Alwyn Infant School
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, and develops a sense of enjoyment and curiosity about the subject.

1.2 The aims of teaching mathematics are to develop fluency, mathematical reasoning and to solve problems through:

- promoting enjoyment of learning through practical activity, exploration and discussion;
- developing confidence and competence with numbers and the number system;
- developing the ability to solve problems through decision-making and reasoning in a range of contexts;
- developing a practical understanding of the ways in which information is gathered and presented;
- exploring features of shape and space, and develop measuring skills in a range of contexts;
- understanding the importance of mathematics in everyday life.

2 Teaching and learning style

2.1 The school uses a variety of teaching and learning styles in mathematics. Our principal aim is to develop children's knowledge, skills and understanding. During our daily lessons we encourage children to ask as well as answer mathematical questions. They have the opportunity to use a wide range of resources, such as Numicon, Dienes, number lines, number squares and arrow cards to support their work. ICT is used in mathematics lessons for modelling and reinforcing ideas and methods. Wherever possible, we encourage the children to apply their learning to everyday situations. Work is differentiated appropriately and the teaching assistant is used to support groups of children.

2.2 Children are grouped by ability from Monday to Friday in Year 2. After the Year 1 transition, children are grouped based on teacher assessments. This helps to ensure that children's individual needs are being met. The children receive homework on Friday relevant to the topic covered in that week. This is collected by their maths teacher and monitored.

2.3 At times throughout the year, children remain in their classes for maths. The focus is making links with the wider curriculum.

3 Mathematics curriculum planning

3.1 Mathematics is a core subject. As a basis for planning teaching and to fulfil the government's requirements, we are using both the old and new curriculum. In Year 1, we are using the National Curriculum in England: mathematics programmes of study: key stages 1 and 2 (2013), which is the new mathematics

curriculum. As Year 2 children will be sitting the current Key Stage 1 tests, Year 2 are following the Renewed Primary Framework in Mathematics, or the previous mathematics curriculum.

3.2 We carry out the curriculum planning in mathematics in phases. The Curriculums' give detailed outlines of what we teach in the long term and identify the key objectives we teach to in each year. We make medium-term plans for each term, and then plan weekly lessons from these objectives. In order that our children get a broad and balanced mathematical curriculum, we will ensure that the following topics are covered each year: number, measurement, geometry and statistics.

3.3 It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives and expected outcomes for each lesson, and give details of how the lessons are to be taught. The class teacher keeps these individual plans. The subject leader monitors them termly.

4 The Foundation Stage

4.1 We teach mathematics in our reception classes. We use the Statutory Framework for Early Years Foundation Stage and 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.

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, in order to identify the mathematics involved. They are also improving their command of English when they explain and present their work to others during plenary sessions. In English lessons, too, maths can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children encounter mathematical vocabulary, graphs and charts when reading non-fiction texts. Handwriting lessons also contribute to the correct letter formation of the digits zero to nine.

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

Mathematics contributes to the teaching of PSHE and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together 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

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results.

6 Mathematics and Computing

Computing enhances the teaching of mathematics significantly, because Information and Communication Technology is particularly useful for mathematical tasks. It also offers ways of impacting on learning which are not possible with conventional methods. Teachers can use software to present information visually, dynamically and interactively, so that children understand concepts more quickly. Children use ICT to communicate results with appropriate mathematical symbols.

The computing curriculum provides opportunities for children to apply their mathematical skills, such as programming Beebots or writing algorithms (a sequence of instructions) using directional language.

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.

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, and differentiation – so that we can take some additional or different action to enable the child to learn more effectively. Attainment and progress are measured against the objectives in the curriculum. This allows us to monitor and ensure 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.

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 We make medium-term assessments to measure progress against the key objectives, and to help us plan the next unit of work. We use the class record of the key objectives as the recording format for this.

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. In Year 2, we use the national tests for children and make annual assessments of children's progress measured against the level descriptions of the National Curriculum.

9 Resources

9.1 All classrooms have a wide range of appropriate small apparatus, such as Numicon and number lines. A variety of resources are available from the central storage area and a range of software is available to support work with the computers.

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. The headteacher allocates management time to the subject leader so that s/he can review samples of children's work and undertake lesson observations of mathematics teaching across the school. A named member of the school's governing body is briefed to oversee the teaching of numeracy. This governor meets with the subject leader to review progress.

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