

Parrett and Axe Primary School

Mathematics Policy

1 Aims

1.1 Mathematics teaches children how to make sense of the world around them through developing their numeracy and ability to calculate, reason and problem solve. It enables children to understand relationships and patterns in both number and space in their everyday lives.

1.2 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, and develop measuring skills in a range of contexts; and
- to understand 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 through a concrete, pictorial and abstract approach. During our daily lessons we encourage children to ask as well as answer mathematical questions and to fully explain their thinking/understanding. They have the opportunity to use a wide range of resources, such as number lines, number squares, digit cards and small apparatus to support their work. ICT may be used in mathematics lessons for modelling ideas and methods. Wherever possible, we encourage the children to apply their learning to everyday situations.

2.2 In our school there are children of differing mathematical ability in all classes. Most classes contain children from two academic years. In order to provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child we have formed three ability groups for Numeracy in the Key Stage 2 classes. A Teaching Assistant working alongside the class teacher supports each group. In all of our classes and groups we use a range of strategies to ensure that children are suitably challenged. In some lessons there is differentiated group work, in other lessons the children work in pairs or individually on open-ended investigations and problems.

3 Mathematics curriculum planning

3.1 Mathematics is a core subject in the National Curriculum, and we use the White Rose Scheme of Learning (SOL) as the basis for implementing the statutory requirements of the programme of study.

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- 3.2** The White Rose SOL for Mathematics gives a detailed outline of what we teach in the long-term, medium-term and short-term in mixed year classes. We carry out the curriculum planning in mathematics in three phases: long-term (Overview), medium-term (Termly Breakdown) and short-term (Small Steps Progression).

- Overview: details the blocks to be studied throughout the year. These are designed to support a mastery approach to teaching and learning. They have number at their heart, ensure a significant proportion of time is spent reinforcing number to build competency, support depth of learning and provide plenty of opportunities to build reasoning and problem solving elements in to the curriculum.
- 3.3**

- Termly Breakdown: each block is broken down in to curriculum objectives.
- 3.4** This places both year groups on to one, more accessible table, and ensures full coverage of the curriculum.

- Small Steps Progression: these provide the basis for lessons covering each curriculum objective. Each step should be taught separately (at the professional judgement of the class teacher) which allow all pupils to understand concepts better (and avoid cognitive overload).
- 3.5**

4 The Foundation Stage

- 4.1** Our Reception children have a daily mathematics lesson. 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, practice 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. In English lessons, too, mathematics can contribute: younger children enjoy stories and rhyme that rely on counting and sequencing, while older children often encounter mathematical vocabulary, graphs and charts when reading non-fiction texts. Our regular use of group and paired work in mathematics effectively develops speaking and listening skills in our children.

5.2 Information and communication technology (ICT)

- 5.2** Children use and apply mathematics in a variety of ways when solving problems using ICT. Younger children use ICT to communicate results with appropriate mathematical symbols. Older children may use it to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle.

5.3 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.

5.4 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 inclusion

6.1 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, those learning English as an additional language and Pupil Premium children; we take all reasonable steps to achieve this.

6.2 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. Assessment against the National Curriculum allows us to consider each child's attainment and progress against the expected outcomes. This ensures our teaching is matched to the child's needs.

6.3 Intervention through Quality First Teaching, Pre-Teaching, Keep-Up Sessions and subsequent formal interventions will lead to the creation of IPPs for children with SEND. The IPP may include, as appropriate, specific targets relating to mathematics.

6.4 Pupil Premium children are given, at least, an extra 20 minutes one-to-one teaching by the class teacher or TA each week. Their progress is closely monitored and each pupil is a focus child during Pupil Progress Meetings.

7 Assessment of learning

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

7.2 We make medium-term assessments to measure progress against the key objectives. These are submitted near the end of each term and are

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reviewed during Pupil Progress Meetings and through tests administered by the class teachers (at their discretion). Appropriate support will be identified and provided for any pupil falling behind. The support every pupil in the school receives, and their progress, is recorded on the school Data Grids – this ensures we have a full picture of every pupil from when they join to when they leave.

- 7.3** 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 they 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, plus the optional national tests for children at the end of Years 3, 4 and 5. We also make annual assessments of children's progress measured against the expected progress of the National Curriculum.

8 Resources

- 8.1** All classrooms have access to a range of number lines and other appropriate small apparatus and visual aids. A range of software is available to support group activities on the interactive whiteboards and personalised learning in the ICT Suites. Working Walls are kept up-to-date and are used by staff and children when appropriate.

9 Monitoring and review

- 9.1** Monitoring the standards of children's work is the responsibility of our 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 subject leader reviews samples of the work (termly) of a range of children in each class and links it to the relevant planning. The subject leader also conducts termly display and learning walks with the Numeracy Governors and Headteacher. The Headteacher undertakes learning walks of mathematics teaching across the school and shares with the subject leader a summary of the strengths and focus areas for improvement. 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.
- 9.2** This policy will be reviewed in line with our non-statutory policy cycle.