TELFORD INFANT SCHOOL
LOVING LEARNING

Every child to be an inquisitive, resilient and successful learner who is eager for their next challenge.

Maths in Reception

November 2019

Aims of this session

- To provide an insight into our mastery approach to mathematics and how it works in reception
- To give ideas for supporting maths at home and keeping it fun.









What does it mean to master something?

What does it mean to master something?

- I know how to do it.
- It becomes automatic and I don’t need to think about it (like riding a bike).
- I’m really good at doing it.
- I can show someone else how to do it.

Mastering maths also means…

- It is achievable for all
- Learning is deep and sustainable
- This builds a firm foundation for new learning
- Children can reason about a concept and make connections
- Children are fluent – with concepts and different methods

Expectations by the end of reception

Early learning goal – numbers

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.

Early learning goal – shape, space and measures

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Mathematical Development	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Numbers	Recognises numbers to 5 (including 0)	Counts objects to 10. Counts out up to 6 (10) objects from a larger group. Counts an irregular arrangement of up to 10 objects.	Beginning to count beyond 10 (Up to 20)	Beginning to count beyond 10 (Up to 20)	Doubling, halving and sharing Counting in 2s, 5s, 10s	Consolidation of everything to meet ELG ELG 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. Count in 2s, 5s and 10s.
Statements that need to run through **all** number teaching	Selects the correct numeral to represent objects. Counts actions and objects that cannot be moved Says the number that is one more than a given number Finds one more or one less of up to 10 objects Uses lang of 'fewer' and 'more'; Finds the total number of items in two groups by counting them all In practical activities and discussion, beginning to use the vocab involved in adding and subtracting. Records using marks that they can interpret and explain. Begins to identify own mathematical problems based on own interests and fascinations.					
Mastery focus approaches and practical equipment to be used *Multiple representations and use of CPA*	Number blocks planning Part part whole model (practical – hoops, paper plates, moving onto written in summer term) systematic approaches to finding all pairs which make each whole Partitioning trees Fives frame moving onto tens frame Numicon Bead strings Bar model Double sided counters Number tracks Everyday objects Whole class maths journalling Subitising resources					
Shape, space and measure	Beginning to use everyday language related to money. Orders two items by weight...	Orders two items by weight; Beginning to use lang for 3d and 2d shapes; Selects particular named shape; Uses familiar objects and common shapes to create and recreate patterns and build models	Orders two or three items by length or height; Can describe their relative position such as 'behind' or 'next to'.	Beginning to use lang for 3d and 2d shapes; Selects particular named shape; Uses familiar objects and common shapes to create and recreate patterns and build models; Measure short periods of time in simple ways; Orders and sequences familiar events	Beginning to use everyday language related to money. Measure short periods of time in simple ways;	Consolidation of everything to meet ELG ELG Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, describe and create patterns. They explore characteristics of everyday objects and shape and use mathematical language to describe them.

Teaching for mastery

- High expectations for every child.
- Fewer topics covered in greater depth.
- Number sense and place value come first.
- Problem solving is central.
- Challenge is provided through deep and rich problems, rather than accelerating on to new content or higher numbers.

Maths talk

- Full sentences instead of one-word answers.
- I say, you say, you say, you say, we all say.
- Sentence stems used in relation to different examples, eg:

"Two is bigger than one."

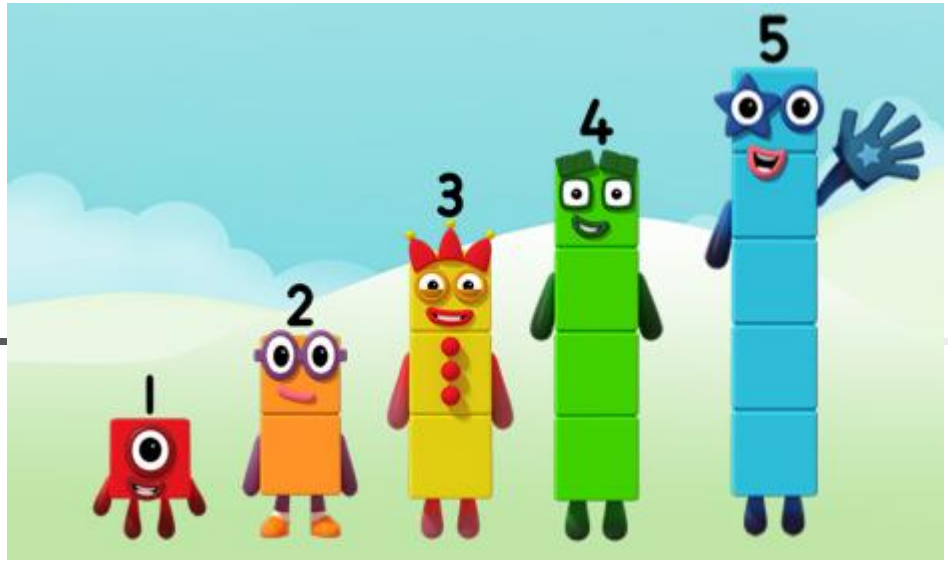
"3 is the same as 1 and 1 and 1."

