Early Maths Workshop for Parents

Aims

- Share EYFS mathematics curriculum
- Develop parent understanding of key principles
- Share ideas of how you can support your child's maths skills at home.

EYFS Mathematics Curriculum

Birth to Three

- Combine objects like stacking blocks and cups. Put objects inside others and take them out again.
- Take part in finger rhymes with numbers.
- React to changes of amount in a group of up to three items.
- Compare amounts, saying 'lots', 'more' or 'same'.
- Develop counting-like behaviour, such as making sounds, pointing or saying some numbers in sequence.
- Count in everyday contexts, sometimes skipping numbers - '1-2-3-5.'
- Climb and squeeze themselves into different types of spaces.
- Build with a range of resources.
- Complete inset puzzles.
- Compare sizes, weights etc. using gesture and language - 'bigger/ little/smaller', 'high/low', 'tall', 'heavy'.
- Notice patterns and arrange things in patterns.

Three and Four-Year-Olds

- Develop fast recognition of up to 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 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 language: 'more than', 'fewer than'.
- Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round'.
- Understand position through words alone – for example, "The bag is under the table," – with no pointing.
- Describe a familiar route.
- Discuss routes and locations, using words like 'in front of' and 'behind'.
- Make comparisons between objects relating to size, length, weight and capacity.
- Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.
- Combine shapes to make new ones – an arch, a bigger triangle, etc.
- Talk about and identifies the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.
- Extend and create ABAB patterns – stick, leaf, stick, leaf.
- Notice and correct an error in a repeating pattern.
- Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'

EYFS Mathematics Curriculum

Children in Reception

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond ten.
- Compare numbers.
- Understand the 'one more than/one less than' relationship between consecutive numbers.
- Explore the composition of numbers to 10.
- Automatically recall number bonds for numbers 0–5 and some to 10.
- Select, rotate and manipulate shapes in order to develop spatial reasoning skills.
- Compose and decompose shapes so that children recognise a shape can have other shapes *within* it, just as numbers can.
- Continue, copy and create repeating patterns.
- Compare length, weight and capacity.

Early Learning Goals

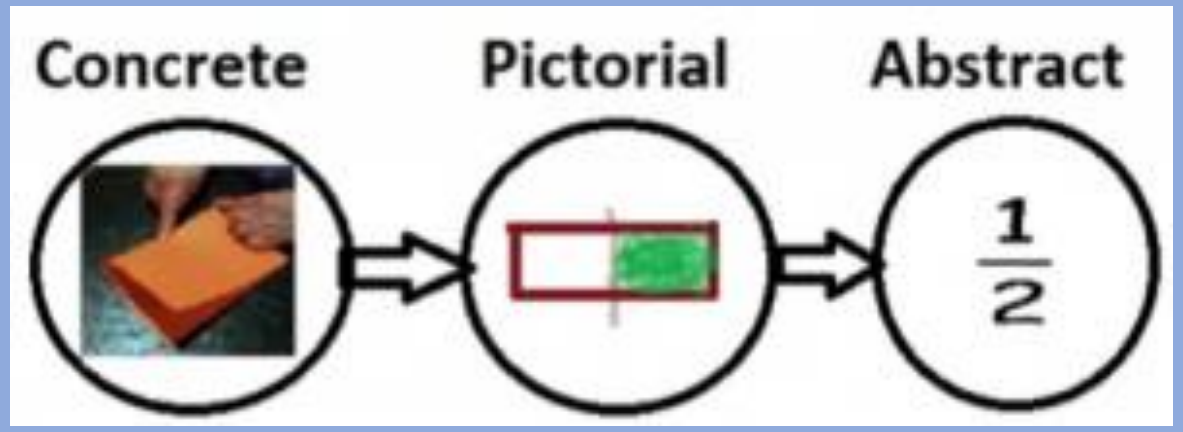
Number

- 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.

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.

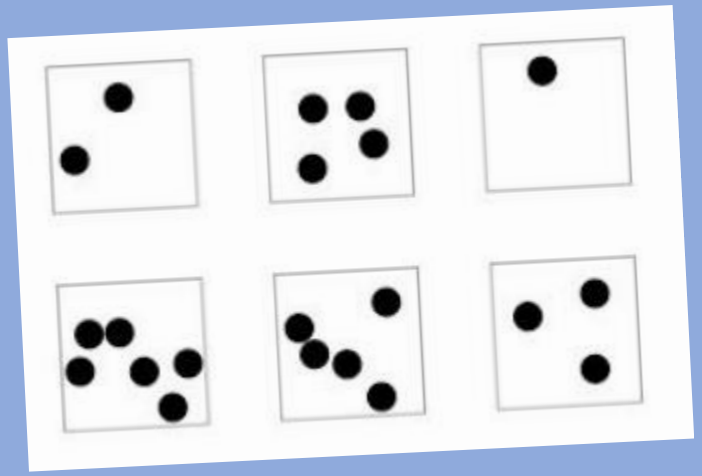
How is Maths taught in EYFS and beyond?



