaking down problems into small steps and persevering.
- ◆ **Reason Mathematically** – enquiry, relationships and generalisations. Developing arguments, justification and proof using maths language.
- ◆ Grow initiative and an ability to work both independently and in cooperation with others.
- ◆ Foster the ability to use and apply mathematics across the curriculum and in real life.
- ◆ Provide an understanding of mathematics through a process of enquiry and experiment.
- ◆ Foster an achievement culture throughout the school which celebrates both effort and achievement in mathematics.
- ◆ to provide an appropriately challenging curriculum for more able and potentially more able children, through extension within the curriculum, and through enrichment/study support beyond it.
- ◆ to increase the number of children scoring Levels 5 and 6 in KS2 Maths SATS.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum and we follow the Programmes of Study for Key Stages 1 and 2 as the basis for our planning. All planning contributes towards fulfilling the statutory requirements of the programmes of study for mathematics.

Our planning is carried out in three phases – long, medium and short term plans. The long term plans are taken from the objectives in the National Curriculum 2014.

Our medium term plans, or unit plans, are taken from Rising Stars Primary Mathematics Planning Framework. The objectives of the curriculum are split into 4 areas: Number Sense; Additive Reasoning; Multiplicative Reasoning and Geometric Reasoning. These ensure a balanced and progressive approach to the skills and knowledge of the mathematics curriculum. A differentiated 'learning grid' is produced by the class teacher to show coverage and allow for self, peer and teacher assessment in each unit.

Our short term 'weekly' plans are written by the class teacher and contain specific learning objectives, outcomes for pupils and details of how the lessons are to be taught. Here at Stone our **specific**

planning focuses are –

- M/O Starter
- Objective for the lesson
- Success criteria (Steps to success)
- 3 way differentiation
- Identified guided/focus group each day
- Key questions
- 5 Rs
- A plenary – with a focus on pupils explaining and reasoning

Teaching And Learning Strategies

Strategies within the classroom

- varied and flexible grouping within a year group, setting in KS2
- upward differentiation/extension in schemes of work
- teaching thinking skills in a subject context e.g. problem solving, decision making
- asking higher order questions which encourage investigation and enquiry (Bloom's Taxonomy)
- setting clear and challenging targets
- enabling children to evaluate their own work

Further planning strategies

- Using investigation materials such as 'Brainbusters' from NRich and 'Talk it Solve it' from BEAM fortnightly in mathematics lessons
- Teach problem solving and mental maths weekly
- Using a range of High Quality Teaching and Learning Strategies (see separate policy)

These strategies are regularly discussed both informally and through staff training and INSET.

Calculation Strategies

Whilst we realise the importance of children developing skills and processes independently alongside the ability to choose the most efficient method for a calculation, we follow a 'guideline' set of methods for the four operations. These methods ensure that number lines and an understanding of place value is at the heart of all mathematics, and also ensure easy progression from one method to the next. Details of these methods can be found in our calculation policies for addition, subtraction, multiplication and division.

Inclusion in Mathematics

Through our high quality mathematics teaching we provide a broad and balanced education with learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs (SEN), those with disabilities, Gifted and Talented learners and any other identified barrier to learning. See other policies for further details on our approaches: SEN policy, G & T Policy, High quality teaching and learning policy.

Assessment for Learning (AfL)

Assessment in mathematics takes two forms – formative and summative assessment. Formative assessment consists of oral answers, feedback from marking and next steps for learning on a daily basis. These assessment notes feed into a teacher's assessment of a child using learning grids. Summative assessment is from end of term/year tests, and results in a National Curriculum (NC) level.

Formative assessment of mathematics

- Teachers will make informal notes to add to their weekly planning, detailing how groups or individuals are progressing. These feed into 'next steps' for learning
- Teachers will work with a focus group each day and guide their learning through appropriate questioning. This provides excellent opportunities for learning grid evidence gathering
- Work in children's books is routinely marked with feedback and next steps. For more details please see our Marking and Feedback policy.

Summative assessment of mathematics

- Children take SATs tests in mathematics at the end of each Key Stage
- The school carries out its own assessment periods once a term, where children in KS2 will take a test appropriate to their age range and ability level
- Children in Year 2 begin written tests in the Spring term and children in Year 1 and EYFS are not expected to take written tests.

It is our intention that information from assessments routinely informs planning, so that appropriate pace, challenge and support are evident in all lessons.

Resources

Quality resources are the key to enhanced learning. Each classroom has sets of age appropriate resources and class packs of 'essentials' such as number lines, number cards, 100 squares and multiplication grids. For further details on resources, locations or the ordering of new resources please see the mathematics co-ordinator.

Monitoring and Improving Standards

Here at Stone we recognise the importance of continued professional development to the quality of teaching and learning. As such, the mathematics co-ordinator undertakes a continual cycle of improvement. This cycle includes –

- Regular drop-ins and informal chats about standards and teaching methods
- Planning checks
- Book scrutiny
- Pupil interviews
- Feedback to staff on areas for development
- CPD opportunities, staff meetings and INSET on mathematics

Through this cycle we aim to constantly improve standards in mathematics through a consistent reflective approach to learning and teaching in our school.

Assessment levels and reporting

Children's NC levels are recorded in our school's data tracking software termly in addition to APP files being routinely updated. These NC levels are used in our school target setting and to gauge progress and attainment in each class. Copies of each child's NC level along with their targets for the end of the year are shared with parents at parents' evenings and in end of year reports.

These assessment levels are likely to change once Curriculum 2014 is fully embedded, and this policy will be updated at that time.

Co-ordinator Responsibilities

The mathematics Co-ordinator will be responsible for:

- ◆ overall policy setting
- ◆ the depth and breadth of the curriculum
- ◆ whole-school assessment and monitoring systems
- ◆ leading/facilitating staff in their provision for mathematics
- ◆ monitoring the implementation of the agreed policy
- ◆ developing expertise in this area through appropriate INSET
- ◆ sharing expertise with other staff and directing them to appropriate INSET
- ◆ supporting and monitoring curriculum planning which ensures differentiated provision
- ◆ purchasing and organising resources to facilitate the teaching of all children
- ◆ advising others of suitable strategies for extending the most able in their subject
- ◆ monitoring provision for the more able in their subject

The Class Teacher will be responsible for:

- ◆ setting appropriate targets for the children in their class
- ◆ ensuring appropriate provision through differentiated planning
- ◆ using appropriate resources to challenge and support
- ◆ reporting to parents and others on the progress of their children
- ◆ monitoring progress and attainment in mathematics

Policy Monitoring and Evaluation

This policy and its effectiveness will be reviewed by the Head teacher and the mathematics Coordinator against the aims set out above and against whole school targets.

Policy agreed on _____

Policy review on _____