Number

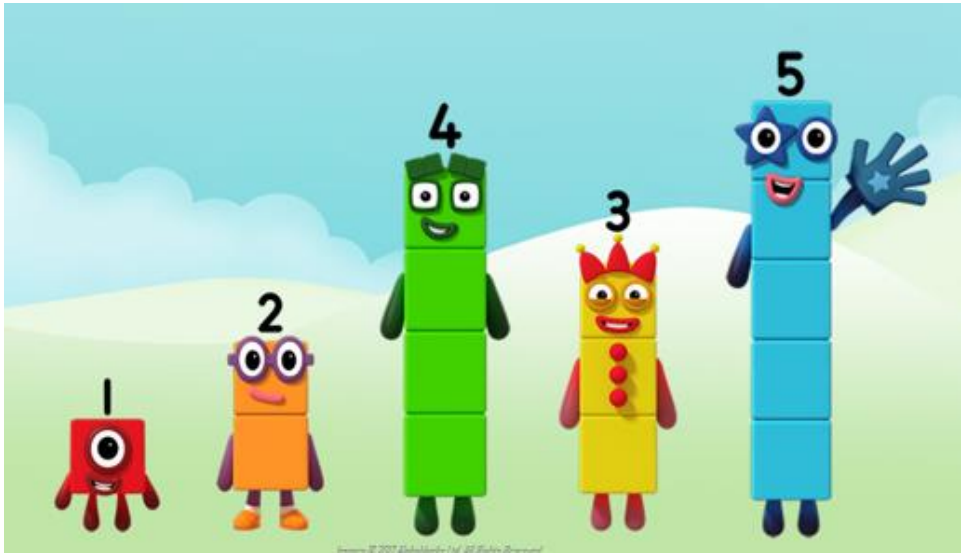


Key principles of counting

- Cardinal principle – the last number in the count defines the numbers of items in the set
- Stable order principle – the numbers have to be said in the correct order
- One to one principle – the items in the set are only counted once

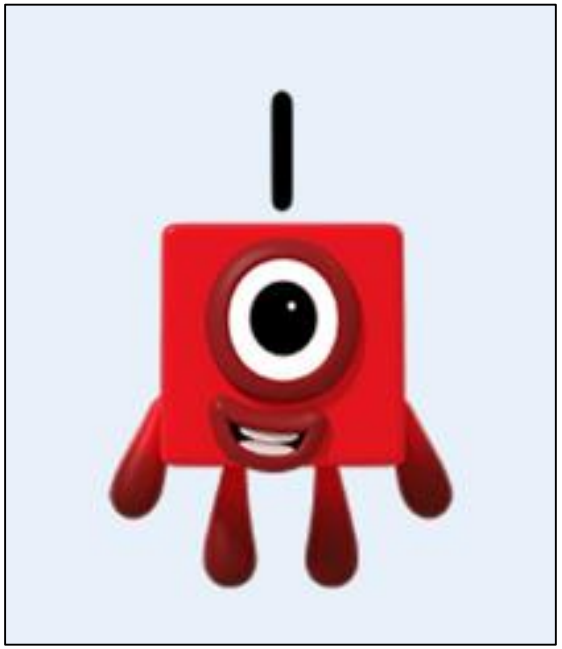


Stable order principle – numbers have to be said in the correct order



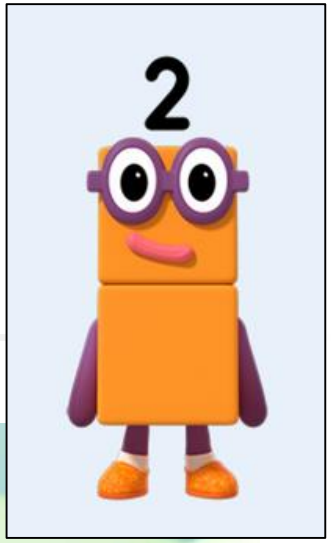
Concept of oneness

- One is the amount
- One is the quantity
- First means position one
- Once means one time





