



Crockerton Church of England Primary School

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VISION STATEMENT

Together we learn and grow, beyond expectations, guided by our faith and values.

Maths Policy

This is a single policy which has been written on behalf of the Governing Body for Crockerton Church of England VA Primary School.

Written	April 2019
Reviewed	September 2020
Author	Headteacher & Maths Lead
Next Review	September 2021

We are committed to safeguarding and promoting the welfare of children and young people

Introduction

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Crockerton Church of England Primary School.

Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics 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.

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics;
- reason mathematically;
- can solve problems by applying their mathematics.

<https://www.gov.uk/government/publications/national-curriculum-in-england-mathematics-programmes-of-study/national-curriculum-in-england-mathematics-programmes-of-study>

Aims

At Crockerton Primary School, we aim to develop:

- positive attitude and enjoyment of learning towards mathematics;
- mental maths skills, which enable children to calculate in their heads;
- develop a range of written methods for calculation (see calculation policy);
- an understanding of how maths is used in everyday life;
- the ability to solve problems through decision making, and reasoning in a range of contexts;
- the skills of perseverance and independence, appropriate to whichever level the child has reached;
- confidence and competence with numbers and the number system, promoting effective learning.

Outcomes:

Our pupils will learn to:

- Develop the appropriate mathematical language associated with number, shape and position;
- Use and apply mathematics in practical tasks, in real life problems and in acquiring further knowledge, skills and understanding in the subject itself;
- Understand and use the four operations of number in relevant contexts;
- Understand relationships between numbers learn basic number facts and develop a range of computational methods;
- Understand place value in our counting system and understand how it can be extended into numbers below zero;
- Use their mathematical skills in simple problem solving;
- Collect, interpret and represent data in tabular, graphical and diagrammatic form;
- Develop mental methods of calculation;
- Recognise, describe and represent shapes and patterns in terms of their properties, location and movement;
- Measure quantities including length, area, volume/capacity, angle, temperature, time and mass;
- By the time children reach Year 6 they will be introduced to ratio/ proportion and language of algebra as a means for solving a variety of problems.

We will judge the success of our mathematical teaching by:-

- The motivation and interest displayed by our pupils
- End of KS1 and KS2 National Curriculum Test results
- Multiplication Tables Check and Monitoring (Beginning June 2019)
- Success in meeting targets
- Data analysis (Target Tracker)
- Book and planning scrutiny
- Observations of the teaching of mathematics.

Planning, Teaching and Learning

Mathematics is a core subject in the New National Curriculum, and we use the New National Curriculum as a basis for implementing the statutory requirements of the programme of study for mathematics.

We carry out curriculum planning in mathematics in line with the New National Curriculum and teachers have access to the White Rose Scheme as a starting point for this planning. Planning does not, however, have to be driven by White Rose but as a direct result of on-going assessment and the needs of the children being taught. There is no expectation for teachers to follow either the order or the exact activities provided by the scheme; it provides suggested planning and resources. Planning is the responsibility of the class teacher. These weekly plans list the specific learning intentions/objectives and success criteria for each lesson, and give details of how the lessons are to be taught. These plans are to be shared with any support staff, and should be accessible on the staff share at the start of a week.

A Typical lesson

A typical 45-60minute lesson in Year 1-6 will include oral work and mental calculations; the main teaching activity, this will include both teaching input and pupil activities and a balance between whole class, grouped and individual work and a plenary, this will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps. It may also include some marking so that children can make a self-assessment of their learning.

Mental Mathematics

Pupils in Reception-Y6 are also supported in their development of competent methods of mental calculation through regular practice of Maths Passports. The different continents match the mental objects for each year group. These form an additional slot on the timetable away from the maths lesson. The Head Teacher or subject leader will be Passport Control to oversee the completion of the passport. These passport objectives are reviewed and adapted annually.

The Early Years Foundation Stage

Work undertaken within the Foundation Stage is guided by the requirements and recommendations set out in the Early Years Foundation Stage document. At this stage pupils experience some mathematics on a daily basis. This early introduction to mathematics will generally be undertaken orally and often in the context of a class theme, e.g. a particular story. Wherever possible, opportunities for mathematics are exploited such as when taking the register. Children are also introduced to the Maths Passport programme.