Key principles in EYFS

1. Principles of counting: What they are and the importance of mastering these skills.

2. Number composition/ subitising: what is it? How can we develop this skill at home and school?

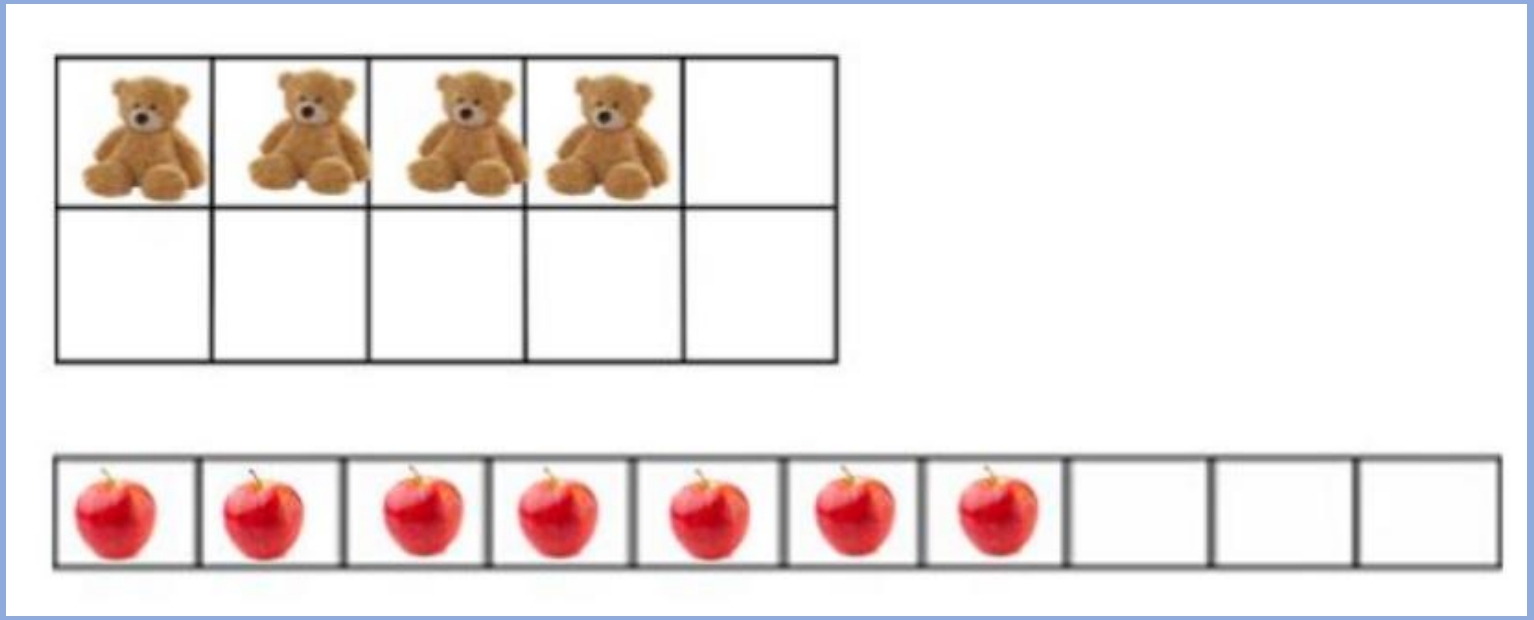


Principles of Counting

1. One-to-One Correspondence Principle

Understanding that each object being counted must be given one count and only one count.

It is useful in the early stages for children to actually tag or move each item as it is counted.



Principles of Counting

2. Stable Order Principle

Understanding that the counting sequence stays consistent.

It is always 1,2,3,4,5,6,7 etc., not 1,2,3,5,8

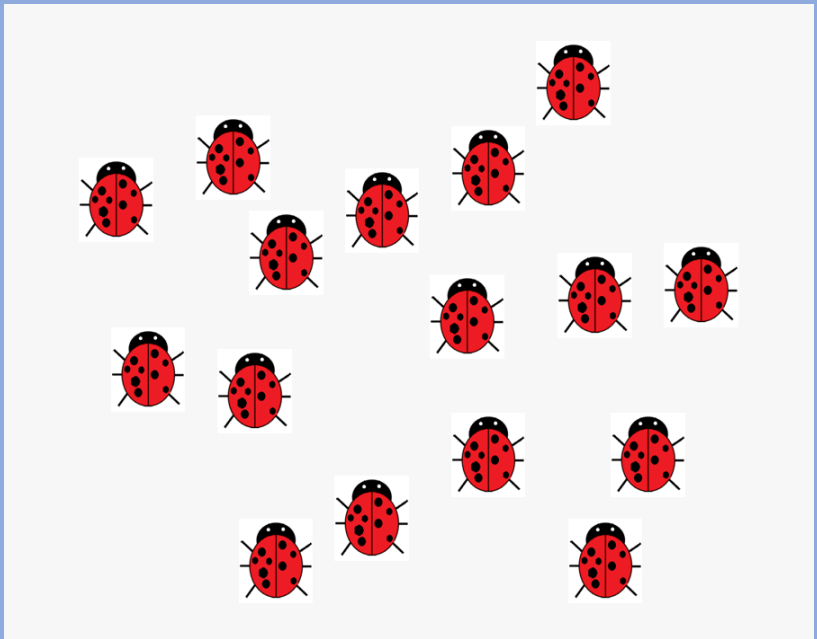
Can your child spot your mistake?

Nursery rhymes practise counting a variety of different things in different ways.

Principles of Counting

3. Cardinality Principle

Understanding that the last count of a group of objects represents how many are in the group in total.



Keep modelling:
There are 1,2,3
marbles in the jar.
There are 3 marbles
in the jar.

Principles of Counting

4. Abstraction Principle

Understanding that it doesn't matter what you count, how you count stays the same.

