

**SOUTH STREET PRIMARY SCHOOL**



# **Mathematics**

Reviewed October 2016

**POLICY DOCUMENTATION**

## **Rationale**

At South Street Community Primary School, we recognise that Mathematics is an essential life skill. All children need to become active and responsible citizens in adult life. It is our belief that we must ensure that the children who attend our school become numerate and are able to reason and problem solve.

Mathematics is a subject through which a broad range of key skills can be taught such as problem solving, ICT, communication, collaborative working, initiative, accuracy and logical thinking.

We aim to ensure that our mathematics teaching is also a source of interest and fun for the children.

## **Aims**

- To implement the current legal requirements of the National Curriculum (2014).
- To ensure that each child will leave our school numerate and be able to use and apply mathematics with confidence in real life situations.
- To present mathematics in an enthusiastic way that engages children's interest.
- To develop understanding and enable application of skills and methods taught, in real life problem solving scenarios and across different subject areas of the curriculum.

## **Learning Mathematics**

Mathematics is important because:

- It is widely used in society, both in everyday situations and in the world of work.
- It develops problem solving, logical thinking and resilience skills.
- It can be used to represent or communicate ideas, to predict, to explain and to verify.
- It is interesting and enjoyable providing intellectual challenge and aesthetic pleasure.

## **Organisation**

Most mathematics teaching at South School is taught through discrete lessons although opportunities to enhance and broaden experiences are sought right across the school curriculum. Some aspects for example data handling, can be taught through other subjects e.g. science or geography. Aspects of shape, space and measure may be taught through design and technology.

Children in the Foundation Stage will have large group sessions of 10 mins teaching per week (daily in Reception) as well as a follow up small group activity with an adult. Many opportunities for the use and application of maths are planned as part of the continuous provision.

Children in Years 1 and 2 will have 5 lessons per week of approximately 45 minutes.

Children in Key Stage 2 (years 3-6) will have 5 lessons per week of approximately 1 hour, 15 minutes in length.

Teachers are able to design lesson content and structure to suit the needs of their class. However all lessons should have some aspect of mental/oral strategies in addition to the main teaching content. (Refer to calculation policy guidance.) All teachers are encouraged to include elements of mathematics teaching in cross curricular ways within other areas of the curriculum.

## **Our teaching at all levels shall include opportunities for**

- Teacher explanation;
- Discussion techniques (pupil/pupil and pupil/teacher) Use of whiteboards or practical equipment to 'show' understanding;
- Appropriate practical work that utilises a range of models and images;
- Committing to memory and fluent recall of a range of mathematical facts;
- Consolidation and practice of fundamental skills and routines;
- Investigation and problem solving work;
- Opportunities to work independently, to work collaboratively in pairs or small groups and to be supported/extended by adults;
- Application of skills in 'real life' situations.

Weekly homework is given out by the children's Numeracy Class teacher and for Years 1-6. This can be in the form of a Numeracy Work Booklet (CGP) that is chosen by the teacher to match the current stage in that child's development, in addition to sheets devised and prepared by teachers.

### **Planning Mathematics**

South Street Primary uses a range of resources to support planning. Our medium term plans are based on the Local Authority planning guidance documents. However we also refer to the White Rose Maths Hub documentation to supplement this. Teachers are free to adjust the planning to suit the needs of their class but must ensure full coverage of their year group's curriculum over the course of the year. Priority needs to be given to ensuring children have a good understanding of the basic skills in their year group, including recall of key facts (number bonds and tables) and key calculation strategies. (Refer to the calculation policy.) Teachers will need to refer to the planning documentation prior to their year group if this is required to meet the needs of children in their class.

The Early Years Foundation stage, follow the non-statutory guidance in Development Matters in the EYFS. Staff plan appropriate learning opportunities based upon the needs and stages of development of children in their class.

Weekly plans are produced which outline specific learning objectives and appropriate teaching and learning activities. Staff must plan a range of learning opportunities which meet the requirements of the curriculum and address the key areas:

- Recall and Fluency of key facts.
- To reason mathematically.
- To solve problems by applying their mathematical understanding.

### **Fast Learning**

In order to develop the recall and fluency of key facts, children across school from year 1 to year 6 take part in fast learning at least twice a week. These sessions enable children to practice the recall of key addition facts/multiplication tables against the clock. Children work to beat their personal best times. All children keep a fast learning folder to record their results.

### **Mastery Approach to teaching and learning**

We follow the mastery approach to the maths curriculum and teachers plan opportunities to develop depth and mastery across the curriculum. Teachers must plan to develop a broad and deep understanding of the maths curriculum in their year group. Children must be presented with a wide range of contexts to ensure that skills can be applied in a varied range of contexts. **All children** need to be given the opportunity to **apply what they know** in a range of different ways, no matter what stage of development they are at.

Resources that support this approach include:

- NCETM Teaching for Mastery Documents.
- NCETM web site.
- N rich web site.
- Focus materials (A focus on mathematical reasoning to promote deep and mastery learning).

### **Differentiation**

At South Street, all teaching staff have high expectations for all learners. Whenever possible it is expected that children follow the curriculum that is appropriate for their age. However we recognise that in some instances it may need to be adapted to suit the stage of development for some learners. It is expected that the vast majority of the children in a class will have access to the appropriate year group curriculum and that they will be challenged appropriately through tasks that develop greater breadth and depth. Some children may require extra intervention for example pre teaching before a topic begins of extra support after a lesson to enable them access the year group curriculum.

