COGNITA

Mathematics
Policy

September 2018

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 cultures to the development and application of mathematics.

It is the policy of Charterhouse Square School:

- to recognise that literacy problems and poor organisational skills often necessitate different approaches
- to develop and emphasize correct usage of maths vocabulary and to encourage explanation of methods of calculations
- to fill gaps in working knowledge
- to provide for breadth as well as depth of experience
- to use practical apparatus throughout the learning process
- to reinforce and revisit topics frequently
- to ensure all pupils achieve their potential and show maximum progress
- to ensure activities are short and varied
- to assess each pupil's level of attainment
- to ensure that this subject is taught in a positive way

The aims of mathematics are:

- to promote enjoyment and enthusiasm for 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
- to understand the importance of mathematics in everyday life

Teaching and learning style

Maths lessons are based on the guidelines found in the Primary numeracy curriculum. All year groups, from Year 1 upwards, follow the curriculum for the year above, this is a general rule, but can be adapted.

The Charterhouse Square School uses Abacus textbooks and Pearson Active Learn online tool. 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 whole-class 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. Wherever possible, we encourage the children to use and apply their learning in everyday situations. Currently, there is a particular emphasis on word problem solving and reasoning.

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. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children 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.

Mathematics curriculum planning

Mathematics is a core subject.

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

Our medium-term mathematics plans, which are adopted from the National Curriculum and give details of the main teaching objectives for each term, define what we teach. They ensure an appropriate balance and distribution of work across each term. It is the class teacher who completes the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.

The Foundation Stage

We teach mathematics in our Nursery and Reception class. 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 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.

Contribution of mathematics to teaching in other curriculum areas

English

Mathematics contributes to the teaching of English in our school by promoting the skills of reading, writing, speaking and listening. We encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others during plenary sessions. Younger children enjoy stories and rhyme that rely on counting and sequencing. Older children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

ICT

Interactive whiteboards are used throughout the school. A wide range of learning activities and numeracy games are used throughout lessons. Years 5 and 6 use laptops on a regular basis in numeracy lessons.

PSHE

Numeracy contributes to the teaching of PSHE. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present children with real life situations in their work, in areas such as using money.

Assessment and recording

We use formative assessment to adjust our teaching. These short-term assessments are closely matched to the teaching objectives.

Children from Reception to Year3 are tested on a termly basis in arithmetic, problem solving and reasoning. Years 4 and 5 are tested on a half termly basis. The Star Room complete a past paper every 2 weeks in the autumn term, and are tested on a half termly basis in the spring and summer terms. All results gained from these tests are then placed on the schools progress scale, from 0 to 20, with the results given to parents on the summer term report.

Children are to be assessed in June using PTiM testing to measure progress on both a school and national level. The results are to be recorded on our SIMS software. These results are to be monitored by the Deputy Head, the Math's co-ordinator and class teachers. Samples of work are collected by our Deputy Head on a termly basis.

Resources

There is a range of resources to support the teaching of mathematics across the school. All classrooms have a number line and a wide range of appropriate small apparatus. A range of software is available to support work with the computers.

Monitoring and review

Monitoring the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics coordinator and Headmistress. The work of the mathematics coordinator also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, holding workshops for parents and providing a strategic lead and direction for the subject in the school.