



Carr Head Primary School

*'to prepare the children of today to flourish in
the world of tomorrow through nurturing mind,
body and soul.'*

Mathematics Policy

SUMMER 2020

CARR HEAD PRIMARY SCHOOL MATHEMATICS POLICY

Introduction

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that children develop a healthy and enthusiastic attitude towards mathematics that will stay with them.

This policy outlines what we are aiming to achieve in respect of pupils' mathematical education. It also describes our agreed approach to the planning, delivery and assessment of the mathematics' curriculum.

The National Curriculum (2014) for mathematics describes what must be taught in each key stage. The mathematics taught, and the methods used reflect both the statutory requirements and the non-statutory guidance and recommendations outlined in the following documents:

- (A) The Revised Statutory Framework for the EYFS (2017)
- (B) The Development Matters in the EYFS (2012)
- (C) Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013)
- (D) Mathematics Planning National Curriculum documentation – Lancashire County Council (2013)

This policy provides information and guidance for staff, governors and other interested persons.

Vision:

Mathematics is a creative and highly interconnected discipline. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high quality maths education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

At Carr Head Primary School, we aim to empower our children with an 'I can do it' attitude towards maths, embracing our work on growth mindset. We encourage children to develop their knowledge and understanding of mathematics and aim for all children to enjoy and achieve in maths and become confident mathematicians.

Teaching and Learning Style

The school uses a variety of teaching styles to cater for the different learning styles of pupils in mathematics lessons. Our principle 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 whole-class and small group 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 use IT in mathematics lessons where it will enhance their learning, as in modelling ideas and methods. Although the programmes of study of the National Curriculum (2013) are organised into distinct domains, we believe as the National Curriculum states 'that pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasing sophisticated problems' (DFE, 2013:3) With this at the forefront of our teaching, we ensure that using and applying is integrated into planning and teaching.

In all classes, there are children of differing mathematical ability. Suitable learning opportunities are provided for all abilities. Children are often given the opportunity to select their own level of work so allowing them to challenge themselves. Teachers will closely monitor this. Other strategies used to provide for the range of abilities include paired and group work and allocation of support.

Teaching assistants are deployed to provide appropriate support to individuals and / or to groups of pupils. Teaching assistants within Carr Head Primary are viewed as an important 'asset' to the school and, as such, are appropriately involved in the planning and delivery of the mathematics curriculum. Their knowledge, skills and understanding is updated regularly through involvement in school-based and LA led Inset where appropriate.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use the Mathematics Programmes of Study: key stages 1 and 2 National Curriculum in England (2013) and the Mathematics Planning National Curriculum documentation – Lancashire County Council (2014) as the basis for implementing the statutory requirements of the programme of study for mathematics.

Curriculum planning in mathematics is carried out in line with the structures and recommendations outlined in the LCC medium term planning documentation. Weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught, key questions that will be asked and how learning will be assessed.

The mathematics subject leader is responsible for monitoring the mathematics planning within our school. Feedback is provided to the Headteacher and SEC for evaluation.

Assessment:

Assessment of learning (AoL) – summative assessment

Teachers use this to see where children are at in terms of their learning at any given point in time. In maths, this is usually done in the form of an end of term assessment paper.

Assessment for learning (AfL) – formative assessment

Teachers use this daily to decide on the next steps needed to be taken. In maths, this includes daily observations and marking. Teachers will adjust their planning according to the information they collect.

The school supports teacher assessment through the use of the Key Learning Indicators of Performance (KLIPs) materials. KLIPs provide clear criteria against which judgements can be made the progress of children through each academic year.

Assessment in our school also includes:

- Making daily assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal and are not normally recorded;
- Assessment of 'prior learning' at the beginning of each unit of work to guide our planning and teaching;
- Adjusting planning and teaching within units in response to pupils' performance;

At the end of each term, staff will assess the children in their class against age-related expectations using the KLIPs sheets for the appropriate year group. Children will be assessed as entering, developing or secure in a year group. To inform their judgements, staff will use a range of evidence that might include formal assessments and observations made during independent and guided group work. These judgements will be monitored by both the subject leader and the SLT. Appropriate intervention programmes will be administered for those children who are not working at age-related expectations.

