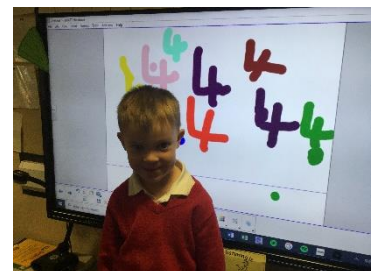




Swindon Village Primary School

Maths in Reception



Our Vision

At Swindon Village we believe that early maths is an essential building block which encompasses every subject we teach and enriches every part of our daily lives. We recognise how maths helps build resilience and develops logic and problem solving. We want all our pupils to foster a love of maths, experiencing the power and creativity of the subject. We strive for all pupils to believe that with hard work and by learning from our mistakes, that maths is something we can all do.

Learning through Play

When children play, they are learning at the highest level. Play can extend lots of areas of learning including maths - Play encourages pupils to talk, think, reason, and wonder as they move through problems. For example, as Reception children play with the sand and water, they acquire and practise new maths skills - from counting how many plastic fish they managed to net, to deciding the best bucket to use to make the largest sand pie. Play gives children opportunities to count and measure, and to find out about shapes in a meaningful way.

"Children are born ready, able and eager to learn. They actively reach out to interact with other people, and in the world around them. Development is not an automatic process, however. It depends on each unique child having opportunities to interact in positive relationships and enabling environments."
Development Matters 2012

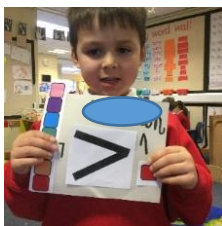


Six Key Areas

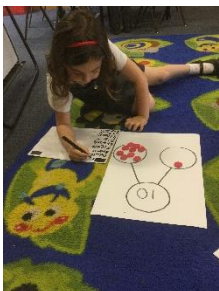
There are six key areas of early maths learning, which collectively provide a platform for everything children will encounter as they progress through their maths learning at primary school and beyond. These are:



Cardinality and counting: understanding that the cardinal value of a number refers to the quantity or 'howmanyness' of things it represents.



Comparison: understanding that comparing numbers involves knowing which numbers are worth more or less than each other.



Composition: understanding that one number can be made up of two or more smaller numbers.



Pattern: looking for and finding patterns helps children notice and understand mathematical relationships.



Shape and Space: understanding what happens when shapes move or combine with other shapes helps develop wider mathematical thinking. Measures: comparing different aspects such as length, weight and volume

Teaching for Mastery in Early Years

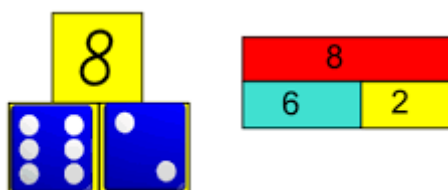
The EYFS Framework, which all state-funded primary schools use, states:

"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... 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 and not be afraid to make mistakes."

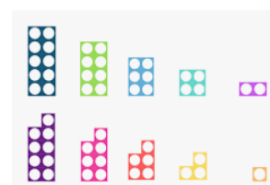
In Reception, we want to develop children's number sense so they can see numerical patterns and connections, understand how numbers are made up and how they relate to each other. We use many different representations of number, including objects and pictures, to expose their underlying structure and relationships.



Part-part-whole



bar model



Numicon

In Reception children will learn to

Count objects, actions and sounds.

Children will develop the key skills of counting objects including saying the numbers in order and matching one number name to each item. They will know that **objects can be counted only once** and that **the last number said tells us how many are in the set**. They will learn counting songs and use picture books to enrich their learning.

Subitise.

This is the ability to recognise small amounts without counting. This helps with partitioning numbers into their component parts, a crucial skill for efficient adding and subtracting later on. Initially this is done with dice patterns and real objects and, as children progress, with different arrangements of dots.

Link the number symbol (numeral) with its cardinal number value

Children will use numbers to label objects, dot patterns and pictures. They will begin to use marks in their play to keep score.

Count beyond ten.

Children will practise daily counting, using a number line to help them. They will count beyond 10 from different starting points, backwards as well as forwards.

Compare numbers.

Children will compare amounts in their play knowing if they have 'more than', 'less than' or 'the same' as their friends. They will share amounts out discussing fairness and checking to see if there is 'the same'.

Understand the 'one more than/one less than' relationship between consecutive numbers.

Children will make predictions about what the outcome will be in stories, rhymes and songs if one is added, or if one is taken away

Explore the composition of numbers to 10.

Children will use a range of visual models of numbers: for example, six as double three on dice, or the fingers on one hand and one more, or as four and two with cherry and bar model images.

Automatically recall number bonds for numbers 0-5 and some to 10

Select, rotate and manipulate shapes to develop spatial reasoning skills.

Children will use building sets, including pattern blocks, tangrams, building blocks and magnetic construction tiles, as well as found materials.

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

Investigate how shapes can be combined to make new shapes

Assessment

Base line

When children first arrive at Swindon Village School, they will have already began to develop their mathematical skills and knowledge at home and in their Pre-school settings. In order to understand the children's different starting points a base line assessment will take place in within their first few weeks at school. This will consist of fun practical activities designed to help the class teacher identify the children's next steps. This base line is taken from the 'Development Matters' strands for 3&4 year olds and will inform the class teacher of any gaps in the children's learning so targeted interventions can take place swiftly and no child falls behind.

When entering the Reception Year, the children should already be able to...

Have a secure knowledge of number within 5

Develop fast recognition of 3 objects, without having to count them individually ('subitising')	Recite numbers past 5	Say one number for each item in order: 1,2,3,4,5	Know that the last number reached when counting a small set of objects tells you how many there are in a total ('cardinal principle')	Show 'finger numbers' up to 5	Link numerals and amounts: for example showing the right number of objects to match the numeral, up to 5	Experiment with their own symbols and marks as well as numerals.	Solve real world mathematical problems with numbers up to 5	Compare quantities using the language: 'more than', 'fewer than'.
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Assessment continues throughout the children's time in Reception through observations and teacher led tasks.