Introducing two





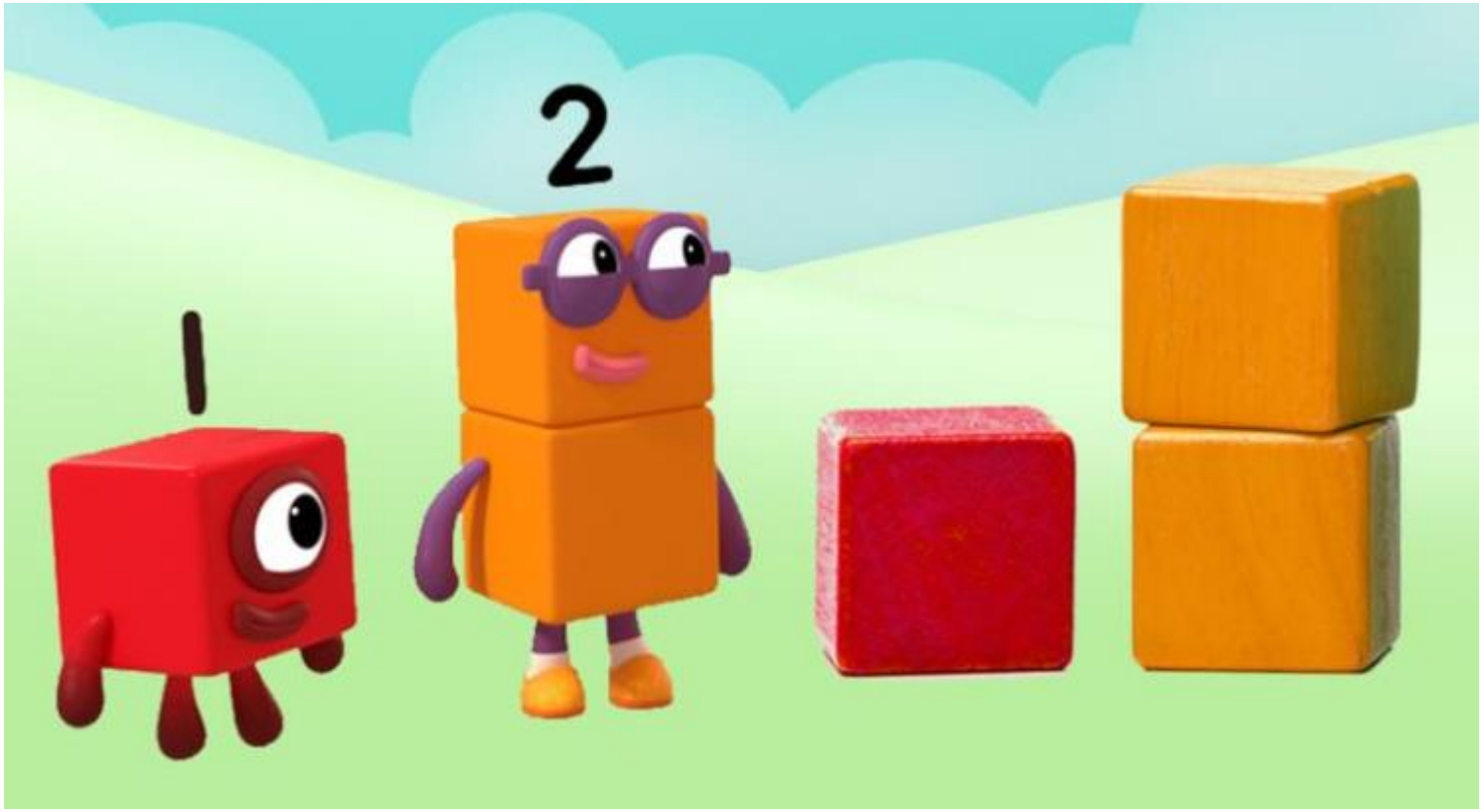
2 at home





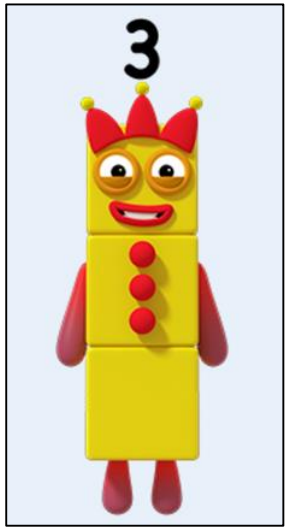


Making number blocks



Introducing three

- Part part whole structure of a number
  - Combining - two and another one make three