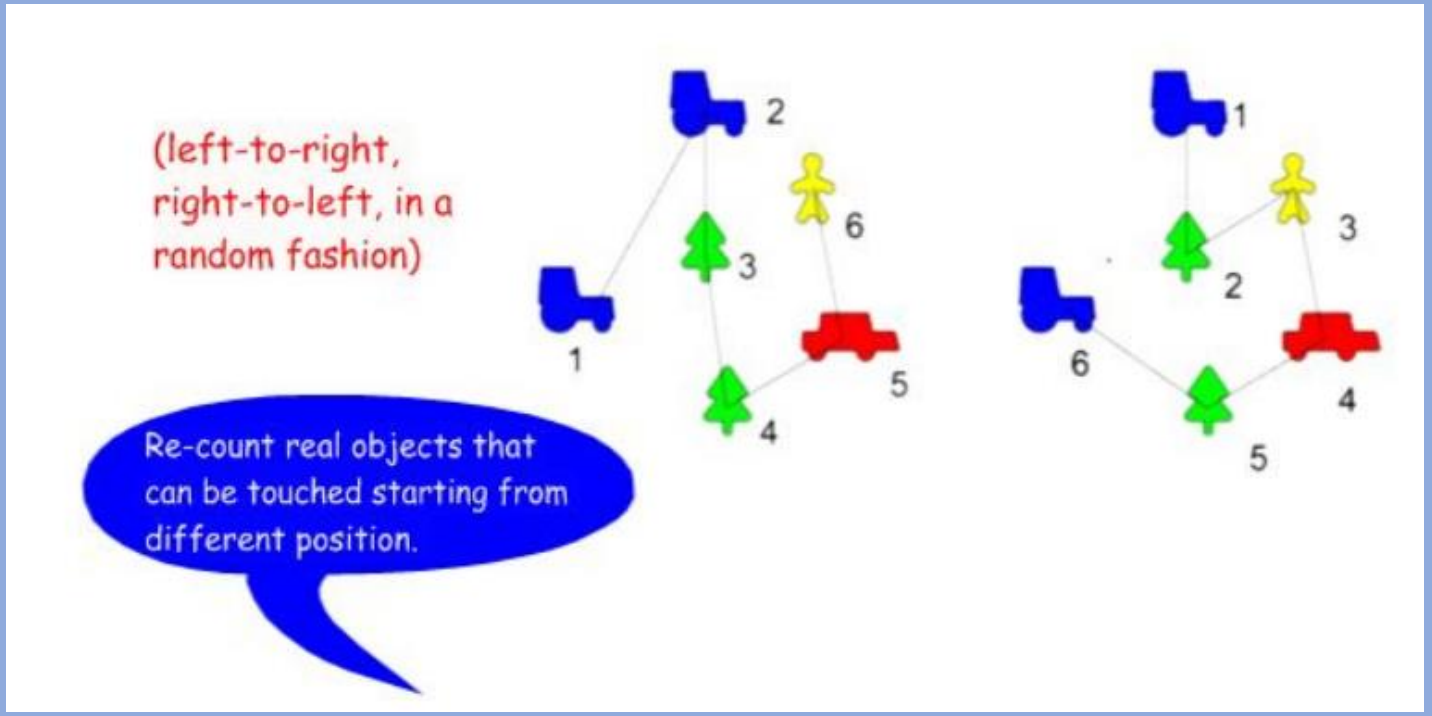
For example, any set of objects can be counted as a set, regardless of whether they are the same colour, shape, size, etc

This can include non-physical things such as sounds, imaginary objects etc.

Principles of Counting

5. Order Irrelevance

Knowledge that the order that items are counted in is irrelevant as long as every object in the set is given one count and only one count.

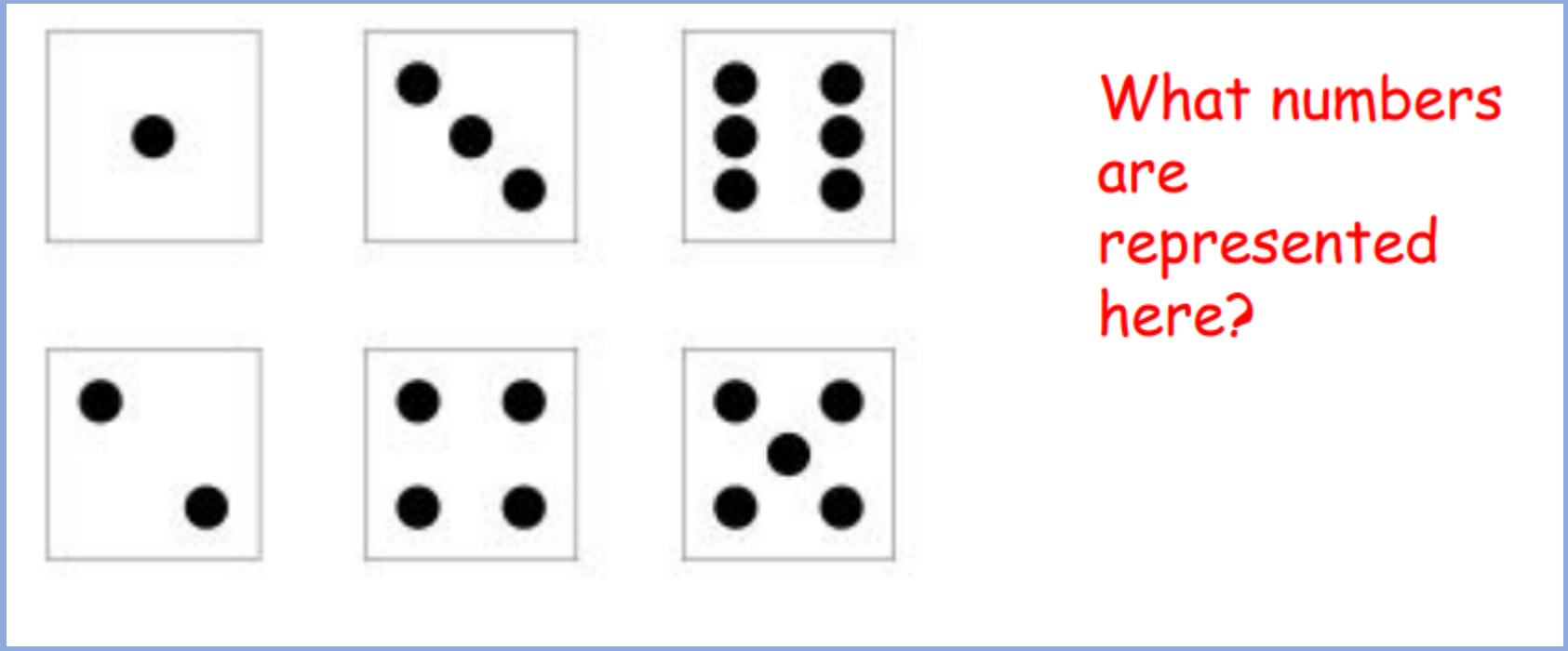


Summary of Counting Principles

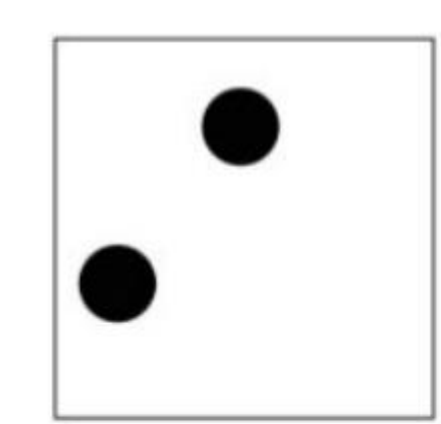
1. **One-to-One Correspondence:** Understanding that each object receives one count and one only one count
2. **Stable Order:** Understanding the verbal sequence of counting; being able to say the number names in sequential order
3. **Cardinality:** Understanding that the last number spoken in a counting sequence names the quantity for that set
4. **Abstraction:** Understanding that it does not matter what you count, how we count stays the same. For example, any set of objects, regardless of the same colour, shape, size, etc. This can also include non-physical things such as sounds.
5. **Order Irrelevance:** Knowledge that the order that items are counted in is irrelevant—left-to-right, right-to-left, in a random fashion

