Early Years at Malmesbury C of E Primary School

Mathematics Statement of Intent, Implementation, and Impact

with Progression of Skills and Cross Curriculum Links

Malmesbury
Church of England Primary School

Mathematics Intent Statement

Intent Overview

At Malmesbury C of E Primary School, we foster a ‘have a go’ attitude towards Mathematics to support our children in developing a positive attitude towards the subject. We develop fluent students who have a deep understanding of number. We ensure that they are able to provide explanations, give reasons for their answers and tackle future challenges by:

- providing opportunities for children to practise, rehearse and apply mathematical knowledge and skills;
- encouraging children to investigate numbers by exploring their characteristics and patterns, understanding how they can be manipulated using different operations;
- encouraging them to think logically so that they can make connections and solve problems;
- fostering children’s acquisition and use of mathematical vocabulary to justify and explain their ideas.

Malmesbury
Church of England Primary School

Mathematics Intent Statement

Statutory Framework

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice, be able to answer ‘how do you know?’ questions, and not be afraid to make mistakes.

Mathematics Intent Statement

Early Comparison and Pattern

Knowledge of Early Comparison	Knowledge of Early Pattern
I know… • objects can be sorted into different groups using different criteria • what is the same and what is different • what 'lots' and 'not many' of something looks like	I know… • patterns are repeated • patterns can be continued • patterns follow a sequence

Counting and Cardinality

Knowledge of One-to-One Correspondence	Knowledge of Rote Counting
I know… • how to match one object to another object or person • how to match one number name to each object when counting	I know… • the order of numbers • number names
Knowledge of Counting	Knowledge of Subitising
I know… • the last number I say is the total • when to stop counting out from a larger group • anything can be counted	I know… • how many are in a group without having to count • the same amount can be represented by different-sized objects
Knowledge of Conservation	Knowledge of Recognising and Reading Numbers
I know… • the total amount of objects stays the same no matter how the objects are arranged	I know… • symbols represent quantities • numbers can have one digit, two digits, three digits or more

Mathematics Intent Statement

Operations and Calculations

Knowledge of Partitioning a Number

I know…
- an amount can be made up in different ways

Knowledge of Inverse Operations

I know
- halving is the opposite of doubling
- addition is the opposite of subtraction
- doubling is two sets of the same amount

Knowledge of Calculation

I know…
- more is greater than and less is fewer
- addition is combining sets
- subtraction is taking amounts away

Knowledge of Number Bonds

I know…
- which pairs make a given number

Knowledge of Estimation

I know…
- etimation will give me a value that is close to the right amount

Knowledge of Number Patterns

I know…
- some number patterns e.g. odd, even
- number patterns repeat according to rules

Skills

- Reason
- Problem Solve
- Investigate
- Sort and Match
- Count
- Manipulate numbers
- Persevere

- Estimate
- Discriminate
- Compare
- Calculate
- Sequence
- Test ideas
- Record

- Remember
- Think
- Explain
- Make Connections
- Take risks
- Memorise
- Check

Malmesbury
Church of England Primary School

Mathematics Intent Statement

Implementation

At Malmesbury C of E Primary School, mathematics is valued and promoted through daily direct teaching, and purposeful learning opportunities across all subjects and areas of provision. In Reception, mathematics teaching is supported by the White Rose Maths scheme. During the planning process, careful consideration is given to the next steps in learning. Each area of the provision is equipped with relevant maths resources to enable children to practise and apply their mathematical knowledge and skills across the different areas of provision.

Malmesbury's trained early years practitioners appreciate that maths can be taught everywhere and that conceptual understanding of number is the basis for all other mathematical learning. Teaching staff have a sound knowledge and understanding of mathematical concepts and vocabulary to enable them to teach the necessary foundation skills that children need to become fluent mathematicians. Within the environment, adults capitalise on every opportunity to present mathematical problems for the children to think about and solve. They support children in practising and applying their mathematical knowledge and skills by encouraging them to talk about their thinking, provide explanations and give reasons for their answers.

