Involving parents and carers in Maths

A workshop for parents/carers of children in EYFS and Year 1 to find out more about how children are taught and learn maths at Oakmeadow.

What is this meeting for?

- To help you understand how we teach Mathematics in EYFS & Year 1
- To support you to work with your child at home
- To share practical ideas and resources
- For you to ask questions

Why is your involvement important?

The evidence about the benefits of parents and carers being involved in their children's education in general is overwhelming.

Parental involvement in their children's learning positively affects the child's performance at school in both primary and secondary schools leading to;

- higher academic achievement,
- greater cognitive competence,
- greater problem-solving skills,
- greater school enjoyment,
- better school attendance and
- fewer behavioural problems at school

Although parental involvement has the greatest effect in the early years, its importance to children's educational and literacy outcomes continues into the teenage and even adult years

The old Early Learning Goal

ELG 11 - Number

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.

The EYFS Early Learning Goal

Number

- 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.

The EYFS Early Learning Goal

Numerical Patterns

- 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.

A welcome change

The focus is now on numbers to 10. This deep knowledge can then be applied to the number system.

Teaching for mastery

What does it mean to master something?

- I know how to do it
- It becomes automatic – I can do it without needing to think
- I'm really good at it
- I can show someone else how to do it

Features of teaching for mastery in the early years.....

- Slower pace
- Going deeper
- Attention to mathematical concepts, relationships and structures.

The mastery approach to mathematics also embraces the Characteristics of Effective Learning that are key to learning in Early Years.

Characteristics of Effective Learning (Development Matters)	Principles of Mastery (NCETM 2015)
Playing and Exploring – Engagement • Finding out and exploring • Playing with what they know • Being willing to 'have a go'	The reasoning behind the mathematical processes is emphasised. Teacher/pupil interaction explores in detail how answers were obtained, what the method/strategy worked and what might the most efficient method/strategy. Teaching is underpinned by a belief of the importance of maths and that the vast majority of children can suceed in the learning of mathematics in line with national expectations for the end of key stage.
Active learning – Motivation • Being involved and concentrating • Keeping trying • Enjoying achieving what they set out to do	Lessons are short but intense. Teacher led discussion is interspersed with short tasks and/or pupil to pupil or pupil to teacher discussion.
Creating and Thinking Critically – Thinking • Having their own ideas • Making links • Choosing ways to do things	Learning is broken down into small, connected steps building on what the pupils already know. There is regular interchange between concrete/contextual ideas and their abstract or symbolic representation.

Vocabulary

- Counting – 5 principles (stable order – the verbal sequence, 1:1 correspondence, cardinality, abstraction i.e. it doesn't matter what you count, how you count stays the same and order irrelevance)
- Subitising – perceptual (up to 3) and conceptual (sub groups in a larger set)
- Cardinality – the last number tells us how many
- Ordinality – the position of a number
- Composition – parts it is made of
- Comparison – describing sets, more than, fewer than (when counting things)
- Stem sentences

Counting rules

- We say one number name as we count one item.
- We say the number names in the right order.

If we do this,

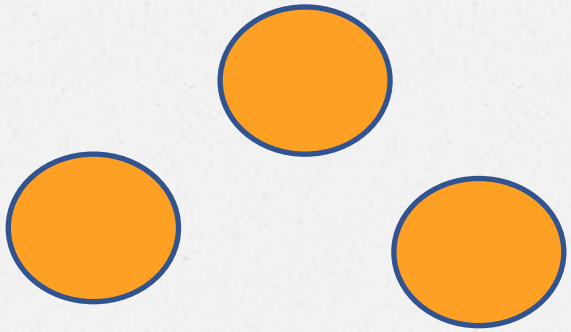
- We know that the last number that we count, is the total number of objects.

With regular practice, we also learn that we can 'move' the objects but if we don't add any or take any away, the same number will remain.

Subitising

Being able to say how many there are without counting. Learning without the abstract maths.

Perceptual subitising - to just know...