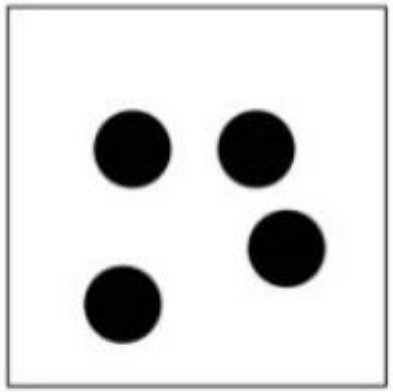
Number composition/ Subitising

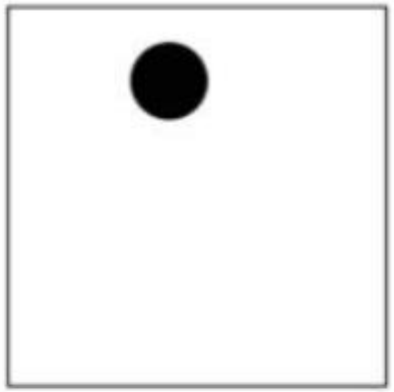
- Subitising is the ability to quickly recognise how many objects are in a group without actually counting.
- It reinforces principles of counting and beyond.

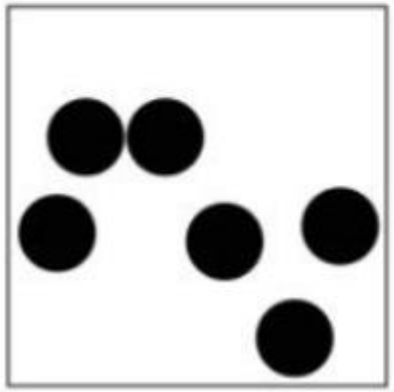


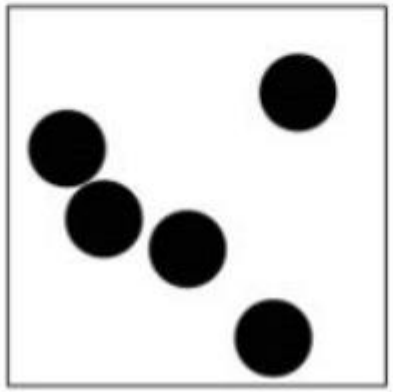
Number Composition/ Subitising

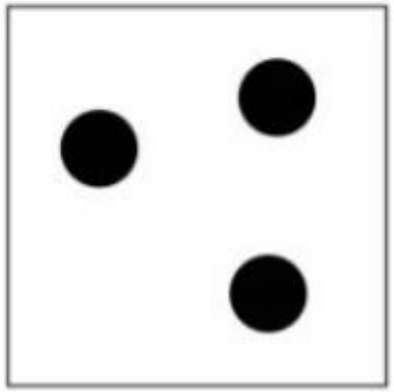






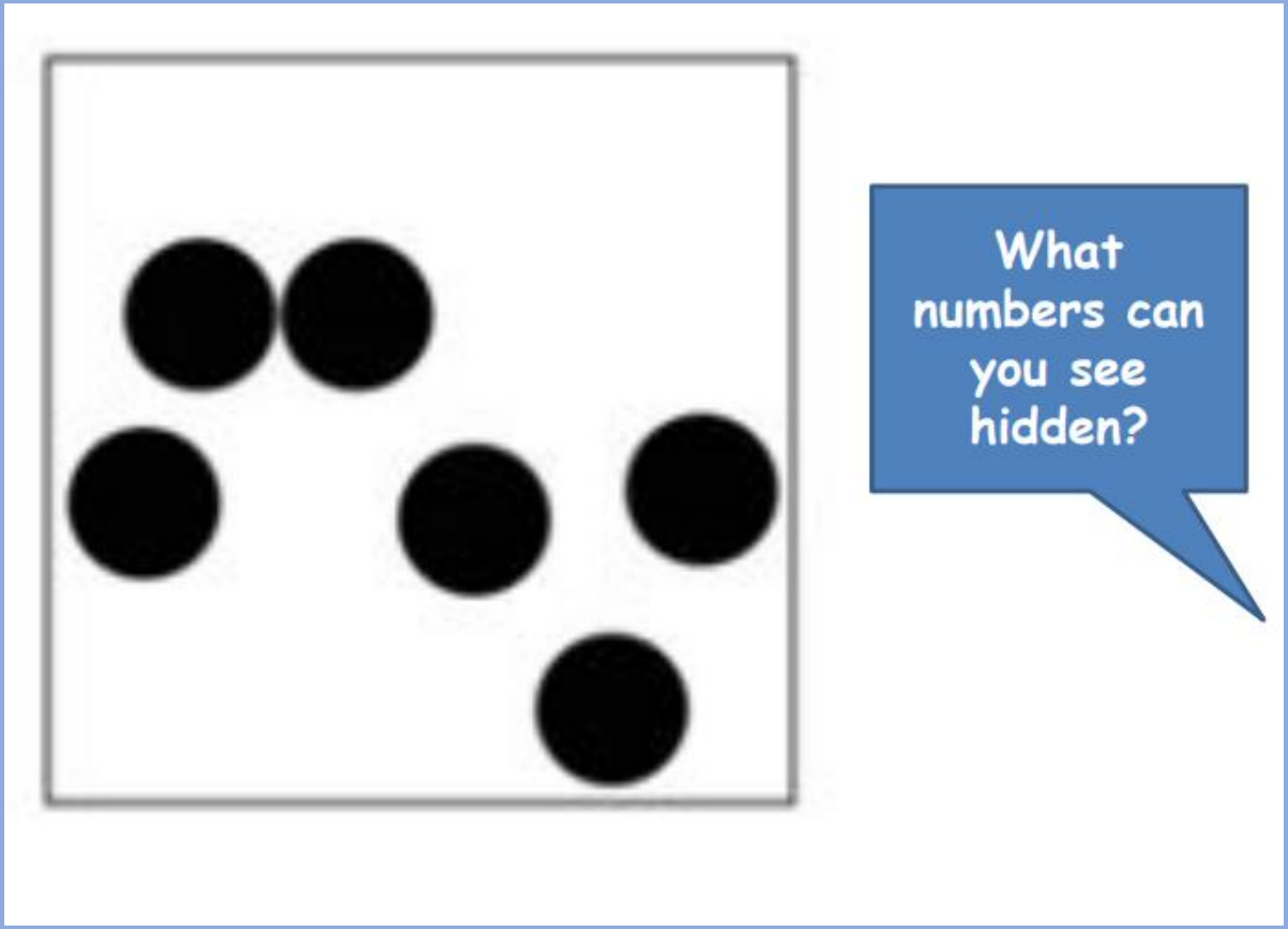




