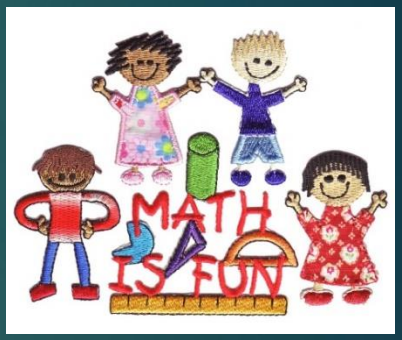
Almondsbury
Church of England Primary School
Creating our Pathways

Maths in Reception 2022



'Young children are splendid little mathematicians. they deal spontaneously and sometimes joyfully with mathematical ideas. This is what real mathematicians do."

(Ginsburg, 2008)

Early Learning Goals

ELG: 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.

Early Learning Goals

ELG: 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.

Shape, Space and Measure is now not assessed at the end of Reception but will still be taught.

Teaching:

Our objective in the Early Years is to ensure that all children develop firm mathematical foundations in a way that is engaging, and appropriate for their age.

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

Six key areas of mathematical learning

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 from (composed from) 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, as a preliminary to using units to compare later

Cardinality and counting

The cardinal value of a number refers to the quantity of things it represents.

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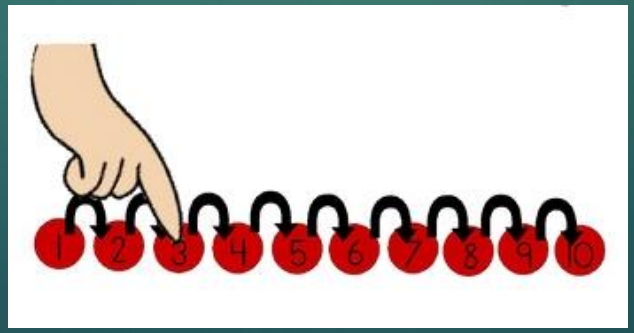
Counting is one way of establishing how many things are in a group, because the last number you say tells you how many there are.

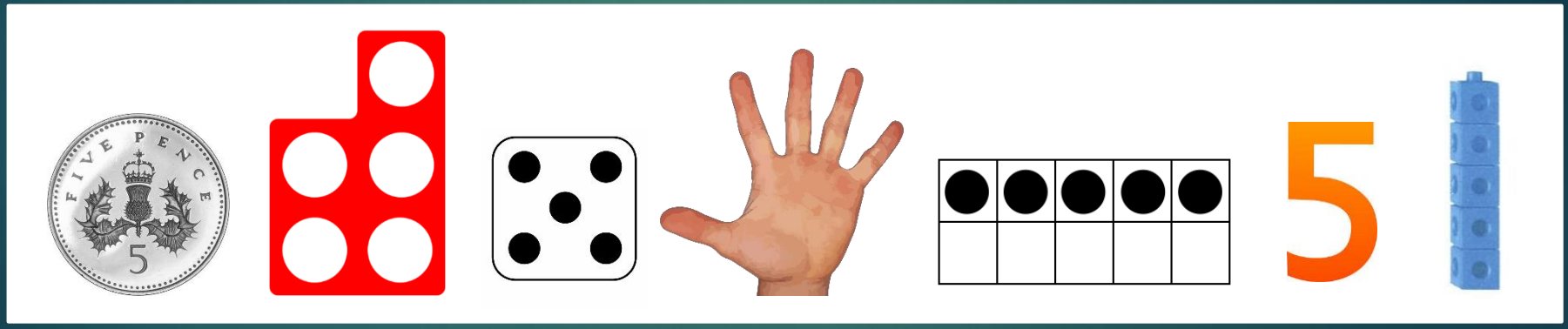
When counting, children need to understand…

- That we need to say one number for each object counted (touch counting). We encourage them to line up objects and touch each one as they count saying one number name per object.
- The final number we say is how many there are altogether. Some children continue to count after they have reached the final object as they are not connecting the numbers they are saying to the objects in front of them.
- That anything can be counted including things that cannot be touched (sounds, movements).
- That we can count objects in any order and the total stays the same.