  - Partitioning – three can be separated into one and one and one, or two and one

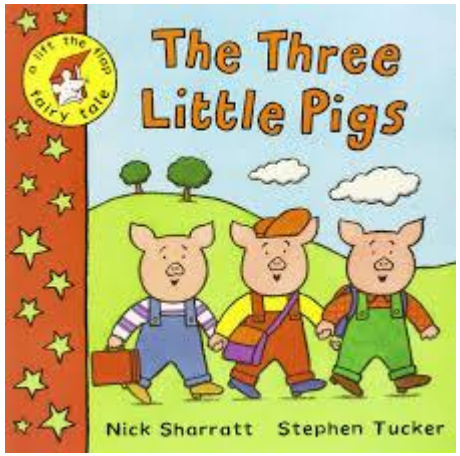


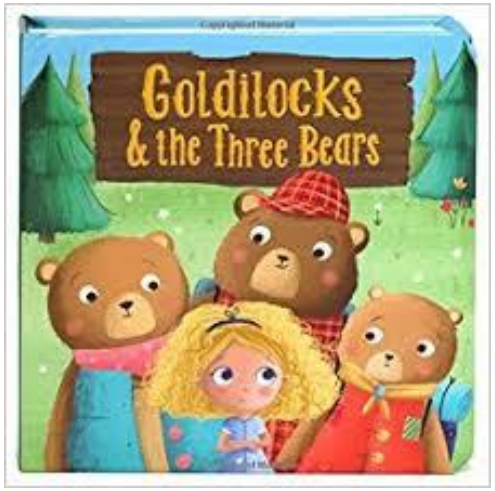
3 at home

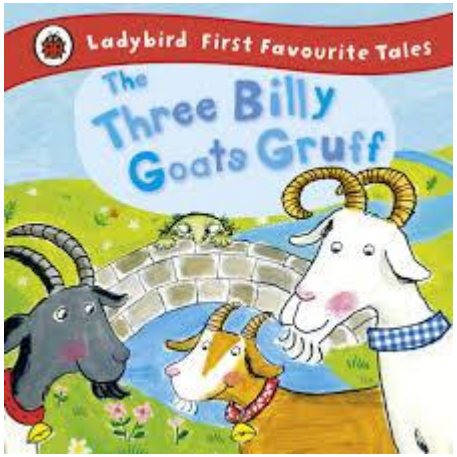
Hide something under 3 cups labelled 1, 2, 3. Use sentences like, "Is it in the first cup?"



