Mathematics Policy

1 Aims

1.1 Mathematics teaches children how to make sense of the world around them through developing their ability to calculate, reason and solve problems. It enables children to understand relationships and patterns in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

1.2 Mathematics offers a way of analysing and synthesising our experiences through acts of describing, organising, explaining and predicting in order to make sense of the real world.

1.3 The aims of teaching mathematics are:

- to promote enjoyment of learning through practical activity, exploration and discussion;
- to promote confidence and competence with numbers and the number system;
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space; develop measuring skills in a range of contexts and extend their awareness of how data can represented in a variety of graphical forms;
- to understand the importance of mathematics in everyday life;
- to challenge and inspire pupils to the highest possible standards.

2 Teaching and learning style

2.1 At this school we recommended that mathematics is based on four key principles. These are:

- A dedicated mathematics lesson every day.
- Direct teaching and interactive questioning with the whole class and/or groups.
- An emphasis on careful and accurate calculation and recording.
- Personalised differentiation, with all pupils engaged in mathematics lessons that are related to common objectives.

2.2 We nurture positive attitudes by matching the task to the child. We feel that successful learning enables children to develop confidence to meet the challenge of new work. To ensure a coherent approach to pupils' learning, account is taken of what each individual already knows. Wherever possible, we encourage the children to apply their learning to everyday situations.

3 Mathematics curriculum planning

3.1 Mathematics is a core subject in the National Curriculum, and we use the Numeracy framework (2006) and the National Curriculum for Maths (2014) as the basis for implementing the statutory requirements of the programme of study for mathematics.

3.2 We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The Numeracy Framework (2006) and the National Curriculum for Maths (2014) for teaching gives a detailed outline of what we teach in the long term, while our short term and medium term planning identifies the key objectives we teach in each year.

3.3 Plans are kept and reviewed by the subject leader and Head teacher.

3.4 Planning will be revised in the light of any key changes that are introduced at a national level by the Dfe.

4 The Foundation Stage

4.1 We teach mathematics in our reception class. As the class is part of the Foundation Stage of the National Curriculum, we relate the mathematical aspects of the children's work to the objectives set out in the Early Learning Goals, which underpin the curriculum planning for children aged three to five. We give all the children ample opportunity to develop their understanding of number, measurement, pattern, shape and space, through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

4.2 Mathematics in Foundation stage is initially developed through stories, songs, games and imaginative play. A positive approach to Numeracy around the classroom helps the children to begin to relate mathematics to their everyday lives.

4.3 Pupils are gradually introduced to more formal aspects of maths through Numicon and other activities. Pupils are encouraged to record accurately in formal ways from the start.

5 Contribution of mathematics to teaching in other curriculum areas

5.1 English

The teaching of Mathematics contributes significantly to children's understanding of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, in mathematics lessons we expect children to read and interpret problems, and present their work to others during lessons.

5.2 Personal, social and health education (PSHE) and citizenship

The work that children do outside their normal lessons encourages independent study; helps them to become increasingly responsible for their own learning and respect each other's views. We present older children with real-life situations in their mathematics work on the spending of money.

5.3 Spiritual, moral, social and cultural development

At The Spinney School we believe that through the teaching of the Mathematics curriculum, we are offering experiences that are both challenging and inspiring of the highest possible standards. These experiences are designed to ensure breadth, depth and relevance, as well as progression irrespective of gender, ethnic background, aptitude or ability.

6 Mathematics and ICT

6.1 ICT is used in mathematics lessons for modelling ideas and methods.

6.2 Information and communication technology enhances the teaching of mathematics significantly, because ICT is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods.

6.3 Younger children use ICT to communicate results with appropriate mathematical symbols. Older children use it to produce graphs and tables when explaining their results, or when creating repeating patterns, such as tessellations.

7 Mathematics and inclusion

7.1 At our school we teach mathematics to all children, whatever their ability and individual needs. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching we provide learning opportunities that enable all pupils to make good progress. We strive hard to meet the needs of those pupils with special educational needs, those with disabilities, those with special gifts and talents and those learning English as an additional language, and we take all reasonable steps to achieve this. For further details see separate policies: Special Educational Needs; Disability Non-Discrimination; Gifted and Talented; English as an Additional Language (EAL).

7.2 When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively this may include Every Child Counts Programmes. Assessment against the National Curriculum allows us to consider each child's attainment and progress against expected levels. This ensures that our teaching is matched to the child's needs.

7.3 Intervention through School Action and School Action Plus will lead to the creation of an Individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to mathematics.

7.4 We enable all pupils to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the

classroom (a 'maths trail', for example) we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

7.5 Children who are identified as 'higher able' or 'gifted and talented' in mathematics are encouraged and challenged. This includes providing resources that enable them to explore all areas of mathematics.

8 Assessment for learning

8.1 Teachers will assess children's work in mathematics from three aspects (long-term, medium-term and short-term). We use short-term assessments to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.

8.2 Medium-term assessments to measure progress against the key objectives are undertaken by completing APP Documents for a select number of children within each cohort. These selected children will represent most (sometimes all) of the other children in the class. This allows a more detailed assessment of progress to be undertaken.

8.3 We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, so that s/he can plan for the new school year. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 2 and Year 6. We also make termly assessments of children's progress measured against the level descriptions that are derived from the APP assessments.

8.4 The mathematics subject leader keeps samples of children's work in a portfolio. This demonstrates the expected level of achievement in mathematics in each year of the school. Teachers meet regularly to review individual examples of work against the national exemplification material produced by the QCA and the DfES.

9 Resources

9.1 All classrooms have a number line and a wide range of appropriate small apparatus. Mathematical dictionaries are available in all classrooms. A variety of audio visual aids are available from the central storage area. The library contains a number of books to support children's individual research. A range of software is available to support work with the computers. Calculators and Numicon resources are also available.

9.2 Maths resources available include the ABACUS Evolve Scheme. This scheme is not used all of the time, but it provides a good amount of work that can be differentiated appropriately.

10 Monitoring and review

10.1 Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the subject leader. The work of the subject leader

also involves supporting colleagues in their teaching, being informed about current developments in the subject, and providing a strategic lead and direction for mathematics in the school.

10.2 A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets regularly with the subject leader to review progress.

10.3 This policy will be reviewed at least every two years.

Policy History

Date	Where	What done
2004		**Policy adopted**
4th March 2008	**Staff meeting**	**Policy review led by co-ordinator (ML Mawson) and adopted**
11th January 2011	**Subject Leader time**	**Subject Leader (L Mawson) Reviewed the policy**
18th January 2011	**Staff meeting**	**Policy review led by subject leader (L Mawson)**
4th February 2013	**SLT meeting**	**The SLT have reviewed the policy and made changes.**
5th January 2015	**Subject Leader Time**	**Subject Leader (L Mawson) Reviewed the policy**