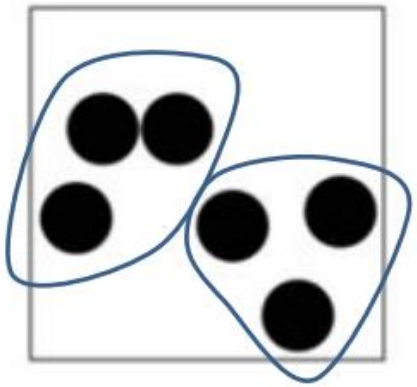


What numbers are represented here?

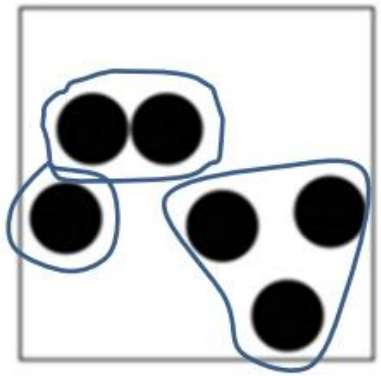
How did you see the number?



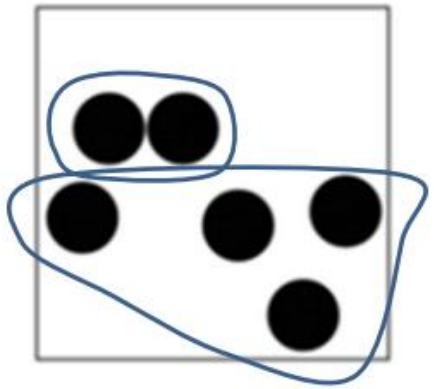
Number composition/Subitising



3 and 3



2 and 1 and 3



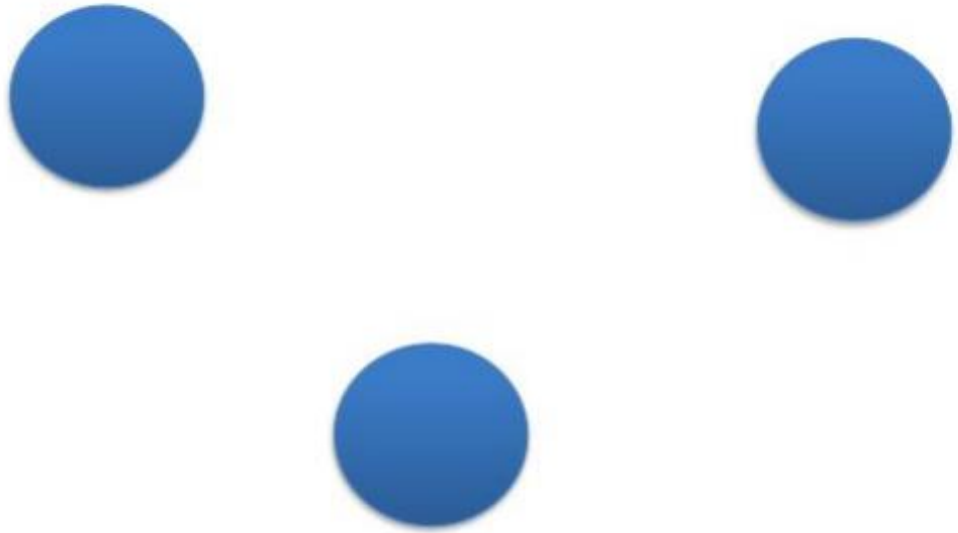
2 and 4

There are more ways to recognise 6. By asking the children to investigate images and talk about what they can see helps children develop their understanding of different numbers.

