

**Glapton Primary and Nursery School.**  
**Mathematics Policy.**

**Statement of Belief.**

Mathematics is a high status, core National Curriculum subject that equips pupils with vital skills they will use throughout their everyday lives. At Glapton, we recognise the high curriculum value that needs to be afforded to Numeracy and we encourage the children to develop mathematical ways of thinking; to reason logically; to solve problems and to think in more abstract ways.

**Aims.**

We aim to:

- ◆ maintain high expectations in Numeracy from the Nursery to Year 6
- ◆ encourage children to be enthusiastic learners
- ◆ develop investigative and problem solving skills
- ◆ encourage children to apply their number skills in practical and meaningful contexts
- ◆ measure achievement through regular assessments and testing
- ◆ raise standards in Numeracy at Glapton.

**Objectives.**

To achieve our aims we:

- ◆ give all pupils, irrespective of race, gender, physical ability and culture, opportunities to develop their understanding and use of mathematics through the National Numeracy Strategy Framework for teachers
- ◆ ensure coverage of Ma1, Using and Applying Mathematics through the overall Programme of Study and through additional planning of investigative work (using APEX and HBJ) on a weekly basis
- ◆ encourage all pupils to develop their mental maths and to explain their working
- ◆ encourage children to try different approaches and to find ways of overcoming difficulties when solving problems
- ◆ provide a stimulating environment which is rich in mathematical vocabulary
- ◆ teach mathematical knowledge, skills and understanding using a range of practical, visual and auditory activities
- ◆ stimulate and extend mathematical achievement for all pupils including those with Special Educational Needs and those who are able and gifted
- ◆ inspire in our children a love and enthusiasm for the subject

**The Foundation Stage.**

Within the Foundation Stage, children develop their mathematical abilities through working towards the Early Learning Goals. Children experience counting, sorting, matching, pattern making, recognising relationships and working with numbers, shapes, space and measures. Their understanding is also developed through stories, songs, games and imaginative play as their mathematical learning is drawn out across the curriculum. At Glapton, children in the Foundation Stage are encouraged to develop positive attitudes towards their learning and to become enthusiastic about maths from an early age.

## **Key Stage 1.**

Numeracy in both Key Stages is planned in a highly structured way, following the guidelines and expectations of the National Numeracy Strategy. Together with their daily maths lesson, pupils in Key Stage 1 undertake one investigation and a mental maths test each week.

Additional resources used to support the planning and teaching of the Numeracy Hour are Cambridge Primary Mathematics Direct, Cambridge Module 4 Book 1, Cambridge Numeracy Year 2 Mathematics Practise Books (units 1 – 3), Cambridge 100 Numeracy Lessons, First Skills in Numeracy, HBJ Teacher's Books, Apex and Folens Weekly Mental Arithmetic Tests.

## **Key Stage 2.**

The medium term planning for the Numeracy Hour in Key Stage 2 is taken from the National Numeracy Strategy and from the Cambridge Mathematics Direct Scheme for each year group. This scheme has been chosen because it relates directly to the learning objectives in the National Numeracy Strategy and it is well differentiated. Each Key Stage 2 teacher therefore uses this scheme to enhance and support his or her own ideas.

Other resources used to support the planning and teaching of Numeracy are Scholastic Maths Skills – Practising Mental Maths, One Hundred Maths Lessons, Basic Skills Maths, Folens Mental Arithmetic, C.P.G. S.A.T. papers and workbooks, H.B.J. Mathematics, Delbert Books, Nelson Connect – Numeracy Daily Mental Maths, Basic Skills, Kent Consultant S.A.T. Papers and the Testbase C.D.– Rom.

Resources used to support homework are Maths Investigations, C.P.G. Homework Book, 100 Maths Lessons Books and Cambridge Maths worksheets.

## **The contribution of mathematics to learning and teaching in other curriculum areas.**

At Glapton, mathematics makes a significant contribution to learning and teaching across the curriculum.

**Science** – In science pupils apply their mathematical skills in meaningful contexts as they decide which evidence to collect and what equipment to use. Children collect and handle real data as they make and record observations and measurements, identify patterns and make comparisons. Pupils also need to communicate their findings in a variety of ways and this relates directly to their mathematical skills. They draw and interpret tables, block graphs and pictograms and they use I.C.T. to record and manipulate their data.