Representing numbers

We want to develop children's number sense so that they understand that numbers can be represented in many ways, not just as a written numeral. We use many different objects and pictures to show that numbers can be represented in lots of ways.



Subitising

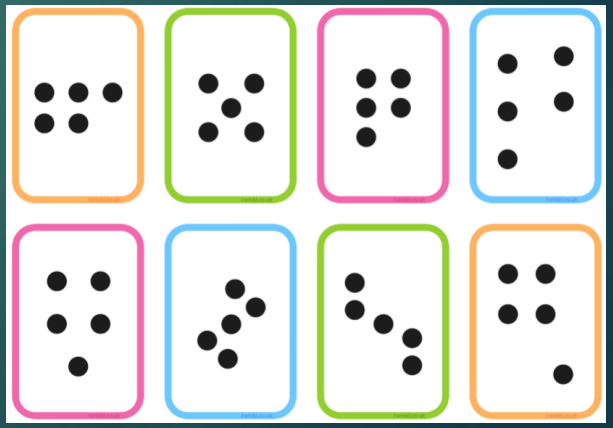
Another skill that is very important when counting is recognising small amounts without counting them. This is called 'subitising.'

It helps children to build visual images for numbers, which in turn helps them to learn number facts.

It is an essential skill when children begin to add and subtract. Using dice is a good way to practise this skill before moving on to other arrangements.

Here is a useful link to explain maths in Early Years...

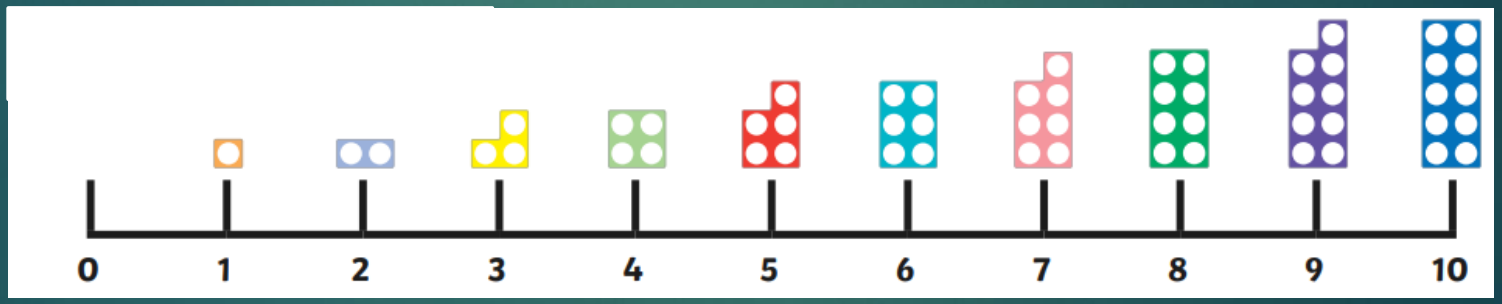
Early Years Maths - Subitising Video



Comparison

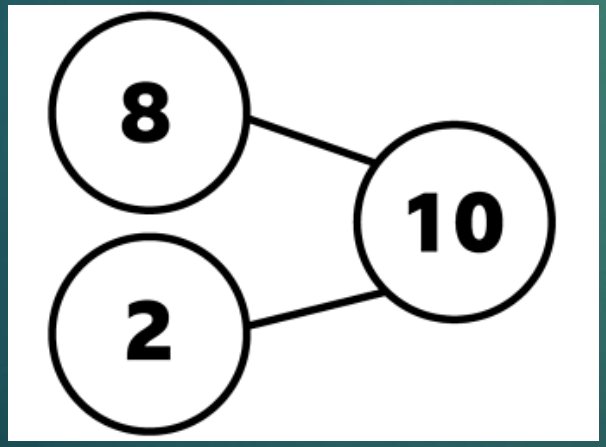
Comparing numbers involves knowing which numbers are worth more or less than each other.

This understanding underpins the mental number line which children will develop later, which represents the relative value of numbers, i.e. how much bigger or smaller they are than each other.

