



Signed by Chair of Governors .....

Date approved by Governors .....Nov 2009.....

Review Date .....Nov 2012.....

## Trowse Primary School Mathematics Policy

### Introduction

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Trowse Primary School. The school's policy for mathematics is based on the Primary Framework for Mathematics. The policy has been drawn up as a result of staff discussion and has the full agreement of the Governing Body. The implementation of this policy is the responsibility of all the teaching staff.

### Aims and Objectives

Each child should be able to think and solve problems mathematically by using the appropriate skills, concepts and knowledge. They should be provided with rich and enjoyable experiences related both to their individual needs and to the wider requirements of society.

We aim for each child to:-

1. Have a positive attitude towards mathematics.
2. Have self-confidence in their ability to deal with mathematics.
3. Be able to work systematically, co-operatively and with perseverance.
4. Be able to think logically and independently.
5. Experience a sense of achievement regardless of age or ability.
6. Understand the appropriate underlying skills, concepts and knowledge of number, measurement, shape, space and handling data.
7. Be able to apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of school.
8. Understand and appreciate pattern and relationship in mathematics.
9. Be able to communicate with peers and adults, ideas, experiences, questions, clearly and fluently, using the appropriate mathematical language.
10. Be able to explore problems using the appropriate strategies, predictions and deductions.
11. Have equality of opportunity regardless of race, gender, or ability.
12. Be aware of the uses of mathematics beyond the classroom.
13. Encourage the use of mental calculations and efficient strategies to work out the answers.

### Teaching Mathematics

#### Teaching time

To provide adequate time for developing mathematical skills each class teacher will usually provide a daily mathematics lesson. This may vary in length but will usually last for about 45 minutes in Reception and Key Stage 1 and 50 to 60 minutes in Key Stage 2. Links will also be made to mathematics within other subjects so pupils can develop and apply their mathematical skills.

### Class Organisation

All pupils will usually have a dedicated daily mathematics lesson. Within these lessons there will be a good balance between whole-class work, group teaching and individual practice. Children will be taught in line with the objectives of their year group, unless the teacher feels it appropriate to deviate (eg SEN).

### Planning

Teachers follow the guidance set out in the Framework for Maths. The planning structure for each year is organised into five blocks. The structure is the same for each year group. A block is designed to cover the equivalent of 6 weeks or 9 weeks of teaching over the school year. Each block has incorporated into it objectives from the Using and Applying mathematics strand and from two or three of the other core strands.

Block A: Counting, partitioning and calculating (6 weeks)	Block B: Securing number facts, understanding shape (9 weeks)	Block C: Handling data and measures (6 weeks)	Block D: Calculating, measuring and understanding shape (6 weeks)	Block E: Securing number facts, relationships and calculating (9 weeks)
-----------------------------------------------------------------------	------------------------------------------------------------------------------	-----------------------------------------------------------	----------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------

Autumn: Unit A1 Unit B1 Unit C1 Unit D1 Unit E1

Spring: Unit A2 Unit B2 Unit C2 Unit D2 Unit E2

Summer: Unit A3 Unit B3 Unit C3 Unit D3 Unit E3

Teachers use the mixed age unit plans and year group 'front sheets' recommended by the Norfolk Maths Team as a medium term plan. These will be adapted to meet the needs of the class, and include examples from the New Primary Framework, other published resources and the teachers own ideas. Further materials used to support and inspire planning include Hamilton plans and the Scholastic lesson plans. Class Unit plans are drawn up in advance, and detail objectives, differentiated activities, and roles of the teacher and Teaching Assistant. Plans will be annotated and adapted as the week progresses, as they are considered working documents. Teachers will take account of the various learning styles of different children.

### A typical lesson

A typical 45 to 60 minute lesson will usually be structured as follows:

| Oral work and mental calculation (about 5 to 10 minutes)

This will involve whole-class/year group specific work to rehearse, sharpen and develop 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, grouped, paired and individual work.

| A plenary (about 5 to 10 minutes)

This will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps.

There will be a range of practical and written activities, and tasks may be classed as open ended or closed.