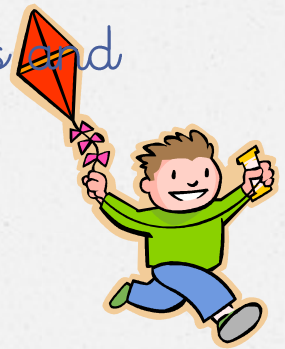


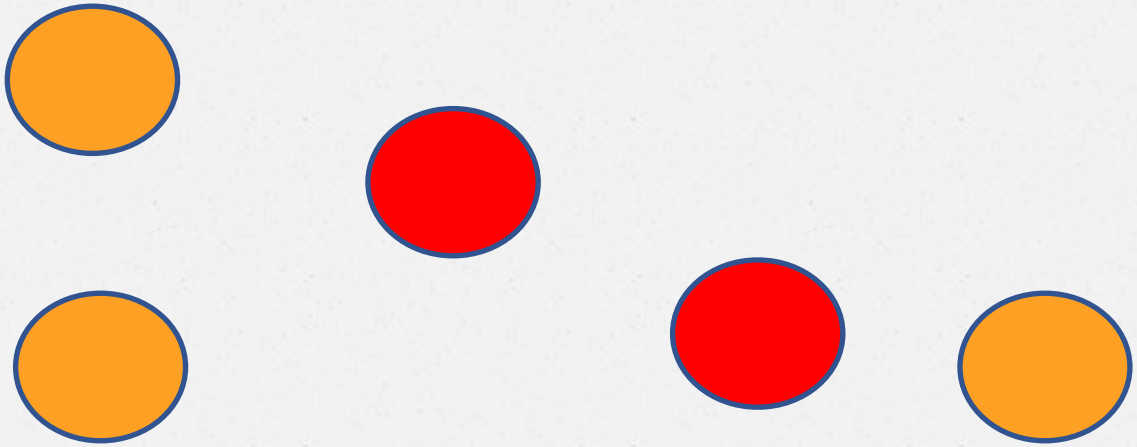
Conceptual subitising -

where we recognise small amounts and combine them.

Key skills to be able to partition and recombine numbers flexibly.

Supports understanding of all four operations and efficient calculation.





With lots of experience of subitising, children start to recognise parts of numbers, so for example, here they may say, 'I know it's 5 because I can see 3 and 2'. They start to calculate before they know that they are calculating – it's the early stages of composition of number e.g. 1 and 4 makes 5.

Subitising in practice…

https://axis.ncetm.org.uk/mastering-number/videos-reception/

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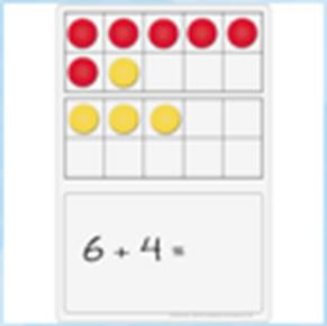
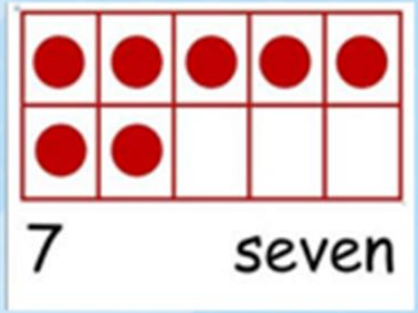
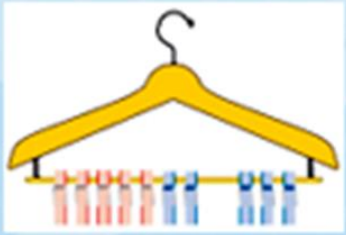
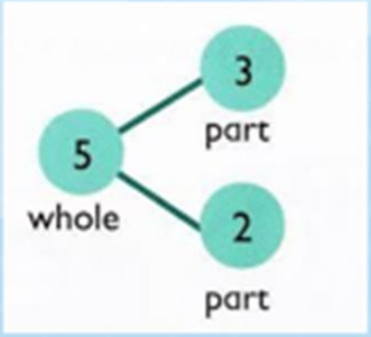
Once children are confident with subitising, we begin to structure numbers and develop an understanding of place value.

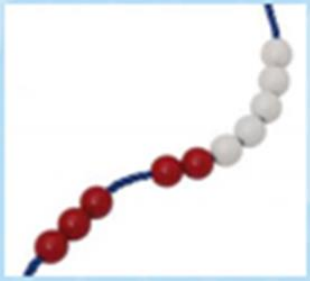
Representations and Structures:



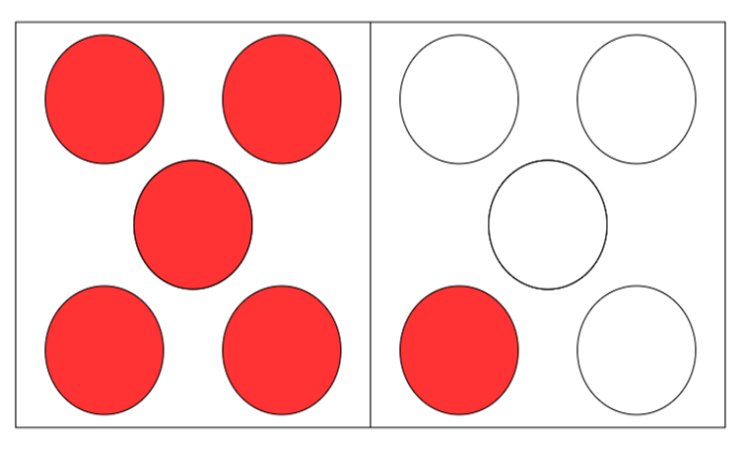


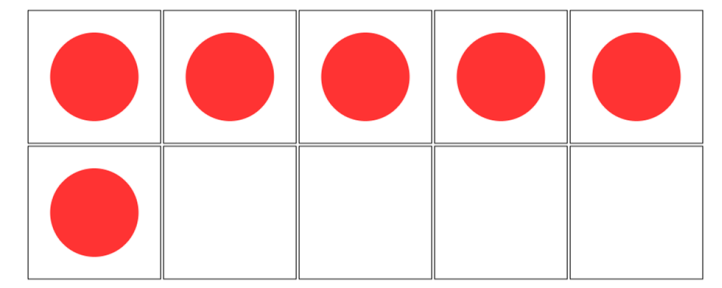


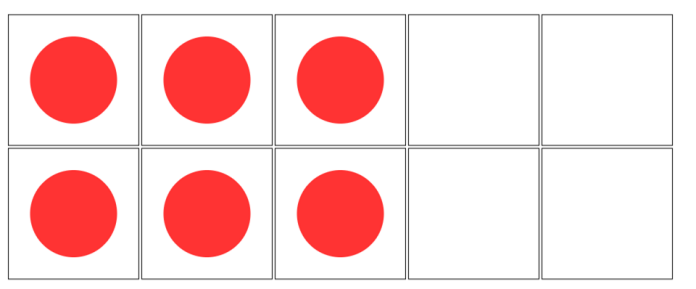




Representation and Structure



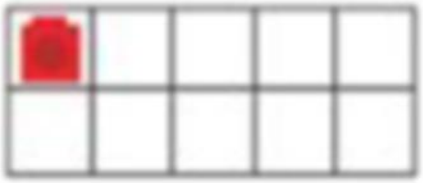




Progression

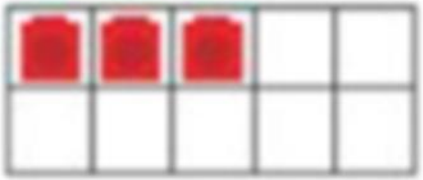
Objects → Pictures → Numbers and signs

Concrete Pictorial Abstract



1

2



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Mastering Number

A carefully structured progression for teaching number.

Our own medium term plans to teach other skills – shape, space, measure etc.

Autumn term

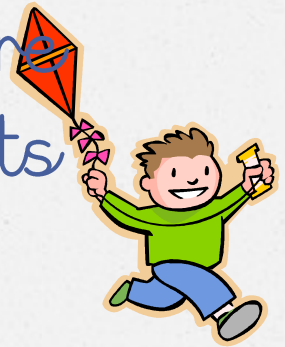
- Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills.
- They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison.

Spring term

Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals.

Summer term

Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice.



Progression into Year 1 - Autumn term

Number sense: numbers to 10

Counting, saying number names in order, cardinality to 10. Use the 5 principles of counting.

Counting objects to 10

Counting to zero

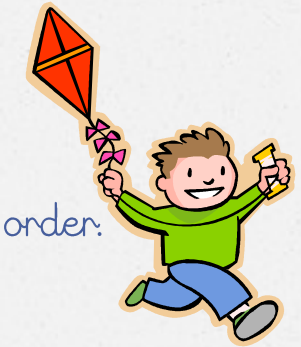
Subitising Representation of number

Read, write and say numbers

Ordering and comparing numbers

Knows the counting patterns from 1 to 100.

Knows that counting can go forwards or backwards in order.



Spring term

Place value and Calculation

Number bonds 0-10

Combing sets- addition (aggregation)

Making the amount bigger (argumentation)

Subtraction within 20 - removing from the set as takeaway.

Subtraction within 20- finding the difference as counting up.

Concept of equality

Concept of the effect of zero when adding and subtracting.

Developing mental strategies for addition and subtraction

Partitioning, recombining and writing the numbers accurately

Summer Term

Number sense and arithmetic:

Revisit and consolidate

Continuing to work on number structures

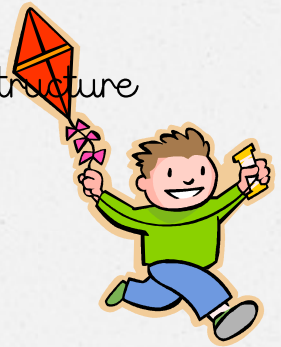
Promoting the number sense arithmetic

e.g 8 + 4 = 8 +2+2

Doubles and near doubles 7 + 8 e.g double the smaller number and add 1.

Missing number problems using bar model to expose the structure

Counting, reading and writing number patterns



Year 1

NCETM video

Videos – Year 1 | NCETM Axis

What you can do at home

- Talk about maths
- Count using the 5 principles
- Subitise
- Sing with numbers
- Play and explore
- Use numbers, shapes and measure in everyday situations
- Practise number formation

Thank you for your support at home

- Some resources to use
  - http://www.ictgames.com
  - Number Blocks
  - Topmarks
  - Woodlands Resources
  - Maths skill builders
  - Mathletics