



# Maths workshop

## Counting and place value

Phase One

J Martin





# Introduction

- The teaching of Mathematics in the Early Years Foundation Stage (EYFS) is called Mathematics and covers number and shape, space and measure.
- In year one the Autumn term focus is number and place value.



# Quiz - Alphabetland

The new number names are A, B, C, D ...

You must not translate these numbers into the banned number names one, two, three...

Count with me...

Can you count forwards by yourself?

Can you count from L to T?

Can you count back from G?

Can you count back from P?

Can you count in Bs?



# Quiz - Alphabetland

Letter before. Letter after...

Say the letter that comes after...

B

H

O

Say the letter that comes before...

K

S

O



# Introduction

## ELG11 – Numbers

- Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number.
- Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.
- They solve problems, including doubling, halving and sharing.



## PROGRESSION THROUGH THE DOMAINS

### NUMBER AND PLACE VALUE

R	Y1	Y2
<p>(Early Years Outcomes at 40-60 months)</p> <ul style="list-style-type: none"> <li>* Recognise some numerals of personal significance.</li> <li>* Recognises numerals 1 to 5.</li> <li>* Counts up to three or four objects by saying one number name for each item.</li> <li>* Counts actions or objects which cannot be moved.</li> <li>* Counts objects to 10, and beginning to count beyond 10.</li> <li>* Counts out up to six objects from a larger group.</li> <li>* Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.</li> <li>* Counts an irregular arrangement of up to ten objects.</li> <li>* Estimates how many objects they can see and checks by counting them.</li> <li>* Uses the language of 'more' and 'fewer' to compare two sets of objects.</li> </ul> <p>Early Learning Goal – Number; Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.</p>	<ul style="list-style-type: none"> <li>* count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>* count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens</li> <li>* given a number, identify one more and one less</li> <li>* identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least</li> <li>* read and write numbers from 1 to 20 in numerals and words.</li> </ul>	<ul style="list-style-type: none"> <li>* count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward</li> <li>* recognise the place value of each digit in a two-digit number (tens, ones)</li> <li>* identify, represent and estimate numbers using different representations, including the number line</li> <li>* compare and order numbers from 0 up to 100; use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs</li> <li>* read and write numbers to at least 100 in numerals and in words</li> <li>* use place value and number facts to solve problems</li> </ul>



# Numbers and Patterns

- It is vital to lay secure foundations in early mathematics.
- Children need to engage with numbers and to see how to use them in their everyday environment for labelling, quantifying and calculating: we want to help them to develop a better understanding of the world in which they live.



# The Importance of Counting

- Counting is a child's first experience of number and maths.
- Learning to count can support understanding of the number system.
- It is one tool for building up calculation strategies.
- Counting backwards is no more difficult than counting forwards.
- Counting appears every day in maths lessons.





## Number words and numerals

- This focuses on the development of children's awareness, understanding and use of the language of number.





## Counting sets

- This phase focuses on the development of children's early awareness of quantity.



less



more



## Counting sets

- We then focus on the development of children's ability to count up to five objects and to recognise, without counting, sets of one, two or three objects





## Number words and numerals

- We then focus on the development of children's knowledge of the number sequence from one to nine and **recognition** of the numerals 1 to 9

**Birds on a Wire!**

0 1 2 3 4 5 6 7 8 9

A interactive lesson with ordering single digit numbers, even and odd numbers, and greater than or less than with single digits.

James Madison University  
100 North Broadway, Room 2000  
Harrisonburg, VA 22802  
www.jmu.edu  
434-760-2000

JAMES MADISON UNIVERSITY



## Counting Sets

- We concentrate on extending children's counting skills to enable them to count up to ten objects, actions or sounds accurately





## Number words and numerals

- We then extend the range of numbers that children can confidently use, including zero and numbers to 20





## Counting Sets

- We continue extending children's counting skills to enable them to count up to ten objects accurately, in any arrangement.
- The early stages of addition and subtraction are developed as children begin to partition and combine sets and to remove objects from sets





# Year one

## Number words and numerals

- We begin to extend the range of numbers that children can confidently use, to include numbers to 100
- Children also start to explore the sequences of numbers when they count from zero in twos, fives and tens







# Year one

## Number words and numerals

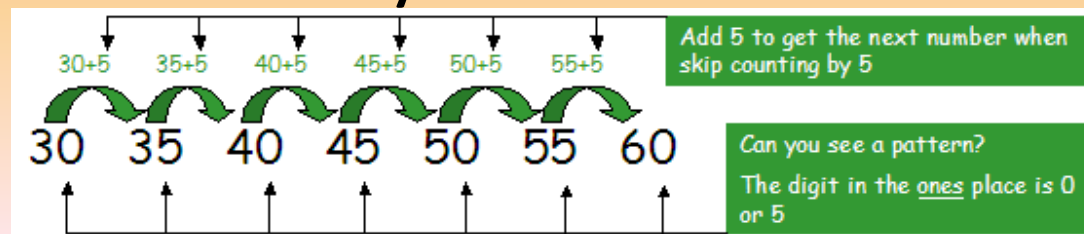
- Throughout the term we extend the range of numbers children can confidently use, including numbers to 100
- Children also become more secure in counting forwards and backwards in twos, fives and tens





# Counting Sets

- We are now using children's counting skills to support addition and subtraction through counting on and back and through counting from the smaller to the larger number to find a difference.
- Children also use their ability to count in twos, fives and tens to count larger groups of objects efficiently.

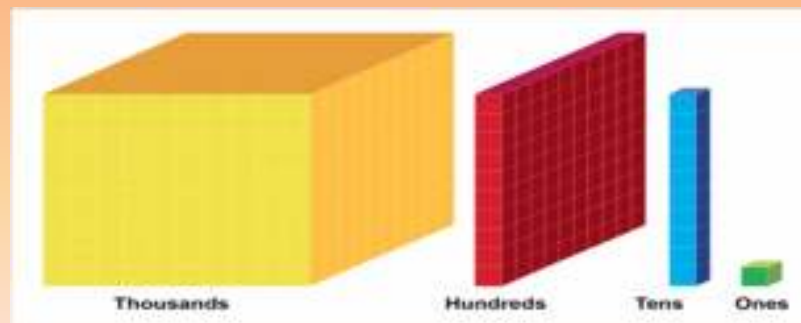




# Place Value

A good understanding of place value (the value of each digit in a number) is vital in primary-school maths.

It means understanding that 582 is made up of 500, 80 and 2, rather than 5, 8 and 2.





## Place Value

In Key Stage 1, a child might be given some ten and units (ones) Dienes blocks and asked to make a number such as 43. They would need to select 4 tens rods and 3 ones blocks. This makes it very clear to them that a two-digit number is made up of tens and ones. It also helps them to practise counting in tens.

It is absolutely vital that children understand place value before they can go onto adding and subtracting two-digit numbers.



# Keep maths practical and have fun!



- GAME - 10 nice things
- Bath-time (filling and emptying containers, counting)
- Counting rhymes
- Counting from different numbers
- Counting backwards
- Talk about numbers in the environment (eg, front door numbers, number plates, road signs etc)
- Help with the cooking (measuring, weighing, ordering the recipe)
- Setting table places (how many plates/cups etc)
- Paying in shops (including change)
- Estimating amounts (how many apples/sweets?)
- Board games