3 at home


lift the flap
fairy tale
The Three Little Pigs
Nick Sharratt
Stephen Tucker

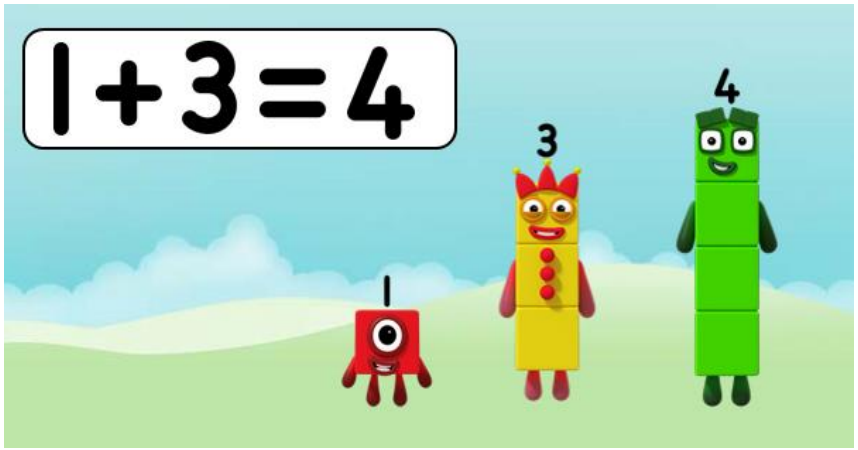

Goldilocks & the Three Bears

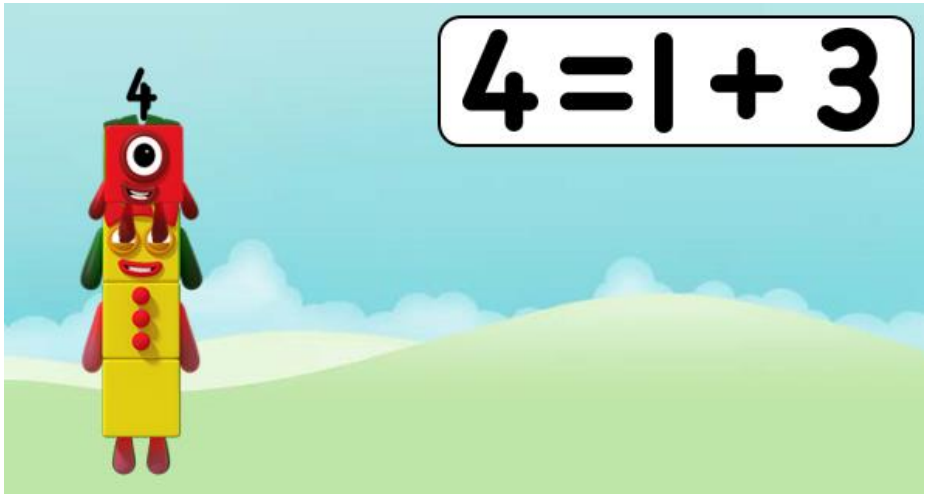

Ladybird First Favourite Tales
The Three Billy Goats Gruff

Introducing four

