

Numbers and Calculating in the Early Years Foundation Stage and beyond!

Greenfield Primary School

Introduction

- The teaching of Mathematical Development in the Early Years Foundation Stage (EYFS) is made up of two main areas:
 - Numbers
 - Shape, space and measures

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.

Maths is everywhere...

- Cooking (measurements, capacity, weight)
- TV time
- Shopping (best buys/BOGOF)
- Time
- Banking/bills
- Decorating
- Travelling
- Moving around
- Gardening

Numbers and patterns

- Counting is a significant aspect of children's early understanding of number and is the foundation on which quantifying and calculating are built.
- Laying foundations in Mathematics has been structured around the following two themes to ensure that children experience high-quality teaching in two aspects of counting:
 - Number words and numerals
 - Counting sets

Phase 1:

Number words and numerals

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



Phase 1

Counting sets

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



less



more

Phase 1

Number words and numerals	Counting sets
<ul style="list-style-type: none">• Use some number names and number language accurately• Offer comments or ask questions about numbers, demonstrating their curiosity• Say some number names in sequence• Show an awareness of numbers in their environment• Recognise and continue repeating patterns	<ul style="list-style-type: none">• Show awareness of one-to-one correspondence through practical everyday experience• Distinguish between quantities, recognising when a group of objects is more than one• Begin to make comparisons between quantities• Use some number language, such as 'more' and 'a lot'

Phase 2:

Number words and numerals

- The main focus in Phase 2 is the development of children's knowledge and use of the number sequence from one to five, and the recognition of the numbers 1 to 5.



Phase 2

Counting sets

- Phase 2 focuses 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



Phase 2

Number words and numerals	Counting sets
<ul style="list-style-type: none">• Recognise some numbers of personal significance• Count forwards and backwards within the number sequence 1 to 5• Order numbers in the range 1 to 5• Recognise, say and identify numerals 1 to 5	<ul style="list-style-type: none">• Appreciate that numbers can identify how many objects are in a set• Count up to five objects by touching each object and saying one number name for each item• Know that the last number in the count gives the total• Represent numbers up to five, using fingers• Recognise groups with one, two or three objects• Match groups with the same number of objects (one to three)

Phase 3

Number words and numerals

- Phase 3 focuses on the development of children's knowledge of the number sequence from one to nine and **recognition** of the numerals 1 to 9



Phase 3

Counting Sets

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



Phase 3

Number words and numerals	Counting sets
<ul style="list-style-type: none">• Count forwards and backwards within the number sequence 1 to 10• Recognise, say and identify numerals 1 to 9• Order numbers in the range 1 to 9• Say the number that comes after a given number within the number sequence 1 to 10	<ul style="list-style-type: none">• Represent numbers up to ten, using fingers• Count reliably up to ten objects, including those that cannot be moved• Count actions or sounds• Count out a smaller number of objects (up to six) from a larger group• Match and compare the numbers of objects in two sets, recognising when the sets contain the same number of objects• Move around, or partition and recombine small groups of up to four objects, and recognise that the total is still the same

Phase 4

Number words and numerals

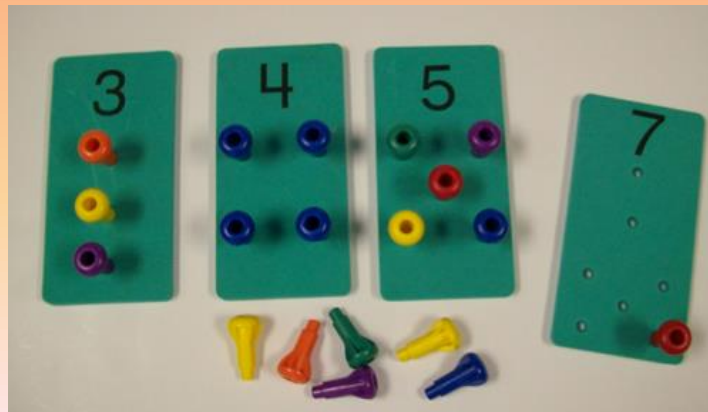
- Phase 4 extends the range of numbers that children can confidently use, including zero and numbers to 20