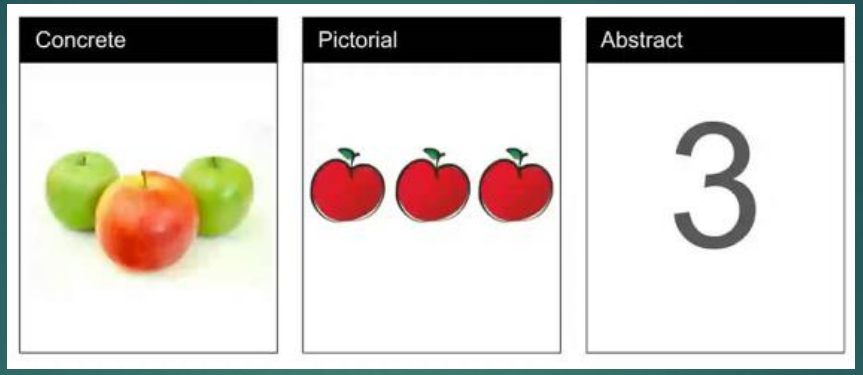


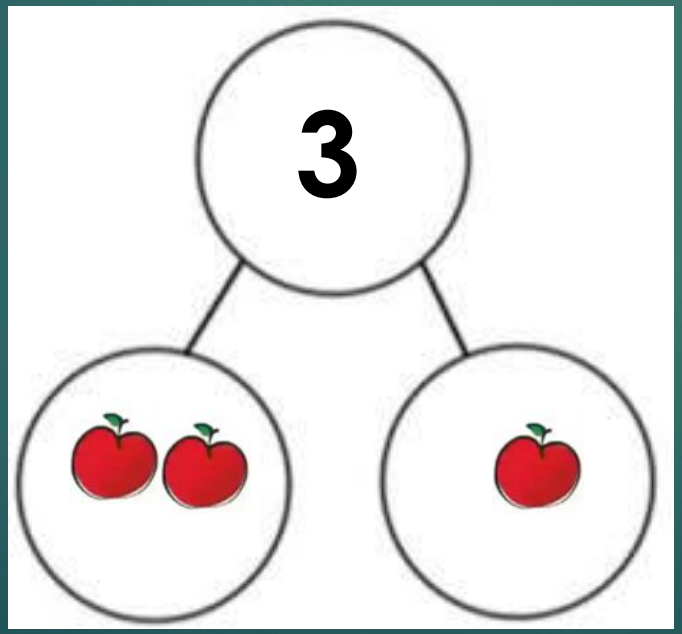
Composition

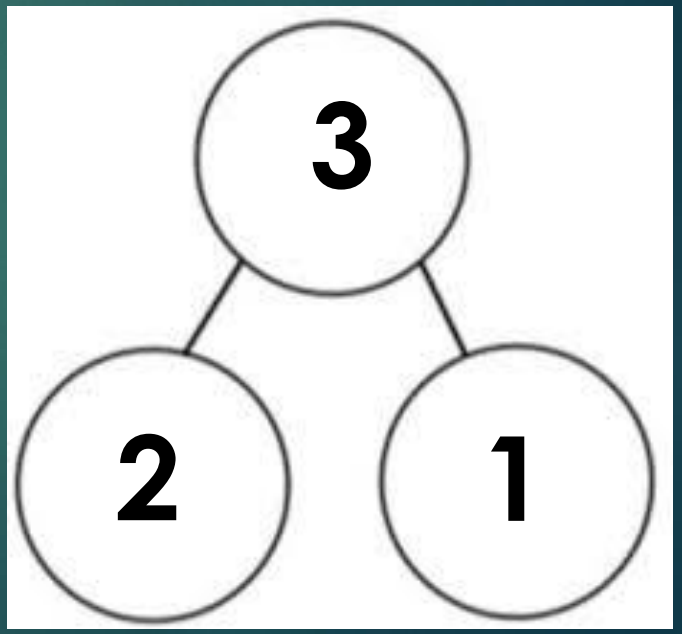
Knowing numbers are made up of two or more other smaller numbers involves 'part–whole' understanding. Learning to 'see' a whole number and its parts at the same time is a key development in children's number understanding. Partitioning numbers into other numbers and putting them back together again underpins understanding of addition and subtraction as inverse operations.



