CARNFORTH COMMUNITY PRIMARY SCHOOL

Mathematics Policy

Intent

Mathematics teaching at Carnforth Community Primary School is designed to ensure that all children develop a healthy and enthusiastic attitude towards mathematics that will stay with them. At Carnforth Community Primary School, we nurture the ethos, 'Believe and Achieve', believing that every child can achieve in Maths. Mathematics is integral to all aspects of life; it helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems. It also enables children to understand and appreciate relationships and pattern in both number and space in their everyday lives.

Our aim is to develop a positive culture of deep understanding, confidence and competence in maths that produces strong, secure learning. As a school, we recognise that the key to unlocking the potential in our children is through the development of basic mathematical skills and the understanding of mathematical concepts. We therefore place great emphasis on the use of concrete resources and pictorial representations at all ages, to enable children to fully understand the concepts and principals when presented with abstract calculations and questions.

In line with the National Curriculum (2014), the Maths curriculum at Carnforth Community aims to ensure that all pupils:

- develop a positive attitude to mathematics as an interesting and attractive subject in which all children gain success and pleasure
- develop mathematical understanding through systematic direct teaching of appropriate learning objectives
- encourage the effective use of mathematics as a tool in a wide range of activities within school and, subsequently, adult life
- develop an ability in the children to express themselves fluently, to talk about the subject with assurance, using correct mathematical language and vocabulary
- develop an appreciation of relationships within mathematics

- develop ability to think clearly and logically with independence of thought and flexibility of mind
- develop an appreciation of creative aspects of mathematics and awareness of its aesthetic appeal
- develop mathematical skills and knowledge and quick recall of basic fact

Implementation

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the LCC medium term planning documentation and Mathematics Progression from Reception through to Year 6. Teachers follow the LCC sequence of learning and develop their own Maths plans from the key objectives. We follow mixed age planning for Year 1 and Year 2, and Year 3 and Year 4. Our Yearly Overview of learning for YR to Y6 can be found in the Appendix.

Our Maths curriculum is differentiated to match the needs and abilities of all our children to ensure that all pupils can excel. Lessons are differentiated to ensure there is appropriate challenge for all learners. As a school, we believe in the importance of following the concrete-pictorial-approach to develop a solid understanding of mathematical concepts which can be applied in a variety of contexts through reasoning and problem-solving challenges.

From Reception to Year 6, we adhere to our calculation policy which outlines the progression of strategies and methods to be taught.

Times tables play an important part in our maths learning, with children developing their fluency in rapid recall of tables up to 12 x 12 by the end of year 4. While the rapid recall of times tables is being developed, children are also learning how to apply and manipulate their understanding of this to reason and solve problems.

In Key Stage 2 we use Fluent in Five daily arithmetic questions to build number fluency and confidence.

RECEPTION

The Early Years is a time for exploration and investigation in Maths and the learning environment promotes mathematical thinking. Children develop their understanding through a rich variety of activities both self-selected, and adult led. Adults encourage the children to explore, enjoy, learn, practise, and talk about their developing understanding which they can use to solve problems, generate questions, and make connections across other areas of learning.

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 the use of practical resources.

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 practise 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.

KEY STAGE 2
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 facts up to and including the 12 times 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

Outcomes in Maths books evidence a broad and balanced Mathematics curriculum and demonstrate well planned sequences of learning that support children to develop and refine their maths skills. Children understand the relevance and importance of what they are learning in relation to real life concepts. Children know that Maths is a vital life skill that they will rely on in many areas of their daily life. There is a positive view of maths and children are confident to 'have a go', choosing the resources they need to help them to learn along with the strategies they think are best to help solve a problem.

Our children at Carnforth Community Primary School have a good understanding of their strengths and targets for development in Maths. The children's Maths books evidence work of a high standard in which children clearly take pride. The components of the teaching sequences demonstrate good coverage of fluency, reasoning and problem-solving.

By the end of a pupil's time at Carnforth Community Primary School, we want our children in Mathematics to:

- be confident in the understanding of number
- draw on learnt strategies and apply them to reasoning and problem-solving
- use maths in other areas of the curriculum to calculate and reason
- know more; remember more; be able to do more

- demonstrate quick recall of facts and procedures. This includes the recollection of the times tables
- have flexibility and fluidity to move between different contexts and representations of mathematics
- independently apply their knowledge to a range of increasingly complex problems
- reason with increased confidence and accuracy
- have the ability to recognise relationships and make connections in mathematics
- To show confidence in believing that they can achieve

APPENDIX

Year R Maths Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1		Number 5	Counting and Comparing	Addition	Counting, Comparing and Ordering	Time
Week 2		Number 6	Partitioning and Understanding Part-Whole	Subtraction	Understanding Part – Whole with Addition and Subtraction	Space
Week 3	Number 1	Number 7	Understanding 'Teens' Numbers	Halving & Doubling	Fractions	Money & Sorting
Week 4	Number 2	Number 8	Distance (length, height, width)	Number Sense	Distance and Mass/Weight	Number Sense
Week 5	Number 3	Number 9	Mass/Weight and Capacity/Volume	Addition & Subtraction	Capacity/Volume and Money	Addition & Subtraction
Week 6	Number 4	Number 10	Shape and Sorting		Shape and Sorting	

Year 1&2 Maths Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Place Value	Sequencing, Sorting, Counting and Multiplication	Place Value	Length	Place Value and Statistics	Addition and Subtraction

Week 2		Fractions	Addition and Subtraction	Addition and Subtraction	Addition and Subtraction	Multiplication and Division
Week 3	Length & Mass	Capacity and Volume Money	Counting and Money	Fractions	2-D and 3-D Shape Capacity and Volume	Statistics and Calculation
Week 4	Addition and subtraction	Time	Multiplication and Division	Position & Direction	Fractions	Measurement
Week 5		Mass		Time	Position & Direction and Time	Sorting and Sequencing
Week 6	2-D and 3-D Shape	Assess and review	Mid-Year Review	Assess and review	Temperature	Assess and review

Year 3&4 Maths Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Place Value, addition and subtraction	Multiplication	Place Value, including decimals	2D shape and sorting	Place Value	2D & 3D shape
Week 2			Multiplication	Addition and subtraction	Addition and subtraction	Place Value
Week 3	Length and perimeter	Division	Division	Position and direction		Statistics
Week 4	Statistics	Time	Fractions	Perimeter and Area Time	Multiplication and division	Fractions
Week 5	Addition and subtraction	3D Shape	Volume, capacity & mass	Statistics		Time

Week 6		Assess and review	Mid-Year recap week	Assess and review	Fractions	Assess and review

Year 5 Maths Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Place Value	Multiplication & Division	Place Value & Negative Numbers	Fractions	Place Value	Division
Week 2			Addition & Subtraction	Geometry (Shape)		Fractions
Week 3	Addition & Subtraction	Fractions	Multiplication	Measurement (Volume)	Measurement & Statistics	Percentages
Week 4		Multiplication & Area	Measures (length, mass & capacity)	Statistics	Geometry	Statistics
Week 5	Statistics		Geometry	Problem Solving including Bar Modelling	Addition & Subraction	Measurement
	Geometry (angles)	Time				
Week 6	Geometry & Measures	Assess & Review		Assess & Review	Multiplication	Assess & Review

Year 6 Maths Yearly Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Week 1	Number & Place Value & Decimals	Division	Place Value, Negative Numbers & Number Sequences	Ratio & Proportion	Place Value	Calculation
Week 2	Algebra & Sequences		Coordinates & Geometry		Fractions	

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