Carnforth Christ Church C of E Primary School

MATHEMATICS INTENT STATEMENT

Mission Statement

Christ Church C of E Primary School is a vibrant, stimulating and caring educational community which exists to celebrate the uniqueness of every person, made as they are in the image and likeness of God.

Rationale

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. 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 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. (National Curriculum 2014).

The purpose of mathematics At Christ Church C of E Primary School is to develop:

- Positive attitudes towards the subject and awareness of the relevance of mathematics in the real world.
- Competence and confidence in using and applying mathematical knowledge, concepts and skills.
- An ability to solve problems, to reason, to think logically and to work systematically and accurately.
- Initiative and motivation to work both independently and in cooperation with others.
- Confident communication of mathematics where pupils ask and answer questions, openly share work and learn from mistakes.
- An ability to use and apply mathematics across the curriculum and in real life.
- An understanding of mathematics through a process of enquiry and investigation

We aim to provide a stimulating and exciting learning environment that takes account of different learning styles and uses appropriate resources to maximise teaching and learning.

INTENT:

We intend our curriculum to:

- Allow children to 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.
- Develop skills to reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language.
- Give children strategies to 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.

- Allow pupils to be able to move fluently between representations of mathematical ideas, making rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems.
- Give children the skills to apply their mathematical knowledge to science and other subjects.
- Progress children on to the next phase in their learning based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.

IMPLEMENTATION:

To achieve our intentions we:

- Study mathematics daily covering a broad and balanced mathematical curriculum including elements of number, calculation, geometry, measures and statistics.
- Put aside additional time to develop basic mathematical skills such as number bonds, times tables, mental arithmetic and number facts to build fluency and precision in these areas and to think about numbers in a different way.
- Focus not only on the mathematical methods but also focus on mathematical vocabulary and to enable children to broaden and deepen mathematical understanding.
- Aim for each child to be confident in each yearly objective and develop their ability to use this knowledge to develop a greater depth understanding to solve varied fluency problems as well as problem solving and reasoning questions.
- Use a range of textbooks and online resources throughout the school to ensure a curriculum that is specific to each child's learning needs.
- Are required to administer an online multiplication tables check (MTC) to year 4 pupils. The purpose of the MTC is to determine whether pupils can recall their times tables fluently, which is essential for future success in mathematics. It will help schools to identify pupils who have not yet mastered their times tables, so that additional support can be provided.
- Support the children with their multiplication practice we use 'Times Table Rockstars' as an online and fun learning platform which also offers resources to be used in the classroom amongst other equally engaging resources.
- Use the Lancashire Planning Documents as a basis for our daily maths lessons which sets out the requirements of the national curriculum 2014 for mathematics in a systematic and logical way allowing teachers to plan for progression across the key stages and providing opportunities to revisit topics throughout the year.

EYFS

In Early Years, Mathematics involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces, and measure.

Pupils are taught to:

Number

- Count reliably with numbers from 1 to 20
- Place them in order and say which number is one more or one less than a given number
- Add and subtract two single-digit numbers and count on or back to find the answer using quantities and objects
- Solve problems, including doubling, halving and sharing

Shape, space and measure

- Use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems
- Recognise, create and describe patterns
- Explore characteristics of everyday objects and shapes
- Use mathematical language to describe them.

Key Stage 1

The National Curriculum (2014) states that:

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 four 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

The National Curriculum (2014) states that:

The principal focus of mathematics teaching in lower key stage 2 is to ensure that pupils become increasingly fluent with whole numbers and the four 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

The National Curriculum (2014) states that:

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 four operations, including long multiplication and division, and in working with fractions, decimals and percentages.

Pupils should read, spell and pronounce mathematical vocabulary correctly.

IMPACT:

Through these implementations, the impact on the children is:

- Pupils are confident in the understanding of number.
- Pupils draw on learnt strategies and apply them to reasoning and problem solving.
- Pupils use maths in other areas of the curriculum to calculate and reason.
- Skills progression throughout the school is evident in children's books.
- Clear evidence of the teaching sequence of our school calculation policy in children's books.
- Children demonstrate a systematic approach to solving problems.
- Next step marking provides support and directs the pupil on their next steps to greater depth and breadth of understanding.
- Pupils respond to feedback.
- Pupils use classroom resources and working walls to support their learning.
- Pupil's presentation is of a high standard through following the school's presentation policy.
- Teachers moderate pupil's work in school and in cluster meetings with other schools to ensure accurate assessments are made.

- Teachers track pupils' progress each half term. This informs planning and any interventions needed.
- Pupil progress meetings with Headteacher and teachers each term ensure different groups and individual progress is monitored and interventions organised to support progress.
- Intervention sessions enable a greater proportion of pupils to be on track to meet year group expectations or in the case of those working significantly below expectations to make better than expected progress.
- Subject leader provides and action plan for the subject and addresses areas for development and improvement annually.
- Subject leader does one annual report for the governors so that they are up to date with any new initiatives that have been introduced and the impact of these.
- The Mathematics governor is invited in regularly to discuss progress and the action plan as well as observe lessons on a learning walk.
- Subject leader conducts learning walks, lesson observations, pupil interviews and book monitoring throughout the year. These inform future areas for improvement and the impact of new initiatives.
- Standards being met at the end of EYFS, KS1 and KS2 are broadly in line with local and national averages. Each year data is analysed and any areas for improvement identified and addressed. These are often included on the School Improvement Plan and Maths Action Plan.

Monitoring

Our curriculum is reviewed and monitored on an annual basis in the Summer Term. This statement of mathematics intent will be reviewed every three years, in the Autumn Term, to reflect any changes made to the curriculum.

Mrs Rebekah Richardson
Mathematics Subject Leader
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