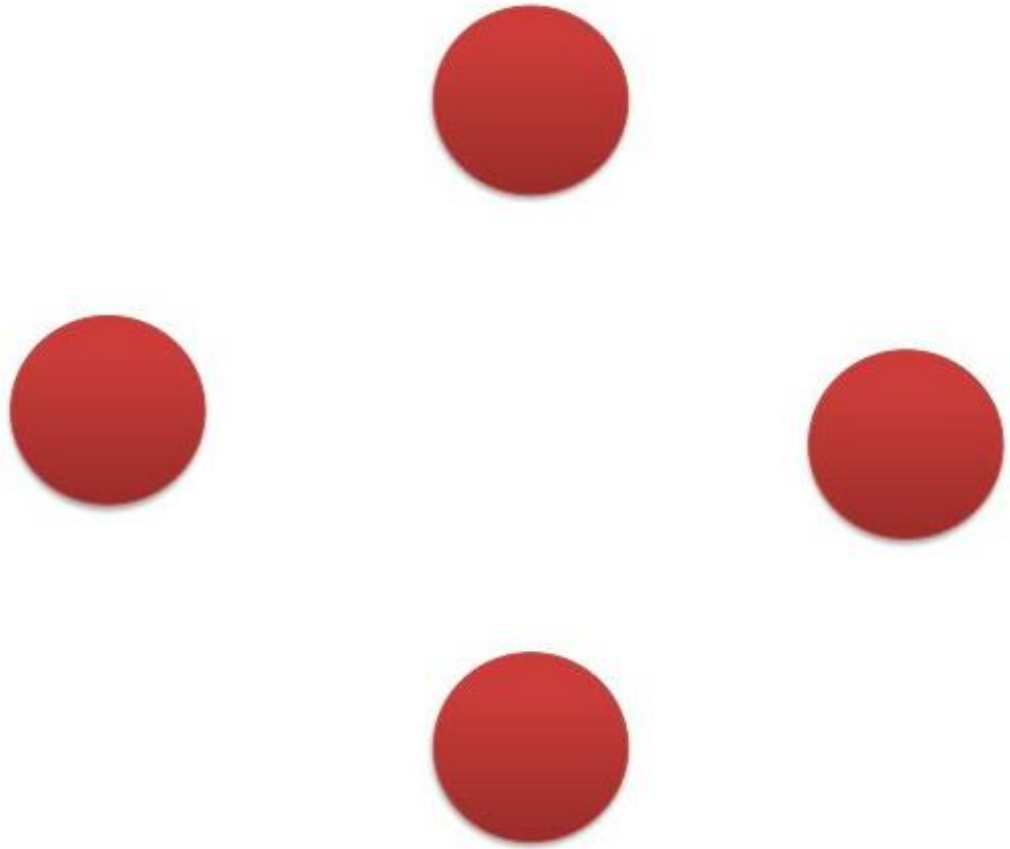
I know 1 and 3 makes 4.

2 more than 4 is 6

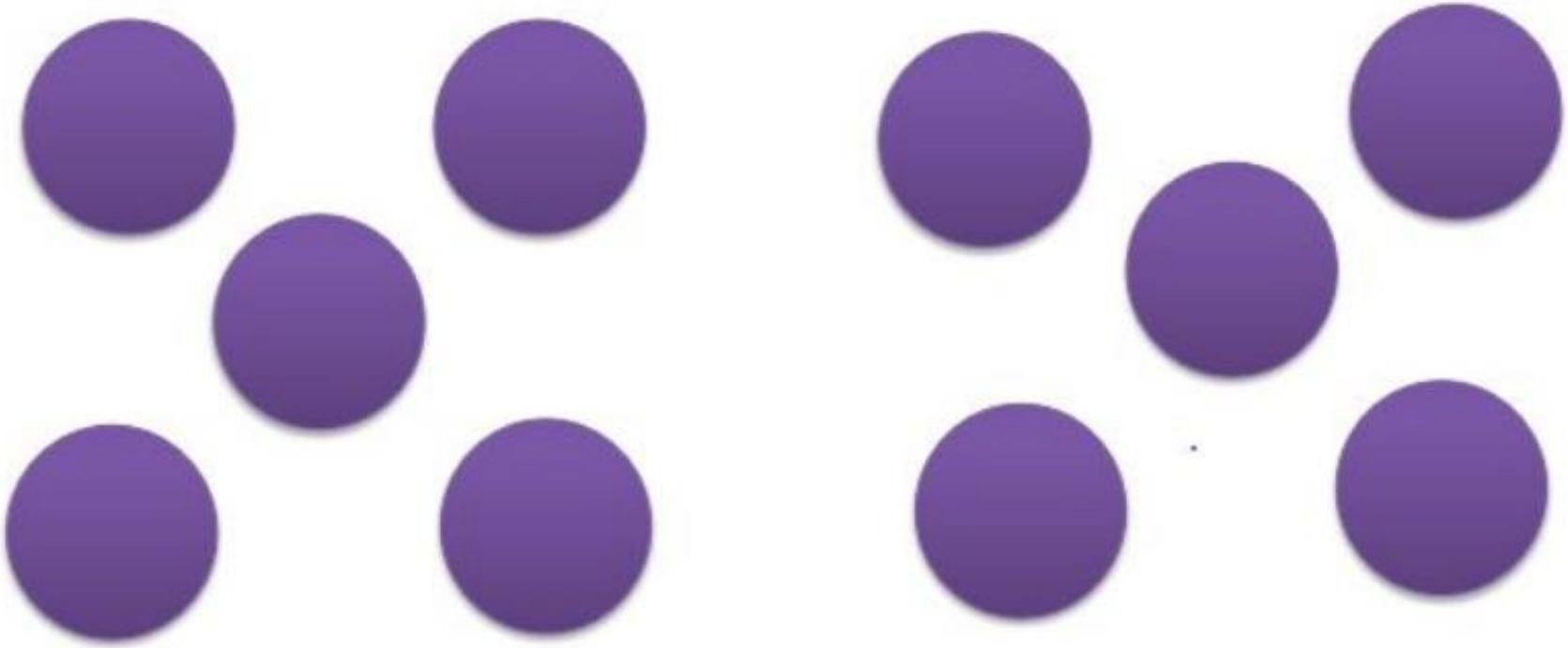
What numbers can you see hidden?