EYFS:

Work undertaken within EYFS is guided by the requirements and recommendations set out in the Revised Statutory Framework for the EYFS (2017) and the Development Matters in the EYFS (2012). We give all the children many opportunities to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

Contribution in Mathematics to Teaching in Other Curriculum Areas

At Carr Head, we aim to provide creative learning opportunities and outcomes for mathematics across other subjects.

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of comprehension, writing, speaking and listening.

Computing

The effective use of IT can enhance the teaching and learning of mathematics when used appropriately. When considering its use, we take into account the following points:

- IT should enhance good mathematics teaching. It should be used in lessons only if it supports good practice in teaching mathematics;
- Any decision about using IT in a particular lesson or sequence of lessons must be directly related to the teaching and learning objectives for those lessons;
- IT should be used if the teacher and/or the children can achieve something more effectively with it than without it;

Science

Almost every scientific investigation or experiment is likely to require one or more of the mathematical skills of classifying, counting, measuring, calculating, estimating and recording in tables and graphs. In science pupils will for example order numbers, including decimals, calculate simple means and percentages, use negative numbers when taking temperatures, decide whether it is more appropriate to use a line graph or bar chart, and plot, interpret and predict from graphs.

Art, Design and Technology

Measurements are often needed in art and design and technology. Many patterns and constructions are based on spatial ideas and properties of shapes, including symmetry. Designs may need enlarging or reducing, introducing ideas of multiplication and ratio. When food is prepared, a great deal of measurement occurs, including working out times and calculating cost; this may not be straightforward if only part of a packet of ingredients has been used.

History, Geography and Religious Education

In history and geography, children will collect data by counting and measuring and make use of measurements of many kinds. The study of maps includes the use of co-ordinates and ideas of angle, direction, position, scale and ratio. The pattern of the days of the week, the calendar and recurring annual festivals all have a mathematical basis. For older children historical ideas require understanding of the passage of time, which can be illustrated on a time line, similar to the number line that they already know. Knowledge of Roman Numerals is part of the new Maths curriculum and this is best covered during history lessons.

Physical Education and Music

Athletic activities require measurement of height, distance and time, while ideas of counting, time, symmetry, movement, position and direction are used extensively in music, dance, gymnastics and ball games.

Personal, Social and Health Education (PSHE) and Citizenship

Mathematics contributes to the teaching of personal, social and health education, 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. Work within the PSHE curriculum also allows the children to develop their ability to give clear explanations on a range of topics. This skill is transferable to a Maths lesson when they need to explain a method or strategy to one of their peers.

Teaching Mathematics to Children with Special Educational Needs

At Carr Head Primary School, we aim to provide a broad and balanced education to all pupils. Effective pupil tracking enables identification of pupils who may benefit from early 'intervention' at an appropriate level. This intervention might be in the form of pre-teaching, individual support or small group work.

Teaching Mathematics to More-Able Children

We also recognise, and aim to make provision for, pupils who have a particular ability in mathematics. Having grasped a concept in Maths, the more-able children will be challenged to carry out investigations and solve problems that involve them applying their skills in a range of contexts. The focus of the new curriculum is on breadth of understanding rather than moving onto objectives from the next year group.

Resources

There is a range of resources to support the teaching of mathematics across the school. Staff are encouraged to use practical and visual models to support children's learning in mathematics. Within school, there is a wide range of appropriate practical apparatus. A range of software is available to support mathematics work.

Marking and Feedback.

Work in maths is marked in accordance with the school's Marking and Feedback policy.

Monitoring and Review

As part of their role, the subject leader will monitor the standards in maths across the school and feedback any concerns to the SLT. Monitoring might be done through planning / work scrutiny and / or talking to pupils. The Headteacher and the SEC will be responsible for evaluating the work carried out in maths by the subject leader and progress against the agreed actions on the subject action plan.

The work of the 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.

This policy should be read alongside the following policies:

- Written calculations policy
- Mental calculations policy
- Assessment Policy
- Marking and Feedback policy

Policy updated: Summer 2020

Review Date: Autumn 2021