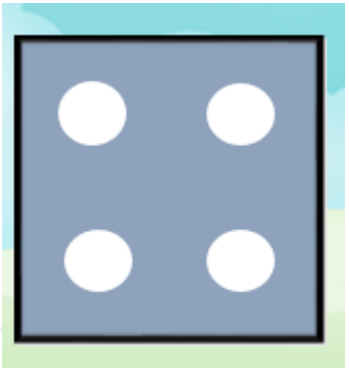


- Combining amounts



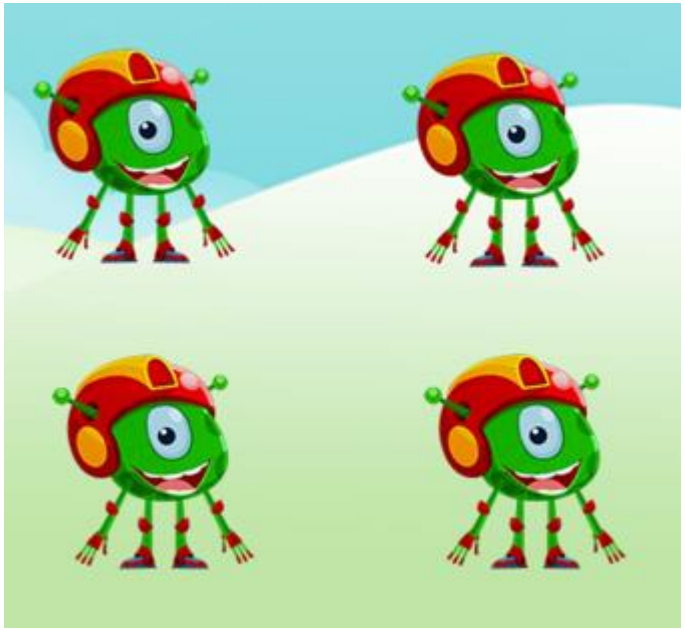


Introducing four

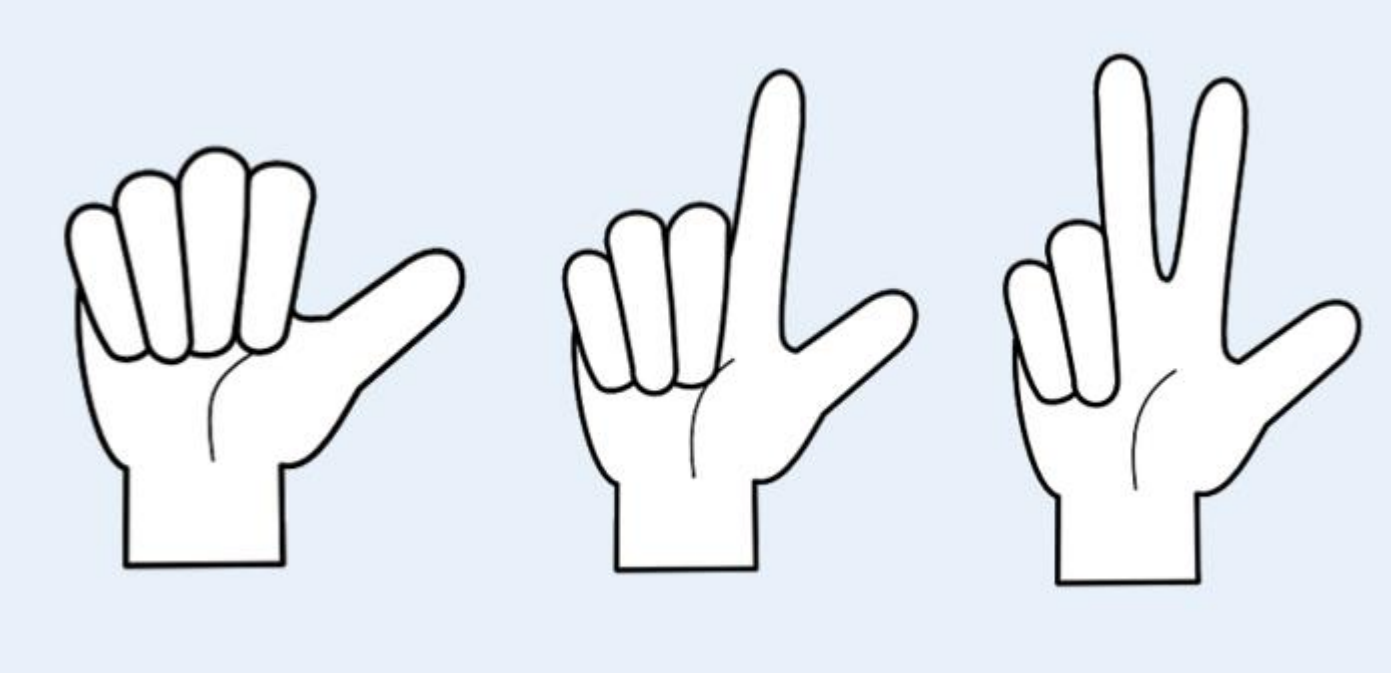


- Subitising – recognising an amount without counting



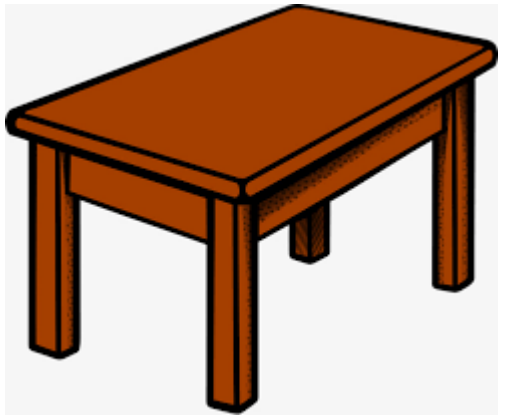