Mathematics Progression of Skills

Number

In Reception, the children are learning…

- to count actions or objects which cannot be moved
- to count out objects from a large group
- to select the correct numeral to represent the number of objects in a set
- to read numbers
- to estimate how many objects they see and then check by counting
- to identify smaller numbers within a larger group
- to partition a number
- to add two single-digit numbers together
- to take away two single-digit numbers
- to count two groups together to find the total
- to use the right mathematical language when adding and taking away
- to recall number bonds
- to recall the double of a number
- to use number facts to solve mathematical problems

End of Foundation Stage Checkpoint

Early Learning Goal:
Number

Children at the expected level of development will:

- have a deep understanding of number to 10, including the composition of each number
- subitise up to 5
- children automatically recall (without reference to rhymes, counting or other aids) number bonds to five and some number bonds to 10, including doubling facts

Mathematics Impact Statement

Malmesbury
Church of England Primary School

Impact

By the end of the Foundation Stage most children will be able to…

Read and write numbers	Talk about shape, space and measure using mathematical language	Compare quantities
Estimate	Recognise an amount in different arrangements	Sequence numbers
Recall number bonds to 10	Sort and match	Count
Identify and talk about number patterns	Give reasons for their answers	Partition numbers
Add and subtract numbers Recognise an amount without counting	Solve problems	Calculate

Early Years Mathematics Cross- Curricular Links

Mathematical Vocabulary	
Reception	• Learn new vocabulary. • Use new vocabulary throughout the day.
End of EYFS Checkpoint Early Learning Goal – Speaking	Children at the expected level of development will: • Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.

Early Years Mathematics Cross- Curricular Links

Mathematics: Number and Place value	
Counting	
Reception	• Count objects, actions and sounds • Count beyond ten
End of EYFS Checkpoint Early Learning Goal – Numerical Patterns	Children at the expected level of development will: • verbally count beyond 20, recognising the pattern of the counting system

Mathematics: Identifying, Representing and Estimating Number	
Counting	
Reception	• Subitise • Link the number symbol (numeral) with its cardinal number value
End of EYFS Checkpoint Early Learning Goal – Number	Children at the expected level of development will: • subitise (recognising quantities without counting) up to 5

Early Years Mathematics Cross- Curricular Links

Mathematics: Reading and Writing Numbers	
Reception	• Link the number symbol (numeral) with its cardinal number value
Mathematics: Compare and Order Number	
Reception	• Compare numbers
End of EYFS Checkpoint Early Learning Goal – Numerical Patterns	• Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity

Early Years Mathematics Cross- Curricular Links

Mathematics: Understanding Place Value	
Reception	• Understand the ‘one more than/one less than’ relationship between consecutive numbers • Explore the composition of numbers to 10
End of EYFS Checkpoint Early Learning Goal – Number	• Have a deep understanding of numbers to 10, including the composition of each number
Solve Problems	
End of EYFS Checkpoint Early Learning Goal	

Early Years Mathematics Cross- Curricular Links

Mathematics: Addition and Subtraction	
Mental Calculations	
Reception	• Automatically recall number bonds for numbers 0-5 and some to 10
End of EYFS Checkpoint Early Learning Goal – Number	• 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
Solve Problems	
End of EYFS Checkpoint Early Learning Goal – Numerical Patterns	• Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly

Early Years Mathematics Cross- Curricular Links

Mathematics: Measurement	
Describe, Measure, Compare and Solve	
Reception	• Compare length, weight and capacity

Mathematics: Properties of Shapes	
Recognise 2D and 3D Shapes and their Properties	
Reception	• Select, rotate and manipulate shapes in order to develop spatial reasoning skills

Compare and Classify Shapes	
Reception	• Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.

Early Years Mathematics Links with National Curriculum Subjects

Mathematics Position and Direction	
Position, Direction and Movement	
Reception	• Draw information from a simple map
Patterns	
Reception	• Continue, copy and create repeating patterns