**I.C.T.** – At Glapton we teach I.C.T. mostly through the Smart Learning Activity Books (which meet the requirements of the Q.C.A. scheme of work). Each year group works through units which correspond to the appropriate programme of study. Within this scheme, pupils use the computers to represent information graphically, to collect and represent data, to use databases and to analyse data. Pupils also enjoy controlling the floor turtle which consolidates their understanding of direction / shape, space and measures and children in the Foundation Stage have continuous access to mathematical programmes within their classrooms. Alongside our use of the I.C.T. suite, we also make provision for children to use the computer in maths lessons where appropriate and we incorporate I.C.T. in our numeracy planning.

**Geography** – Through geography, our pupils use and develop a range of their mathematical skills such as using and making maps and plans at a range of scales. They need to analyse evidence and draw conclusions when carrying out surveys for example, or

when comparing the population data for 2 localities. The children then communicate their results in different mathematical ways through the use of graphs and charts.

**History** – History is used to consolidate children’s understanding of the passing of time. Pupils are required to place events in chronological order and to develop their understanding of phrases used to describe the passing of time.

**Art & Design** – Art & design encourages children to become aware of colour, form, pattern, shape and space as these elements are used to represent ideas and feelings. Through our art we therefore teach pupils about line, tone, shape, form, space and symmetry and this is used to consolidate their developing mathematical ideas.

**P.E.** – At Glapton we use the Q.C.A. scheme of work for P.E. to enhance children’s understanding of direction and movement and to develop their awareness of speed, shape and space. Cross curricular links are highlighted in planning.

**D.T.** – Through Design and Technology pupils are again encouraged to develop their sense of space, forces and movement. At Key Stage 1, children measure, mark out, cut and shape a range of materials and at Key Stage 2 they are also required to assemble, join and combine these components accurately. At Glapton D.T. is planned as a cross curricular subject in order to enable children to make links between their learning across the curriculum and their everyday lives.

By ensuring that Numeracy is taught across the curriculum at Glapton, we encourage our children to use and apply mathematics and to regard it as a useful tool for solving problems, for communicating their ideas and for supporting their reasoning. (Ma1 – using and applying)

### **Differentiation.**

At Glapton, Numeracy classes are mostly organised in a way which enables teachers to be most efficient. We therefore teach classes which contain as narrow a differential spread as possible and for this reason, our classes are ability set. This allows us to target objectives and resources more effectively and it also enables the teacher to spend more time interacting directly with the class.

Children with Special Educational Needs in maths are identified as early as possible and are set S.M.A.R.T. Targets through their I.E.P.’s. They receive additional classroom support both within the Numeracy Hour and within their I.E.P. groups at other times. At Glapton all children are valued and whilst all work is differentiated accordingly, we maintain high expectations of behaviour and achievement for all pupils.

Those children in school who are able and gifted in maths either work within the year group above them or are working towards harder objectives from the National Numeracy Strategy within their own year group. By having consistently high expectations across the school, able children are enthusiastic and motivated to learn, whilst the other children are inspired and scaffolded by their knowledge and understanding.

As part of our Numeracy development plan, staff also plan individual weekly maths investigations and challenges for their own mixed ability classes. This ensures all staff are catering for each pupil within a wide differential spread. We now aim to develop our use of I.C.T. within an investigative setting.

## **Health and Safety.**

At Glapton, Health and Safety regulations are strictly adhered to. Children are instructed on how to access and use equipment safely, they are closely supervised and dangerous objects such as scissors / compasses are stored appropriately.

In relation to I.C.T. all electrical equipment is safety tested and the pupils are trained to use electrical resources safely. Children are not permitted to change the batteries in calculators, which are always disposed of correctly.

## **Assessment.**

Assessment opportunities are an integral part of the Numeracy Hour at Glapton. Teachers continually make formative assessments which inform their planning and within the Numeracy Hour time is also allocated for assessing and consolidating children's understanding. The children are also N.F.E.R. tested and the results are used to target areas of poor performance / pupils' misconceptions. Each year group also carries out a weekly maths investigation based on prior learning, but planned to extend children's thinking and understanding..

## **National Standards.**

In tests and tasks the school is making significant progress in maths. At K.S.2 N.F.E.R. test results are analysed and specific strengths and weaknesses are identified. This analysis is then used to create effective target groups throughout K.S.2. We will continue to teach to the top end of the ability range, whilst maintaining an emphasis on the lower attaining pupils, especially those at the top of Level 3. This is monitored by team leaders in weekly / termly planning.

We employ a range of teaching methods which include 'boy friendly' techniques. We will continue to promote effective teaching and to ensure the quality of teaching and learning through the monitoring of planning, teaching and pupils' work by team leaders and the maths team.

*This policy was reviewed by D.Beswick in February 2004. It will be reviewed annually.*