Part part whole







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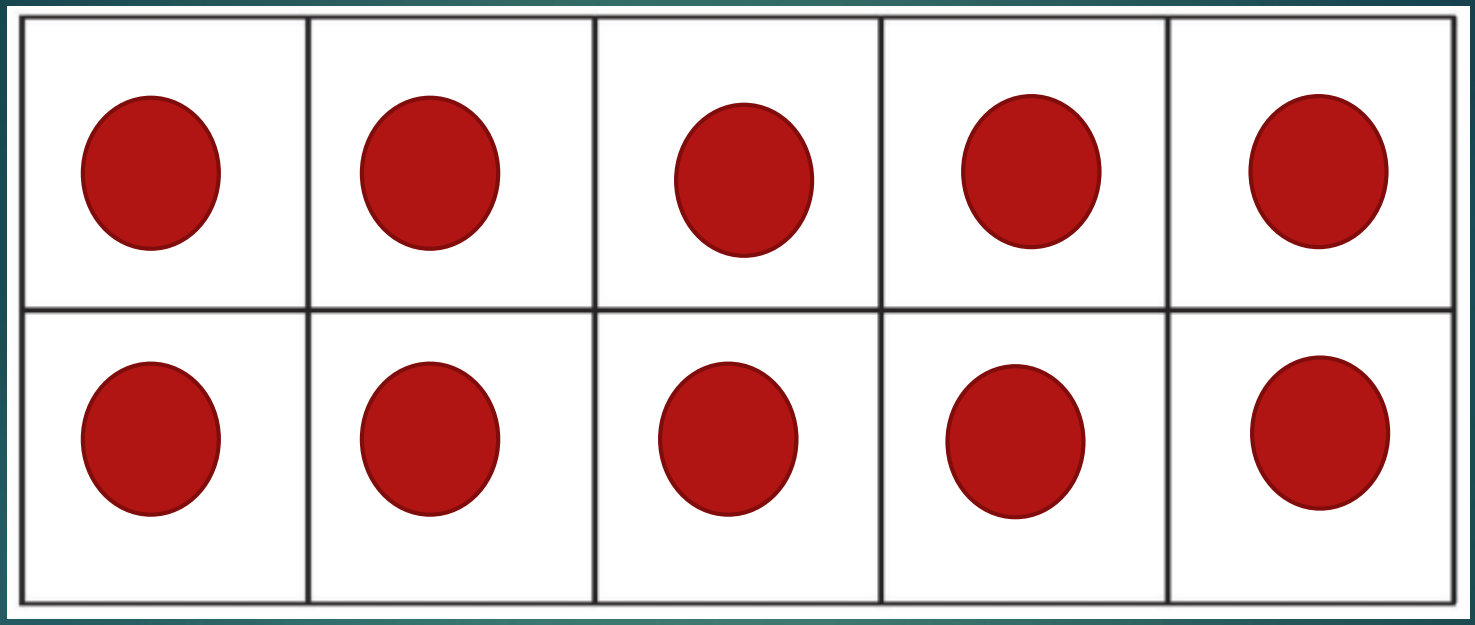

