



# CAM WOODFIELD INFANT SCHOOL

## GROW – EXPLORE – DISCOVER

### Cam Woodfield Infant School Subject Story for Maths



#### Intent

At Cam Woodfield Infant School we are committed to the Mastery Maths philosophy that is for all children to develop a secure understanding of mathematical concepts and processes, combined with genuine fluency when completing calculations. Through using White Rose Maths (WRM), supplemented by NCETM Mastering Number programme, we are giving children the opportunity to explore different methods that will improve their understanding of maths as whole. These methods are built upon within each unit and will be continually revisited and embedded throughout their time at the school. WRM teaches and challenges children to use methods in the most appropriate, efficient way and develop their problem solving and reasoning skills. Our intent is to spark curiosity, engage reasoning, secure understanding and deepen maths learning for all.

*The National Curriculum for Maths aims to ensure that all pupils:*

- Become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasing 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.

#### Implementation

All children in Reception, Year 1 and Year 2 are taught five WRM lessons each week as well as four NCETM Mastering number sessions.

Within the EYFS children receive 5 taught WRM sessions a week. New content is taught through the 'Let's Learn' section, where children are introduced to new concepts and vocabulary. Children then take part in practical, hands on adult led maths sessions, which are recorded through observations and photographs. Adult's model and support children's use of mathematical language development and further support problem solving and resonating through use of well-planned questions. Children's maths development is also extended through planned continuous provision activities.

Children then furthermore engage in four NCETM Mastering Number sessions a week which deepen and widen their knowledge of mathematical concepts.

Within KS1, each lesson provides children with a 'Get Ready' activity to recap prior learning from their current unit and/or previous units. Children then engage with the new learning through a 'Let's Learn' section which introduces new concepts, vocabulary and strategies to solve problems through a range of concrete and pictorial representations.

Problem solving and reasoning questions are initially approached as a whole class during input. Children are familiar with Tiny who makes 'Marvellous Mistakes'. Using Oracy sentence stems and key vocabulary. Children discuss and explain with talk partners/ small groups their thinking and share with the class. To deepen children's problem solving and reasoning skills, class teacher's model written responses to these questions to aid pupils when working independently.

Children then apply their new skills and understanding to their independent work (completed either in WRM workbooks or blue maths books). Children have classroom manipulatives available to them at all times to support and deepen their understanding.

### **Progression Across Year Groups**

In EYFS, there is a strong focus on Number, ensuring children have a solid, conceptual understanding of the numbers 1-10 and then the teen numbers. EYFS Mathematics is addressed through a combination of adult led WRM activities, small group activities, independent activities and child-initiated play. Throughout the week, each day has a different focus including: discover, share, think together, independent practice and reflect.

In Year 1 children build on their EYFS knowledge and cover number and place value for numbers to 50, addition and subtraction within 20, recognising 2D and 3D shapes, length and height, weight and volume, counting in groups of 2, 5 and 10, halves and quarters, telling the time (o'clock and half past) and recognising and adding coins.

In Year 2 children will continue to build on and deepen and secure their knowledge by covering number and place value for numbers to 100, develop a variety of methods to solve addition and subtraction within 100, multiplication and division for numbers in the 2, 3, 5, and 10 times tables, money including coins and notes, statistics, measurement, properties of 2D and 3D shapes, fractions, time (to 5 minute intervals). Children will develop a range of problem solving methods and be able to select the most efficient method to find all the possible answers.

### **Impact**

We will be able to see that children know more and remember more through evidence in their maths workbooks and end of year assessments. We will see that they are able to recall prior learning and apply it in a range of unknown contexts, for example, when problem solving or when finding more than one possible answer to a question.

Children will be able to explain their understanding through reasoning and justifying the methods they have chosen and how they found the answer.

We will see that children will have developed automaticity in the required skills and number facts that they need by the end of each year. This will ensure that children start their next year of learning with the necessary skills and knowledge to build on their learning.

- Careful and detailed half termly tracking of children's progress and attainment will show good progress and secure understanding.
- Measurable impact of interventions will 'plug gaps'.

