



A Caring community ● Courageously learning ● Inspired to live life to the full
Maths Policy

At Christ Church Infant School, we follow the National Curriculum for mathematics. We aim to deliver an inspiring, challenging mathematics curriculum through high quality teaching using the mastery approach. The mastery curriculum promotes a deep, long-term, secure understanding of maths so children become fluent in number facts, possess a growing confidence to reason mathematically and have the ability to apply maths to solve problems. We endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics and understand that making mistakes are part of growing as an independent learner, skills that will stay with them throughout their lives.

This policy should be read and used in conjunction with the school's calculation policy as this sets out how we teach children to calculate.

Purposes

- to develop a positive and confident attitude to mathematics
- to develop appropriate mathematical language
- to learn to count, including work on place value and larger numbers
- to use the four operations of number and the equals sign (+, -, x, -, =) in relevant contexts
- to develop mental and written calculation skills
- to know number facts by heart, such as number bonds, multiplication tables, doubles and halves
- to recognise pattern and symmetry
- to develop skills in measuring and estimating
- to become critical thinkers and problem solvers
- to develop logical thinking and reasoning, enabling them to record work clearly and in a variety of ways
- to develop the skills, knowledge and understanding needed in daily life

Statutory Requirements

Key Stage 1

We follow the National Curriculum (2014) in Key Stage 1.

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

- 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.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **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.

Reception/EYFS

We follow the Early Years Foundation Stage Mathematic Framework in Reception. The level of development children should be expected to have attained by the end of EYFS in mathematics is defined by the early learning goals (ELGs) as set out below.

Number

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

Numerical Patterns

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

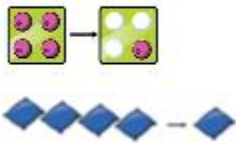
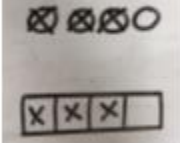
Planning

At Christ Church Infant School, all children, when introduced to a new concept, have the opportunity to build competency by taking this mastery approach:

Make it – children have the opportunity to use real objects and manipulatives to help them understand what they are doing.

Draw it – alongside the real objects the children use pictorial representations. These representations are then used to help the children reason and solve problems.

Write it – both real objects and pictorial representations support the children's understanding of abstract methods of writing mathematical calculations.

Concrete	Pictorial	Abstract
		$4 - 3 = 1$

When planning a sequence of lessons, teachers follow the CCI Mathematics Milestones, which outlines the progression of skills from Reception to Year 2. Teachers use these milestones to form weekly plans in their year groups. Teachers assess the children's prior knowledge and understanding of a specific unit of maths before they teach and use this information to plan lessons that effectively challenge all children. Teachers plan three levels of differentiated activities and a 'Reasoning Challenge' that provide children with 'prove it' style questions to embed their mathematical understanding. Additionally, problem solving activities are planned in isolation every fortnight to ensure children apply their mathematical skills and thinking to develop their conceptual understanding. To ensure reasoning and problem-solving activities are stimulating, teachers use a range of resources from White Rose, NCETM and NRICH.

Early Years Foundation Stage (EYFS)

Mathematics within the EYFS is developed through purposeful, play based experiences in the indoor and outdoor provision. Teaching staff use the WhiteRose Scheme to plan engaging activities that stimulate thinking and learning in order to develop and improve children's number and numerical pattern knowledge and understanding. This approach ensures the children become active learners who are creative and critical thinkers.

Mental Maths

In KS1 and EYFS, mental maths is taught daily. In KS1, we use the Mastering Number Scheme, 5-10 arithmetic style questions which are created by teachers and the White Rose Flashback 4. This enables children to embed their learning by building on previously taught skills to ensure sticky knowledge. In Reception, the Mastering Number Scheme is taught four times a week and one mental maths session is based on Number Talk, where children have a range of mathematical objects/pictures which they discuss collectively. Through daily mental maths we aim to develop children's fluency of number and use of appropriate mathematical vocabulary in their explanations.

Assessment



A Caring community ● Courageously learning ● Inspired to live life to the full
Maths Policy

This section details the various assessment methods and practices used in Christ Church Infant School which we use to ensure that children are making appropriate progress and that the activities they take part in are suitably matched to their level of development.

Formative Assessment (AfL) - (monitoring children's learning)

Assessment is an integral and continuous part of the teaching and learning process at Christ Church Infant School and much of it is done informally as part of each teacher's day to day work. Teachers integrate the use of formative assessment strategies such as: effective questioning; clear learning objectives; the use of success criteria; effective marking and observing children participating in activities. Findings from these types of assessment are used to inform future planning.

Summative Assessment – (evaluating children's learning)

In KS1 teachers use written assessments which target skill, reasoning and problem solving for each unit in maths. In Reception, practical assessment activities are created in line with the ELG. Every term, teachers use these assessments to determine the levels of achievement of each child based on the Age-related Expectations. This forms the basis for regular pupil progress meetings which inform strategic planning to ensure all children, at different levels of development, are appropriately challenged.

Cross-Curricular Links

Maths is applied across our enquiry curriculum to enable the children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving problems in a variety of contexts. From this, children understand that maths is not solely about learning procedures and memorising facts but is an essential component of everyday life.

Supporting your child at home

NumBots - It is vital that children learn the key number facts such as number bonds, times tables and addition and subtract calculations. This should be done at home as well as at school and it is important that such number facts are practised and recited regularly.

Maths in real life contexts – Enabling your child to see the uses and benefits to mathematics in everyday life is very important and there are countless opportunities to allow your child to demonstrate what they have learned. This includes: shopping; cooking and baking; playing board games; singing songs and reading books.

Reviewed: 21/10/22

Agreed by Governors:

Next review:

	Signed CoG: 	Name: Julie Wilkins	Review Date: T2 2022-23
	Signed Head: <i>AMartin</i>	Name: Anna Martin	Next Review Date: T2 2024-5