Subitising – representing numbers

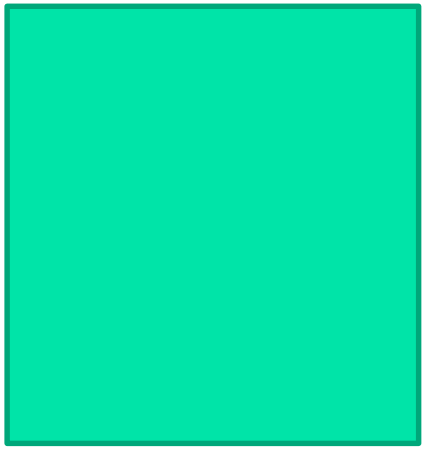


4 at home





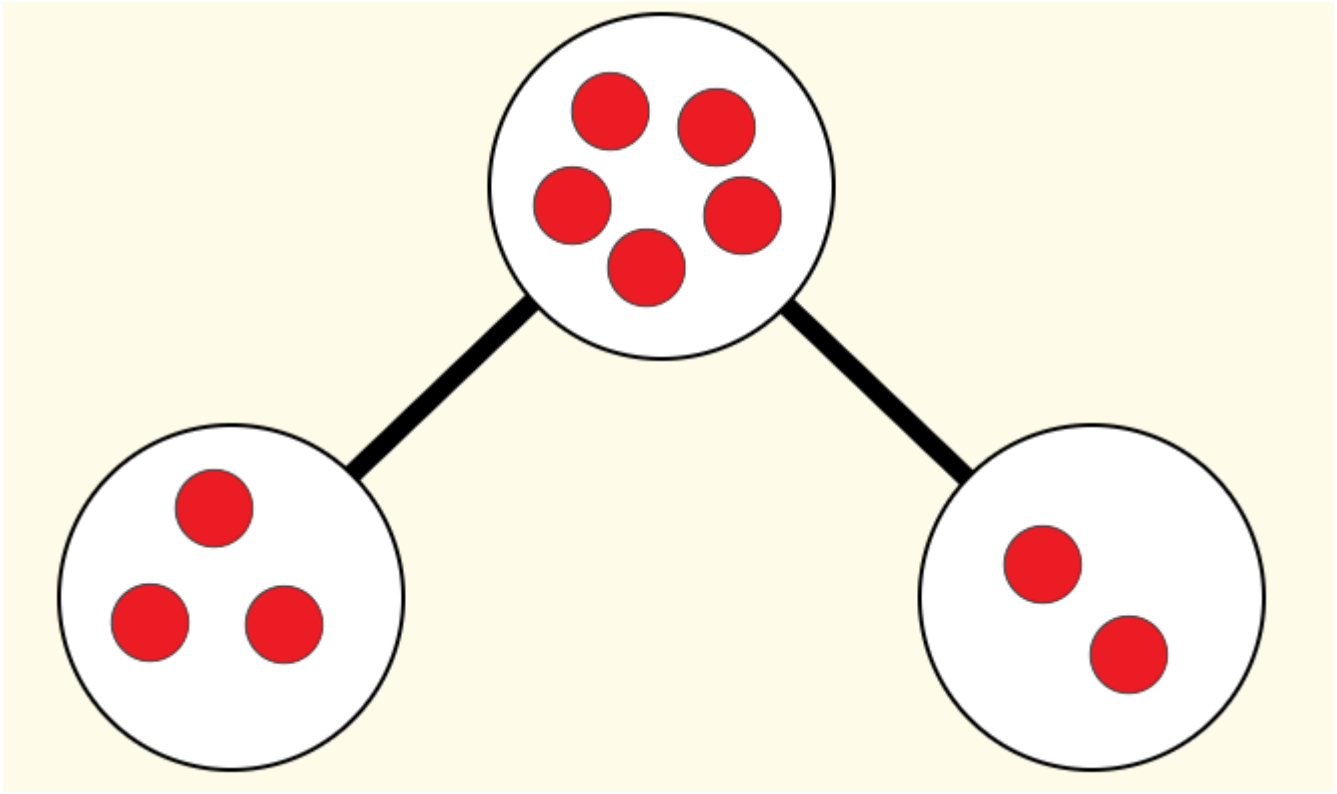


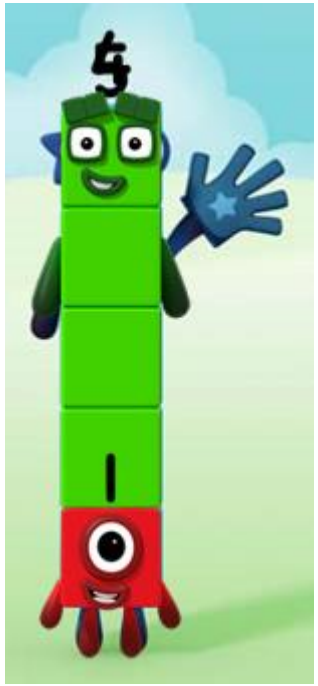


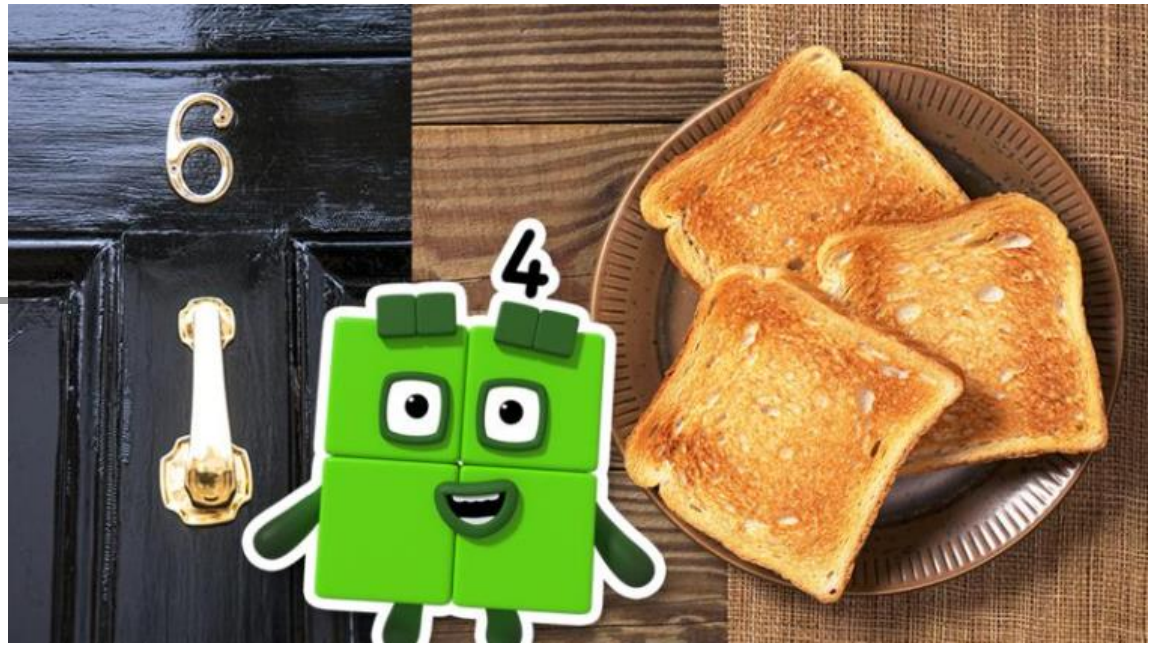
Introducing five



- Part part whole using paper plates






6