- Children will be applying the number facts they have learnt (e.g. number bonds, doubles, times tables etc.)
- Children will understand and use a range of methods to find all possible answers to a question or problem.

**If you were to walk into a Maths lesson at CWI you would see:**

- Engaged children working with concrete resources
- Discussion and collaboration as a whole class and with learning partners
- Children making connections with prior knowledge
- All children using mathematical vocabulary to explain their learning
- Children challenged through problem solving and reasoning activities
- Teachers supporting and challenging learners
- Resilient learners

**What does a good Maths learner look like by the time they leave CWI?**

By the time a child leaves our school we aim for them to be able to approach any problem and use multiple methods to solve or find a solution. Children will be able to explain to a friend how they came up with the answer using resources and mathematical vocabulary. They will have developed their resilience to overcome tricky problems that require them to use a range of different operations or processes.

## **British Values and Spiritual, Moral, Social and Cultural Learning in Maths**

**British Values:** Within Maths, children are encouraged to take into account the views of others in activities and problem solving. The Year 2 Maths curriculum introduces statistics, collecting data and aspects of democracy through voting. Children work within boundaries to make safe choices during practical activities and behave appropriately, allowing all children the opportunity to work effectively. In Maths, children are taught to take turns, share equipment and review each other's ideas respectfully. Maths involves working collaboratively to solve problems, offer solutions and help each other.

**Social:** Within Maths, children are provided with opportunities for group work, paired talk and peer assessments. Each of these elements promotes children's social development.

**Moral:** Practical work in Maths requires children to co-operate with others and help others where necessary to achieve as a group or pair. These opportunities require children to be selfless and explain Mathematical concepts in detail to other children, putting their own determinations to one side.

**Spiritual:** Every Maths lesson has a discovery element where children develop knowledge, skills, understanding, qualities and attitudes they need to foster their own understanding of areas in which they need to develop.

**Cultural:** Children acquire a respect for their own culture and that of others, an interest in others' ways of doing things and curiosity about differences. During Maths, children are able to share how they carry out calculations and listen to the opinions of others. Sharing, listening, understanding and taking peer advice, are examples of cultural skills developed within Maths.

## **Pupil Voice**

**Reception:** "I liked singing the 5 little speckled frogs and using the 5 frames with the cubes"

**Year 1:** "We like using cubes to make the wholes and the parts!"

“Writing numbers is my favourite – there are 6 letters in my name”

**Year 2:** “I like using the counters and tens frames in Glow Maths because it helps me see the numbers”

“My favourite thing is using the rekenreks to do one-push numbers!”

“I’ve enjoyed learning about 2-D and 3-D shapes. It was fun marking the faces on the 3-D shapes”

## Learning Opportunities



**Reception:**  
Reception have enjoyed learning about sets and groups and have been exploring this in their provision.



**Year 1:**  
Year 1 have been partitioning numbers. They have been using part-whole models to partition numbers in different ways.



**Year 2:**  
Year 2 have been exploring shape. They have enjoyed learning about the different 2-D and 3-D shapes and had lots of fun sorting them in different ways!

## Successes in 2023-24

**Attitudes towards learning:** Children were enthusiastic to discuss their maths learning and had a positive outlook towards making mistakes (many referenced Tiny’s ‘Marvellous Mistakes’ and how they made them too at times).

**Engagement:** Maths displays were engaging for the children and provided them with opportunities to develop their learning.

**Attainment:** 67.3% of the EYFS children achieved the Early Learning Goal in Mathematics (69.1% in number and 70.9% in patterns). At the end of KS1, 71.2% of Year 2 children achieved the expected standard with 26.2% achieving above the expected standard.

## Priorities for 2024-25

**Vocabulary:** To develop children’s confidence whilst using key vocabulary during Maths lessons.

**Sticky knowledge:** To develop children’s sticky knowledge within Maths.

**Experiences:** For children to be provided with a variety of practical experiences with Maths lessons.