### **Inclusion**

The school recognises the need to provide a maths curriculum that offers opportunities for all pupils to succeed and to achieve as high a standard as possible. This includes: boys and girls, pupils with special educational needs, pupils with disabilities, pupils from all social and cultural backgrounds, pupils of different ethnic groups, pupils who access pupil premium and those for whom English is an additional language.

Teachers will endeavour to differentiate learning to take account of individual needs where appropriate. Teachers need to be flexible in the use of the curriculum. Some pupils with identified special educational needs will be working at earlier levels and from earlier year group objectives than those specified for their year group, others will need to work on specific learning objectives for several terms. For the most able pupils, teachers need to plan suitably challenging work that deepens understanding and broadens the depth of experiences. (The mastery approach.)

The SENCO works closely with teachers to ensure learning plans support specific needs in mathematics. Children with identified difficulties in mathematics will be targeted with extra adult support from teaching assistants, or interventions.

### **Interventions**

Some children may be targeted for interventions if their progress is causing concern. Interventions in school include First Class @ Number and Numbers Count. In addition class teachers may identify specific children to work with a TA for additional intervention.

### **Assessment**

Children's work will be marked according to the agreed school policy. (See assessment and feedback policy.) Each child's progress is continually assessed using daily formative assessment. Teachers track progress over the course of the year using an individual TIPP's document which is linked to the National Curriculum. The TIPP's documents are completed termly. Children's progress is assessed in relation to whether they are on track to meet age related expectations for their year group at the end of each year. At the end of the year, teachers will report whether children are working towards age related expectations, working at ARE or exceeding ARE.

Key Stage 1 and 2 SATs results are reported to Parents, LEA and DFEE as required by law. The EYFS Profile is updated termly.

Staff hold termly parents meetings and annual reports are forwarded to parents to discuss achievements and targets.

Formative assessment is used to guide the progress of individual pupils in mathematics. It involves identifying each child's progress in each aspect of the subject, determining what each child has learned and what therefore should be the next stage in his/her learning. Teachers in the course of their teaching and marking mostly carry out formative assessment informally and should adapt or change their planning for subsequent lessons accordingly.

### **Suitable tasks for assessment include**

- Small group discussions perhaps in the context of a practical task
- Short tests in which the teacher gives questions orally and pupils write answers
- Specific assignments for individual pupils
- Assess and review activities as suggested in the numeracy strategy
- Assessment tests (White Rose, Rigby Star)
- Individual discussions in which children are encouraged to appraise their own work and progress.

Formal summative assessment is carried out at the end of each National Curriculum Key Stage (i.e. in Years 2 and 6) through the use of SATs and teacher assessment. Optional SATS Tests are also carried out in Years 3, 4 and 5. Individual levels are recorded on class teachers' tracking sheets and passed on to the next teacher. Discussions about pupil progress are held with the Head on a termly basis.

### **Reporting in mathematics**

Within each child's report comments will be made referring to:

- Attitudes to mathematics
- Competence in basic skills
- Ability to apply mathematical knowledge in a range of contexts.
- Progress in the different areas of mathematics.

### **Resources**

Each phase has its own resources; however items used only occasionally are the responsibility of the mathematics co-coordinator. Additional resources are ordered annually from the allocated budget and prioritised in relation to the Numeracy action plan, year group targets and the school improvement plan.

### **ICT**

Information Technology resources have been purchased to support all areas of maths taught. Teachers are expected to actively seek opportunities to incorporate ICT in both their teaching delivery and in children's' learning activities. Children in upper KS2 also use technology as a tool to enable them to explain concepts which are then used as revision aids e.g. videos on Twitter.

### **Calculators**

Calculators are introduced to children in Key Stage 2 and enable children to work on investigational activities without the need to focus on calculation. Focused teaching of calculator techniques begins in Year 4 although some children may be ready to begin using them earlier than this. They are not a substitute for pencil and paper or mental methods of calculation, which are also widely practised.

## **Display**

All teachers are expected to have maths prompts relevant to the curriculum they are teaching on display in their classroom. Key facts for the year group being taught must be displayed and children must be encouraged to use these learning resources. Work related to whole school initiatives or targets will be displayed in school corridors and is the responsibility of the Numeracy Management team.

## **The Role of the Mathematics Management Team**

- To provide guidance and support in implementing the National Curriculum and schemes of work.
- To provide support for all who teach mathematics and so improve the quality and continuity of mathematics teaching and learning throughout the school.
- To lead new initiatives and developments across school.
- To support the development of staff through mentoring and training.
- To deliver training.
- To purchase, organise and maintain teaching resources.
- To assist with the identification of children with barriers to learning.
- To keep up-to-date by attending courses and feedback sessions organised by LEA, cluster groups or other colleagues.
- To offer specialist advice and knowledge for special needs and gifted pupils.
- After consultation, to co-ordinate recording and presentation throughout the school.
- To advise the Head Teacher of action required (e.g. resources, standards).
- To monitor, review and analyse the maths data.
- To monitor provision across school.
- To plan actions, in liaison with the Head Teacher, in order to improve outcomes for children, quality of teaching and quality of provision.

## **Members of the Maths team**

Kathryn Dexter (Oversight)  
John Bee KS2

Reviewed October 2016  
K. Dexter