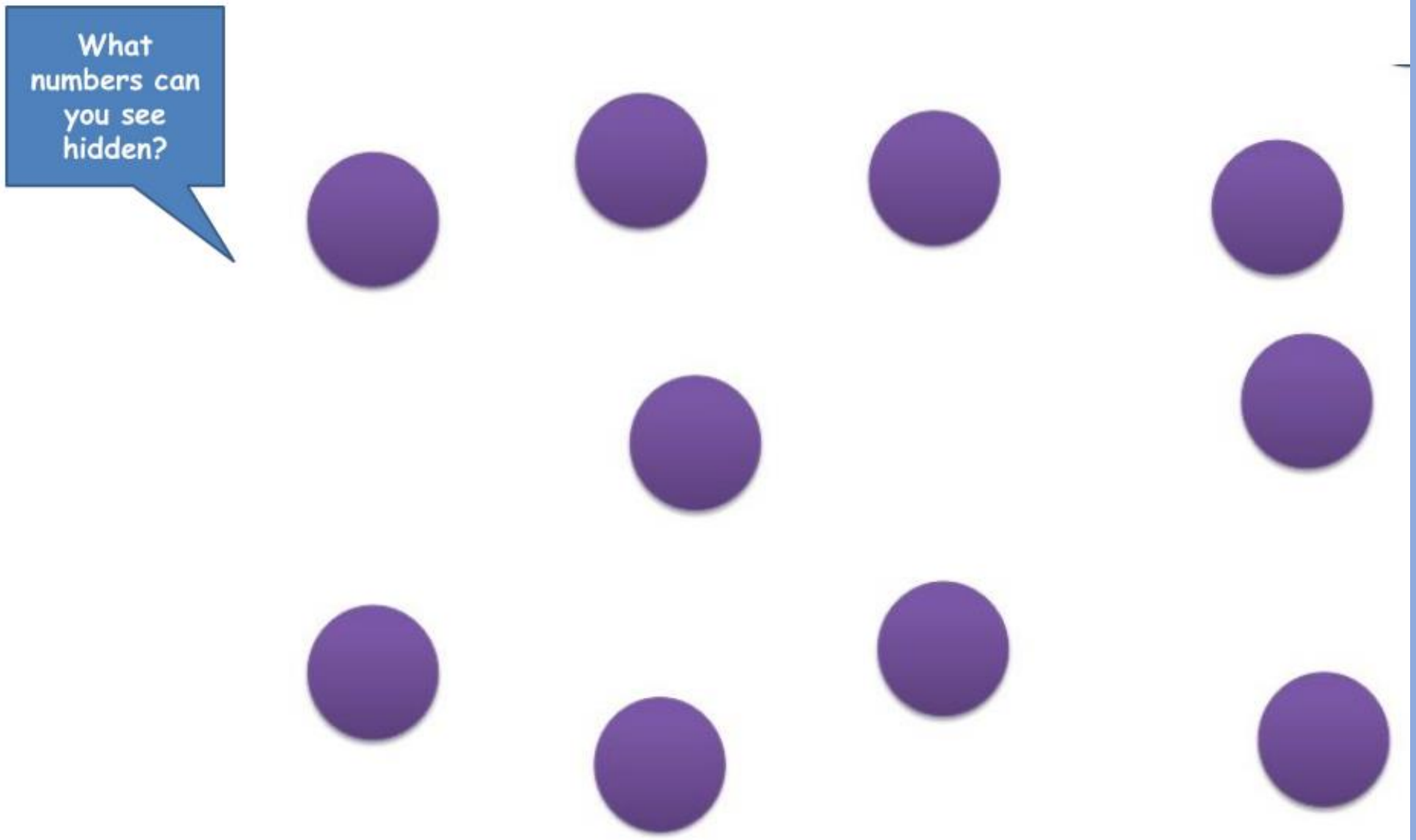


What numbers can you see hidden?



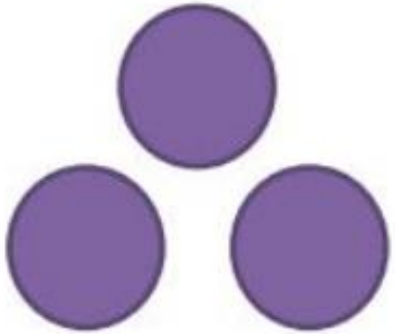
What numbers can you see hidden?

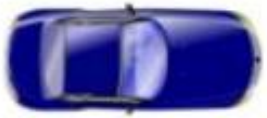


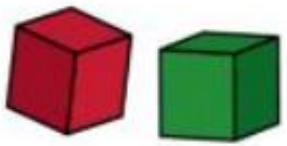


Also developing positional language: next to, underneath, above, at the side.

