Birkenshaw CE (C) Primary School

Mathematics Policy

At Birkenshaw CE C Primary school

'Our Christian ethos is at the heart of everything we do'.

1. Aims and objectives

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

The aims of mathematics in the National Curriculum are that pupils:

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- Can solve problems by applying their mathematics to a variety of routine and non- routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions.

2. Links between Maths and School Values

We believe Cooperation, Compassion, Empathy, Happiness, Honesty, Respect, Responsibility, Self-worth, Tolerance and Trust are central values that underpin our school and are the foundations for everything the children learn.

Our Maths curriculum provides a range of contexts in which to deepen children's understanding of these values. In Maths, children are encouraged to **cooperate**, share ideas and justify their thoughts across a range of mathematical areas. We encourage children to **respect** each other's mathematical strengths and knowledge. As well as **empathise** and demonstrate **compassion** or **tolerance** with each other when children have misconceptions or struggle to understand a concept. We aim for maths teaching to develop children's **self-worth**, to **trust** the skills they are developing for their present and future **happiness**.

3. Teaching and learning style

The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of wholeclass and group-direct teaching. During these 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 number lines, number squares, digit cards and small apparatus to support their work. Children and teachers use ICT in mathematics lessons where it will enhance their learning, and to assist with modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. Throughout lessons a range of strategies are used to ensure appropriate targeted learning. At Key Stage 2 children are taught in ability sets to ensure appropriate challenge and provide opportunities for them to reach high levels of mathematical understanding and skill. Children are asked to undertake independent work but other strategies are also utilized. In some lessons group work is undertaken, and in other lessons, children are organised to work in pairs on open-ended problems or games. We use classroom assistants to support some children and to ensure that work is matched to the needs of individuals.

All mathematics work is presented neatly and carefully as in all areas of the curriculum. Children's work is marked in line with the school's marking policy. We recognise the importance of responding to children's work, whether orally or in writing. Staff encourage children by highlighting positive achievements. This can include praise for use of a viable method even if the end result were incorrect. Children are given opportunities, and actively encouraged, to explain their work to others and to display their work when it is appropriate. They are encouraged to value and respect the work of others.

4. Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum and we use a range of resources including Abacus Maths Scheme as the basis for implementing the statutory requirements of the programme of study for mathematics. In our school we teach mathematics in blocks and usually spend about a week on a topic. However, to meet the needs of the children blocks can be taught longer than a week if necessary.

5. Assessment and recording

We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). We make short-term assessments which we use to help us adjust our daily plans and learning within a lesson. These short-term assessments are closely matched to the teaching objectives.

We make medium-term assessments to measure progress against the Age Related Expectations, and to help us plan the next unit of work. We use termly assessments as a way of recording children's progress in objectives covered across that specific term.

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 years 2 and 6, plus optional tests for children at the end of years 3, 4, and 5. We also make annual assessments of children's progress measured against the programmes of study in the National Curriculum.

Teachers sometimes meet to moderate and review individual examples of work against the national exemplification material.

6. Resources

There is a range of resources to support the teaching of mathematics across the school.

All classrooms have wide range of appropriate small apparatus including number lines and other models and images. Mathematical dictionaries are available in school. The library contains a range of books to support children's individual research. A range of software is available to support work with the computers.

7. Monitoring and review

Monitoring of medium and short term planning, the standards of children's work, and the quality teaching in mathematics is the responsibility of the mathematics subject leader in conjunction with the Head teacher. The following strategies will be employed to ensure that the objectives stated on the short term/daily lesson plans are being taught:

- Planning in all year groups will be sampled and looked at
- Observation of lessons taught to ensure that the lesson is focused and linked clearly to the learning objectives as outlined in the medium term planning.
- Scrutiny of pupils work and discussions with pupils to ascertain understanding of skills, concepts and knowledge taught.
- Monitoring of calculations to ensure they are taught in line with the whole school policy (see attached).

The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader gives the Headteacher an annual summary in which he evaluates: attainment in each year group, strengths and weaknesses in the subject and

indicates areas for further improvement. The head teacher provides subject leader time to the mathematics subject leader so that he can monitor the subject. A named member of the school's governing body is briefed to oversee the teaching of Mathematics. This governor meets regularly with the subject leader to review progress.

8. SEN / Equal Opportunities

The school operates a policy of integration and inclusion in line with the 2002 Education Act. As a consequence pupils are expected, wherever possible to join in the activities which are being undertaken together with other children without SEN. To ensure equal access to the curriculum, when necessary resources will be modified appropriately and teaching materials differentiated to suit the needs of the individual pupil concerned.

Some children may require further support in addition to the daily maths lesson. These children will be closely monitored and learning is targeted to ensure that intervention is tailored to meet their needs and close the gap in their learning. The aim of intervention is to ensure children can access classroom maths teaching alongside their peers.

The school aims to ensure equal access to the curriculum irrespective of ethnic and cultural origin, gender, physical or mental ability.

Maths Leader: Christopher Green

Policy Reviewed: Oct 2015