Assessment, Recording and Reporting

The assessment procedures within mathematics encompass:

- Making ongoing assessments and responding appropriately to pupils during 'day-to-day' teaching. These 'immediate' responses are mainly verbal but teachers/TA's will record observations in learning when working with a focus group on a daily basis as part of formative assessment procedures to help inform attainment judgements.
- Adjusting planning and teaching within units in response to pupils' performance;
- The use of a variety of questions to check learning against objectives at the end of each unit of work. If necessary future planning is adapted in response to assessment outcomes;
- Use of information gained from statutory and optional tests.

Analysis is done at both a quantitative and qualitative level.

Information gained is used to set teaching targets and determine which strategies or methods are particularly effective in respect of specific areas of mathematics (the how and why).

Assessment is carried out:

- orally through questioning.
- by observation of children at work.
- marking of children's work.
- at the end of each term or at the end of a topic. These may be linked from the White Rose Maths scheme or similar and are integrated into termly and weekly planning.

- Yearly with formal assessments in the Summer Term for Y2 and Y6 as SATs to assess and review pupils' progress and attainment.

Individual's progress is monitored and recorded through our school's Target Tracker.

Pupils in EYFS will be assessed and the Foundation Stage Profile completed throughout the year.

The Head Teacher and Mathematics subject leader are responsible for monitoring the Mathematics planning within our school.

Monitoring and review will be carried out by the Head Teacher, Mathematics Leader and shared with the Mathematics governor.

This process should include:

- scrutiny of medium and weekly planning and feedback.
- classroom observation and feedback.
- book scrutiny, including marking.
- analysis of data.
- pupil progress meetings.

Reporting to parents will happen in the Autumn and Spring Term, with an annual report in February and a summary of the years attainment and progress, plus any formal assessment results, in the Summer term.

Curriculum Coverage and Overview

Key stage 1 - Years 1 and 2

The principal focus of mathematics teaching in key stage 1 is to ensure that pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the 4 operations, including with practical resources [for example, concrete objects and measuring tools].

At this stage, pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Teaching should also involve using a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

By the end of year 2, pupils should know the number bonds to 20 and be precise in using and understanding place value. An emphasis on practice at this early stage will aid fluency.

Pupils should read and spell mathematical vocabulary, at a level consistent with their increasing word reading and spelling knowledge at key stage 1.

Lower key stage 2 - years 3 and 4

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. This should ensure that pupils develop efficient written and mental methods and perform calculations accurately with increasingly large whole numbers.

At this stage, pupils should develop their ability to solve a range of problems, including with simple fractions and decimal place value. Teaching should also ensure that pupils draw with increasing accuracy and develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them. It should ensure that they can use measuring instruments with accuracy and make connections between measure and number. By the end of year 4, pupils should have memorised their multiplication tables up to and including the 12 multiplication table and show precision and fluency in their work.

Pupils should read and spell mathematical vocabulary correctly and confidently, using their growing word-reading knowledge and their knowledge of spelling.

Upper key stage 2 - years 5 and 6

The principal focus of mathematics teaching in upper key stage 2 is to ensure that pupils extend their understanding of the number system and place value to include larger integers. This should develop the connections that pupils make between multiplication and division with fractions, decimals, percentages and ratio.

At this stage, pupils should develop their ability to solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation.

With this foundation in arithmetic, pupils are introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number.

Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

By the end of year 6, pupils should be fluent in written methods for all 4 operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

Management of Mathematics

The Governing Body will:

- Monitor to ensure subject policies are up to date
- Monitor information available through the school web site.

The Head teacher will:

- Ensure there is an up to date policy in place
- Ensure statutory obligations are met for the subject.

Subject leader will:

- Ensure that all teaching staff are familiar with the most up to date curriculum knowledge of the subject.
- Monitor that the skills are being taught across each year group and that progression is planned for.
- Manage the budget of the subject.
- Ensure the school is adequately stocked with relevant resources.
- Have an initiative in place that is relevant and kept up to date.

Monitor the work completed in books.

- Train staff through team teaching, lesson feedback and staff PDMs.
- Ensure that they have the most up to date understanding of their subject.
- Monitor assessment data within the subject, providing support and input to classes, where deemed necessary.

Class Teachers will:

- Ensure that all skills are being taught within the subject and that they are progressive
- Ensure they have the most up to date knowledge of the curriculum or seek advice to find the relevant information.
- Accommodate a range of learning styles
- Differentiate tasks to suit the individual learners ensuring that challenge is appropriate for each child.

Support staff will:

- Adapt tasks to allow access for all children.
- Report any needs of children to the class teacher.

Pupils will:

- Share their views on the subject when asked.
- Engage in activities in a manner that keeps them and others safe.
- Engage in activities in a respectful and tolerant manner.