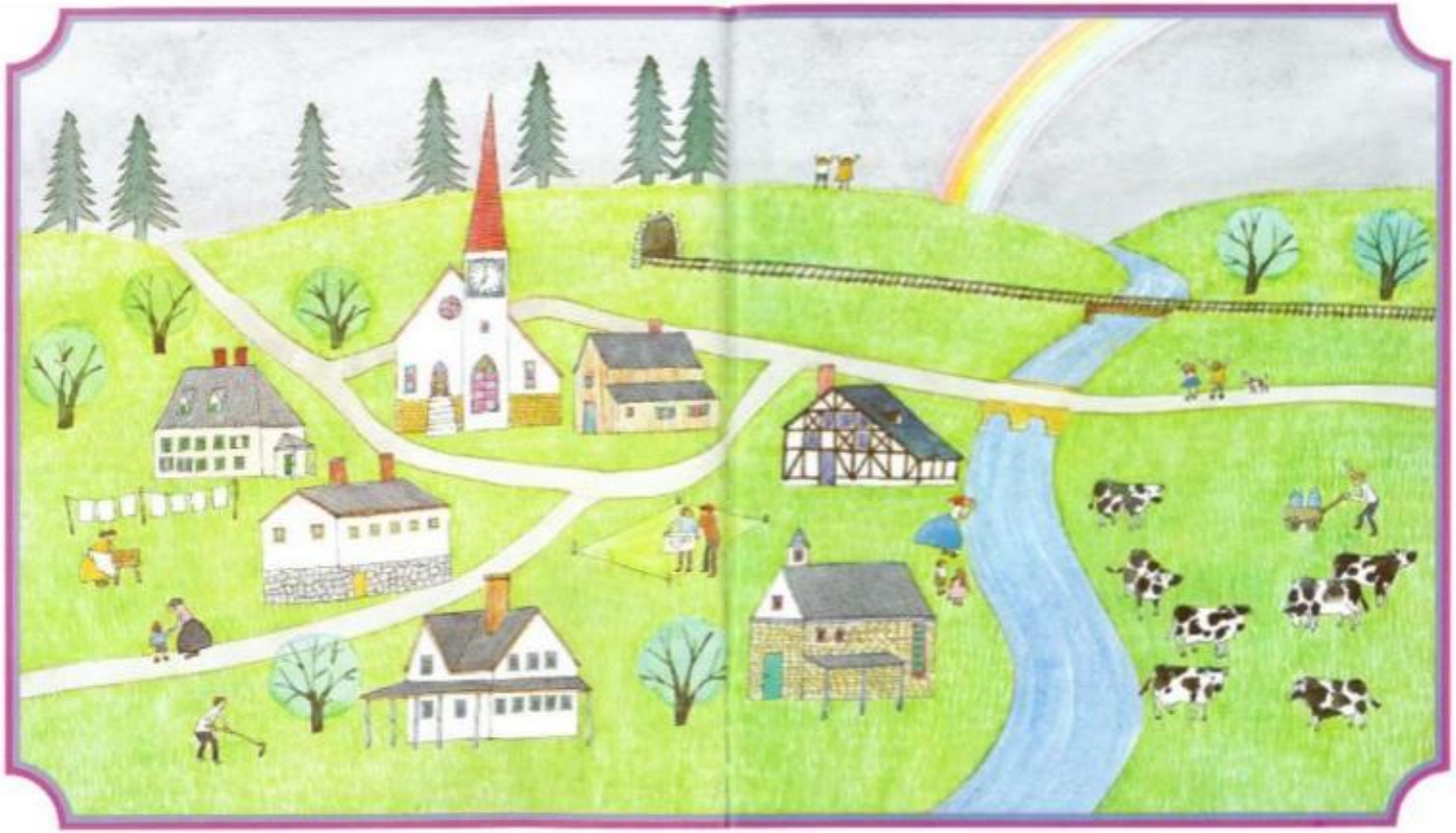
Not just dots







Subitising in the environment



How many times can you see 7 objects?

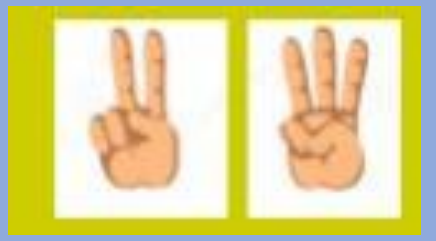
Number Composition/ Subitising

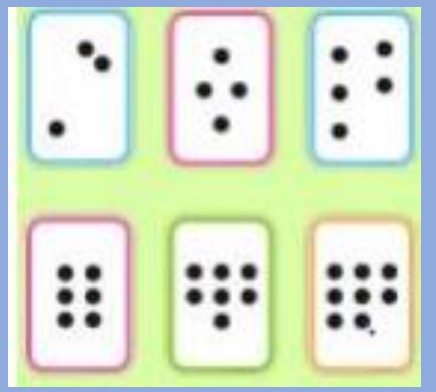
Subitising helps children to understand the composition of number.

- Numbers are composed of smaller numbers
- Numbers can be made of 2 parts
- Numbers can be made of more than 2 parts
- Numbers can be made of equal parts
- Numbers can be made of unequal parts

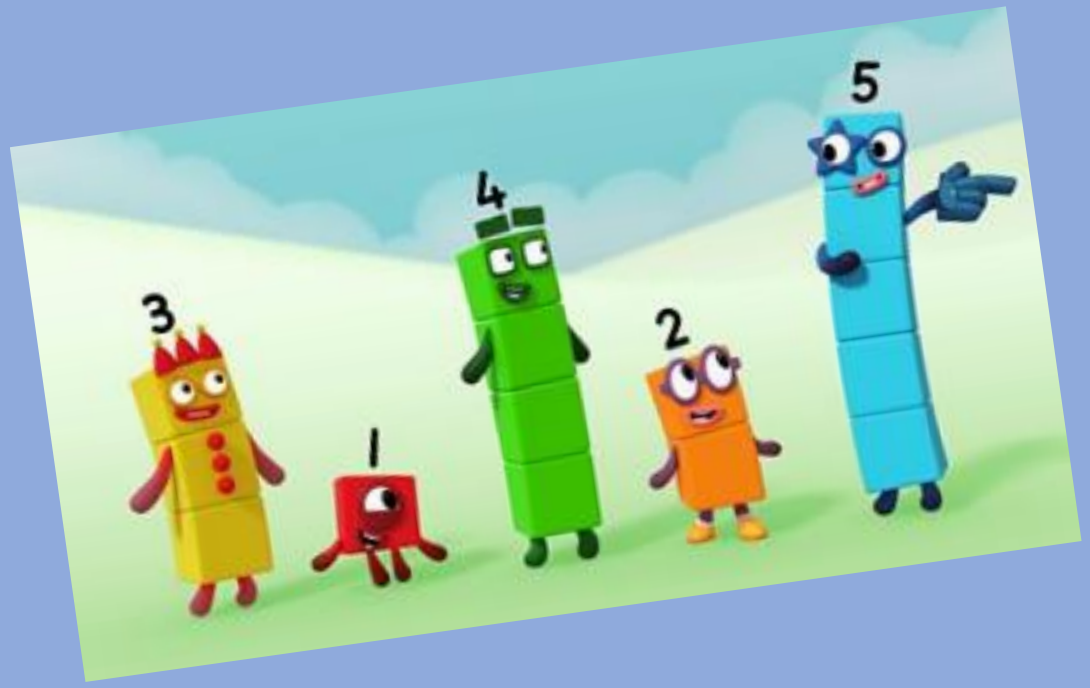
How can you support maths skills at home?

- Bingo games
- Pairs games/ matching games
- Quick flashcards
- Dice games- eg snakes and ladders, frustration, etc
- Number treasure hunt
- Dominoes
- Use egg boxes, muffin trays to build numbers
- Build the number in different ways
- Bunny ears!
- Tens frames





How can you support maths skills at home?



- Composition of numbers 1 to 5
- Introduction to ‘part-part-whole’ structure
- Partitioning a whole number into parts
- Uses correct language and ‘stem sentences’ that children can use to explain their thinking.
- Conservation of number

BBC iPlayer - Numberblocks