### Homework

The mathematics lessons will provide opportunities for children to practice and consolidate their skills and knowledge, to develop and extend their techniques and strategies, and to prepare for their future learning. These may be extended through out-of-class activities or homework. This work may take the form of written work or as memorisation eg times table facts (see homework policy).

### Cross curricular and topic work

Mathematics contributes to many subjects within the primary curriculum and opportunities will be sought to draw mathematical experience out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts. Teachers may also devise an imagined scenario so that the children can use and apply their skills in context.

### School and Class Organisation

#### How we cater for pupils who are more able

More able pupils will be taught with their own class and stretched through differentiated group work and extra challenges. When working with the whole class, teachers will direct questions towards the more able to maintain their involvement. In mixed age classes it may be possible for children to be taught with those from a higher age range, or may follow an individualised programme with more challenging problems to tackle.

#### How we cater for pupils with particular needs and individual education plans

Teachers will involve all pupils through differentiation and provide necessary support through use of resources and adult support. All children benefit from the emphasis on oral and mental work and participating in watching and listening to other children demonstrating and explaining their methods. However a pupil whose difficulties are severe or complex may need to be supported with an individualised programme in the main part of the lesson. In mixed age classes it may be possible for children to be taught with those from a lower age range, however this will be treated sensitively so not to draw attention to an individual.

#### How we work in Reception

In Reception the class will be organised to promote social skills and the development of mathematical language and understanding. Teaching will be based on the objectives in current Foundation Stage documents.

### Resources

Each class is equipped with resources specific to particular year groups, as well as items that are used frequently. These can be found in class rooms.

Topic Maths equipment can be found centrally in the Maths cupboard on the Hall Mezzanine, or in the general resources cupboard for larger items.

The Abacus scheme is available in school to support the teaching of Mathematics.

### Information and Communication Technology

ICT will be used in various ways to support and enhance teaching and to motivate children's learning. ICT will involve computers, calculators, and the Interactive Whiteboard, as well as programmable equipment such as Bee Bots and Lego Mind Storms. They will be used when it is the most efficient and effective way of meeting the lesson objectives.

## Assessment

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

Short-term assessments will be an informal part of every lesson to check understanding and give the teacher information, which will help to adjust day-to-day lesson plans.

Medium-term assessments will take place in each half term or at the end of a topic, as appropriate.

Long-term assessments will take place mid year (November) and towards the end of the school year to assess and review pupils' progress and attainment. These will be made through compulsory National Curriculum mathematics tests for pupils at the end of Years 2 and 6, and supplemented by the optional QCA tests for years 3-5. Teachers will also draw upon their class record of attainment against key objectives and supplementary notes and knowledge about their class to produce a summative record. Accurate information will then be reported to parents and the child's next teacher. Resulting levels will be tracked using the Norfolk Tracking Tool. In Reception, results of their progress in problem solving and mathematical development will be recorded on the Foundation Stage Profile.

## Self-Assessment

Where possible children should be involved in assessing their own work. This might include: Demonstrations by the children of how they found the work eg thumbs, arrows, smiley faces linked to specific objectives.

Guided marking of their own work.

## Management of Mathematics

### Role of the Mathematics Co-ordinator

To lead and manage Mathematics within the school.

To secure high quality teaching, effective use of resources and the highest standards of

- Ensure teachers are familiar with the framework and support planning where necessary
- Lead by example in the way they teach in their own classroom;
- Prepare, organise and lead INSET and staff meetings, with the support of the Headteacher;
- Work co-operatively with the SENCO;
- Observe colleagues from time to time with a view to monitoring implementation of the strategy and identifying the support they need;
- Attend INSET provided by LA numeracy consultants;
- Discuss regularly with the headteacher and numeracy governor the progress of implementing the Strategy in the school.
- Manage the financial allocation to Maths effectively and purchase resources

### Role of the Headteacher

- Lead, manage and monitor the implementation of the new primary framework, including monitoring the quality of teaching in classrooms
- With the Mathematics governor, keep the governing body informed about the progress of the Strategy
- Ensure that mathematics remains a high profile in the school's development work
- Deploy support staff to maximise support for the Strategy