



Thornaby Church of England Primary School

Mathematics Policy

1. Rationale.

".....Mathematics provides a means of communication which is powerful, concise and unambiguous. Even though many of those who consider mathematics to be useful would probably not express the reason in these terms, we believe that it is the fact that mathematics can be used as a powerful means of communication which provides the principal reason for teaching mathematics to all children."¹

Mathematics skills are a necessary tool for everyday life. It is for this reason the mathematical skills should be taught and learned in context. Providing purpose and meaning as well as explaining and appreciating the structure of mathematics itself. Mathematics can be source of wonder and delight, offering pupils intellectual excitement and an appreciation of its essential creativity. It is important for teachers to engender confidence in their developing mathematical skills.

As a school we wish to extend the use and application of mathematics throughout the school and match the learning opportunities closely to the needs of our pupils.

2. Aims.

2.1. Attitudinal aims

A study of mathematics should promote a positive attitude towards:

- Enjoyment and appreciation of mathematics;
- Developing motivation, perseverance and flexibility to start, carry through and complete a task, overcoming difficulties;
- Working as a member of a team.

¹ Introduction to the Cockcroft Report

2.2. Practical aims

It should also develop the knowledge, skills, understanding and use of number, ratio and proportion, algebra, measurement, geometry and statistics. To enable children to use and apply them in practical tasks, in real life problems and to investigate within mathematics itself.

2.3. Developmental aims

In developing the use of mathematical vocabulary as a tool, the children will be helped to think clearly, confidently, logically and also to communicate ideas fluently.

Children should develop reasoning and problem solving skills, using appropriate technology.

3. 2014 Curriculum

All pupils will have the opportunity to develop skills in the following:

- **Number** (including; place value, addition, subtraction, multiplication, division and fractions).
- **Measurement**
- **Algebra**
- **Ratio and Proportion**
- **Geometry** (including properties of shapes and position and direction).
- **Statistics**

4. School policy and the National Curriculum.

Thornaby Church of England School Policy has been developed on the basis of The New Programme of Study for Mathematics 2014. For all pupils mathematical work is planned in accordance with EYFS Guidelines in Nursery; followed by Maths Mastery in Reception, Year 1, Year 2 and Year 3 with the all other year groups taking elements of Abacus, White Rose and Assertive Mentoring to inform planning as well as the key principles of Maths Mastery.

5. Pupils' mathematical experiences.

Real-life Maths Day and STEM Day will be held biannually to ensure children have understanding that maths is needed for later life.

5.1. Individual and group work.

It is important that a balance is struck between individual and group work. Working as part of a team can help to build confidence, develop

communication skills and encourage the children to collaborate and co-operate with others. Talk tasks will be used in every lesson.

5.2. Using books, computers and other resources.

Children must be exposed to a wide range of mathematical resources to develop conceptual understanding. A variety of resources, including materials not obviously mathematical, must be made available to enhance pupils' mathematical experiences and learning. These resources should include ICT hardware and software where appropriate to enhance learning.

5.3. Problem Solving and Reasoning.

All children will have access to at least one problem solving and one reasoning activity per week regardless of ability.

5.4 Maths Meetings

All children will have access to daily maths meetings.

5.5 CPA

All children will have the opportunity to experience concrete, pictorial and abstract learning in accordance with guidance from Maths Mastery.

5.6 Same-Day Interventions

Children who struggle during a lesson, have a clear misconception or need to be extended will be placed in a same-day intervention group. They will stay with their designated adult during the beginning of lunchtime in order to keep up in preparation for the next lesson. The adult who leads the session must record brief notes in the yellow file provided.

6. Calculations.

Please read the separate Maths Calculation Policy for specific guidance on the teaching of calculations. This policy is closely linked with Maths Mastery.

7. Using calculators.

In accordance with The National Curriculum for Mathematics 2014 there will be less focus upon calculator use in mathematics and children should focus more upon mental and written calculation techniques. However, there are skills which need to be learned when using a calculator and children need to be aware of when it is necessary or not to use this tool. Children of all ages and abilities will *occasionally* use calculators in appropriate

situations. The calculator may be available in foundation stage and Key Stage 1, in role play areas.

8. Pupils' record of their work.

8.1. Purpose of recording

We aim to provide opportunities for the children to realise that there are many different ways for recording which can be appropriate in different contexts. The purposes for which children record their work include:

- To help clarify their own thinking.
- To act as a note for future reference.
- To communicate their work to others.
- To provide evidence of their work.
- To help teachers assess the child's ability and achievement and plan future programmes of study.

8.2. Nature of recording

Recording will take different forms depending upon the nature of the mathematical activity and the purpose of the record. It can be:

- symbolic
- graphical
- diagrammatic
- pictorial
- written
- constructed (a model)
- verbal
- Photographic
- Animated or filmed

Children should appreciate that it is not always necessary to record work. They will also become aware of the most efficient ways of recording maths work depending on the context of the learning.

8.3. Presentation of work.

The children should understand the need for logical and systematic methods of working and should be encouraged to take pride in their work.

9. Marking Policy.

When marking the children's work we are not simply looking for the correct answer. The teacher needs to have regard for the methods of working and judge whether non-standard methods are "appropriate" by looking for evidence of logical thinking processes and listening to, or reading, the child's explanation. In accordance with the school's Marking Policy a range

of marking strategies will be used including self-marking and peer marking. All verbal and written comments should be positive and constructive. Green highlighting and ticks will be used for correct work and orange highlighting or dots for improvement work or errors. Marking should include: a comment (on each piece of work) whether it is written or verbal (this should be indicated with VF in the child's book) and at least two next step cards (each week) to move learning forward or consolidate the lessons main focus. Teachers will use language appropriate for the age and development point of the child when marking.

10. Assessment.

Children will be given a half-termly test to prepare them for future examinations and to aid the teacher with assessment. Teacher must use all available evidence to make judgement not just the test. Teachers do not need to be testing weekly and should use the time to teach the children.

11. *Maths co-ordinator.*

The role of the maths co-ordinator is to:

- Take the lead in policy development and ongoing staff CPD requirements related to The National Curriculum for Mathematics 2014; Maths Mastery and Assertive Mentoring.
- Support colleagues in their development.
- Support SLT with monitoring.
- Take responsibility for the purchase and organisation of central mathematical resources.
- Keep up to date with developments in mathematics education and disseminate information to colleagues as appropriate.
- Have access to specific training to develop and support the role.

11 Special Needs.

Within The National Curriculum for Mathematics 2014, children of all ages and abilities are catered for. Children with still receive a varied curriculum and will broadly be taught at the same level as their peers. Staff will meet to discuss the progress of these identified children so the necessary action can be taken and recorded on the child's IEP. The Maths Co-Ordinator will liaise with the SENCO to ensure SEN provision mapping is updated regularly and that appropriate intervention groups are established and reviewed regularly.

12 Dissemination.

All staff and governors will receive a copy of this policy. A short summary of the teaching of mathematics will be included in the school prospectus. The policy and Maths Framework will be available on request to parents, LA, OFSTED and others working for the school, through the Head teacher.

13 Homework.

Homework is used to support mathematics through tasks such as the learning of tables. Maths homework tasks will also be included in the school's new homework family challenge.

14 Equal Opportunities.

The school is committed to working towards equality of opportunity in all aspects of school life. Our aim is to offer all our pupils a Mathematics curriculum that is relevant and differentiated to all pupils needs and abilities, so that every child may reach his/her full potential.

15 Health and Safety.

All teachers will be aware of Health and Safety guidelines when carrying out practical Maths activities. They will ensure that children use practical and ICT resources safely and responsibly.

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