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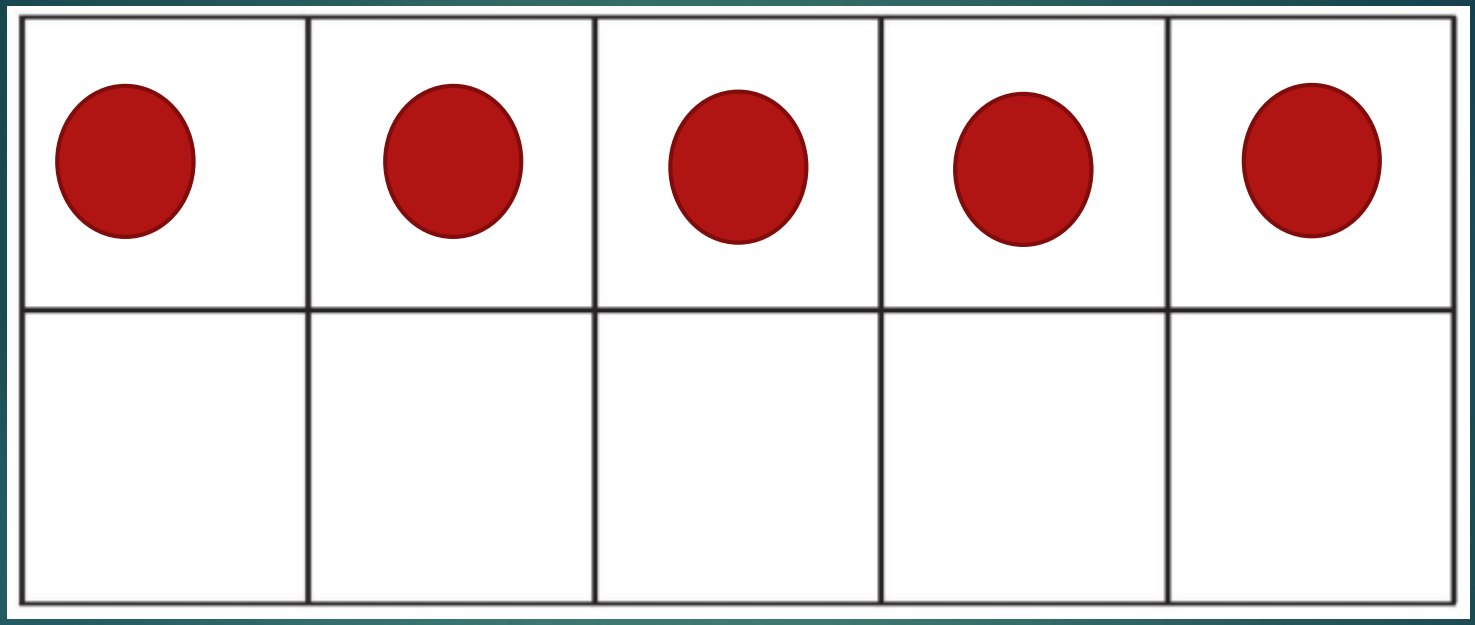


Maths Mastery

The focus is on depth – not acceleration – so that all children have a chance to embed learning.

We encourage children to explain their thinking, therefore making it easier for them to understand what is happening in the maths they are doing. This is called reasoning.

Some examples of reasoning in Reception are:

- true and false statements e.g. adding one to a number always makes it smaller
- spotting incorrect maths e.g. 1, 2, 3, 4, 6, 5, 7, 8, 9, 10 • explaining how we know something or how we worked it out

Number Blocks

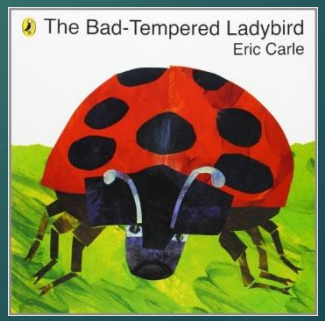
We will be introducing the children to early number work through the use of Number Blocks.

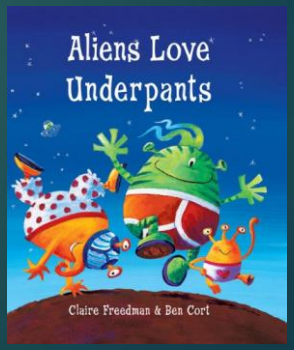
Each episode is used as a launch pad to bring numbers and ideas to life in the world around them.

The snappy animation and loveable characters combine with engaging storylines to gently introduce concepts of number to support early mathematical understanding.

How can you help at home?

- Out and about: What numbers can you see? Who can see a 7? How many lamp posts on the way to school? Counting items into a shopping basket. Finding and counting coins.
- In the house: Counting in 2s when pairing socks, can you count out 4 forks for the table? How many more do we need? Helping to measure and count cooking ingredients, count the stairs, count money into a money box
- Games: Snakes and Ladders (anything involving dice!) Bingo, Hopscotch, pairs, snap
- Singing: Number rhymes and songs
- Draw attention to more and less
- Read books with numbers





It is ok to make mistakes…

Making mistakes is part of learning… don't tell them they're wrong – let them make the mistake then help them see what went right and where it went wrong. Normalise mistake making by doing it yourself!

Thank you for coming

Any questions?