Phase 4

Counting Sets

- Phase 4 focuses on 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



Phase 4

Number words and numerals	Counting sets
<ul style="list-style-type: none">• Count forwards and backwards within the number sequence 1 to 20• Order numbers across the 10 boundary (e.g. 8 to 11)• Use zero and the numeral to represent it• Recognise, say and identify numerals 0 to 9 and beyond• Say the numbers that come before and after a given number within the number sequence 1 to 20• Recognise and continue patterns linked to number• Begin to use the ordinal language of 'first', 'second' and 'third' in practical contexts	<ul style="list-style-type: none">• Count reliably any arrangement of up to ten objects• Instantly recognise, without counting, familiar patterns of up to six objects• Begin to estimate how many objects can be seen and check by counting (up to ten)• Find one more or one less than a number from 1 to 10• Partition and recombine small groups of up to ten objects• Find the total number of objects in two groups by counting all of them• Introduce the empty set (0)• Recognise that the number of objects in a set does not change if they are moved around• Remove objects from a small group and count how many are left

Phase 5

Number words and numerals

- Phase 5 focuses on extending the range of numbers that children can confidently use, to include numbers to 30
- Children also start to explore the sequences of numbers when they count from zero in twos, fives and tens



Phase 5

Counting Sets

- Phase 5 focuses on extending children's counting skills to enable them to estimate, count and compare sets of up to 20 objects.
- Addition and subtraction are further developed as children partition and combine sets and count on and back



Phase 5

Number words and numerals	Counting sets
<ul style="list-style-type: none">• Count forwards and backwards within the number sequence 0 to 30• Count forwards in twos, fives or tens• Recognise, say and identify numerals up to 30• Say the numbers that come before and after a given number within the number sequence 0 to 30• Identify and explain simple patterns in the number sequence• Use the language of ordinal numbers in a range of contexts	<ul style="list-style-type: none">• Count reliably more than ten objects• Find the total by combining two groups, where one group is screened (seen and then hidden) and counting on• Compare sets of up to 20 objects, using language such as 'more' or 'fewer'• Estimate a number of objects that can be checked by counting• Instantly recognise, without counting, organised and random arrangements of small numbers of objects• Remove a smaller number from a larger and find how many are left by counting back from the larger number• Begin to find out how many have been removed from a larger group of objects by counting up from a number

Phase 6

Number words and numerals

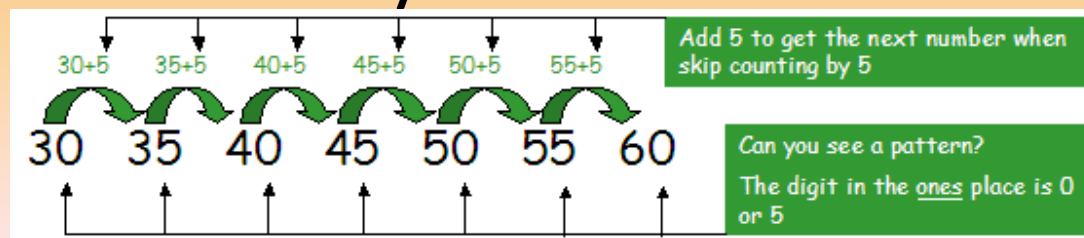
- This phase extends the range of numbers children can confidently use, including numbers to 100
- Children also become more secure in counting forwards and backwards in twos, fives and tens



Phase 6

Counting Sets

- Phase 6 focuses on 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.



Phase 6

Number words and numerals	Counting sets
<ul style="list-style-type: none">• Count forwards and backwards within the number sequence 0 to 100• Say the numbers that come before and after a given number within the number sequence 0 to 100• Count forwards and backwards in twos, fives and tens• Recognise, say and identify numerals 0 to 100	<ul style="list-style-type: none">• Relate addition to counting on and recognise that addition can be done in any order• Count large groups of objects by using efficient strategies• Understand subtraction as 'take away' and find a 'difference' by counting up

Vocabulary

- Plus, addition, add, more, a lot, increase
- Take away, subtract, minus, decrease, subtraction
- Can be confusing but children need to hear all of the terms to ensure they understand.

Keep maths practical and have fun!

- Bath-time (filling and emptying containers, counting)
- Counting rhymes/stories
- 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?)
- Measuring their height and working out how much they have grown.

Website for parents

www.mad4maths.com/parents/

Covering:

Helping your kids with maths

How teaching has changed

How calculation is taught (the new methods)