4


2

Number formation

1 2 3 4 5 6 7 8 9 0

Shape, space and measure

Early learning goal – shape, space and measures

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Weighing





Comparing



Money

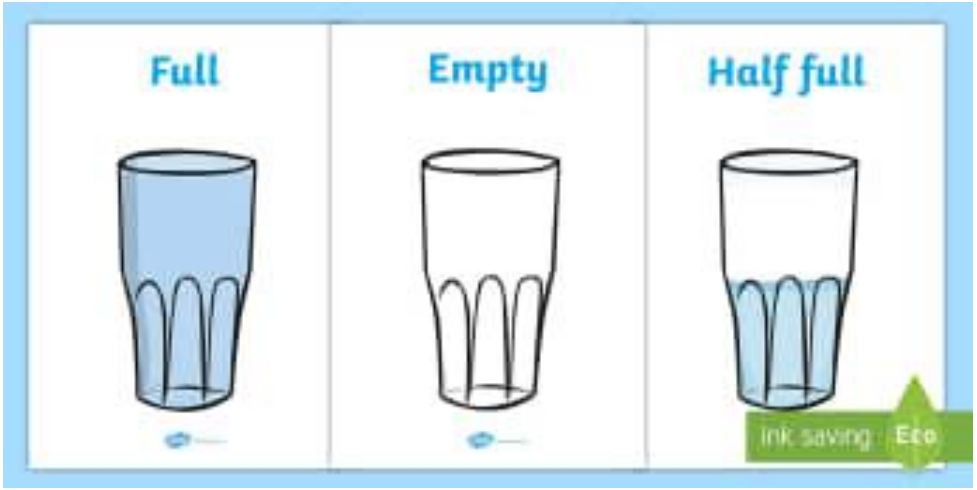


Time (sequencing events)



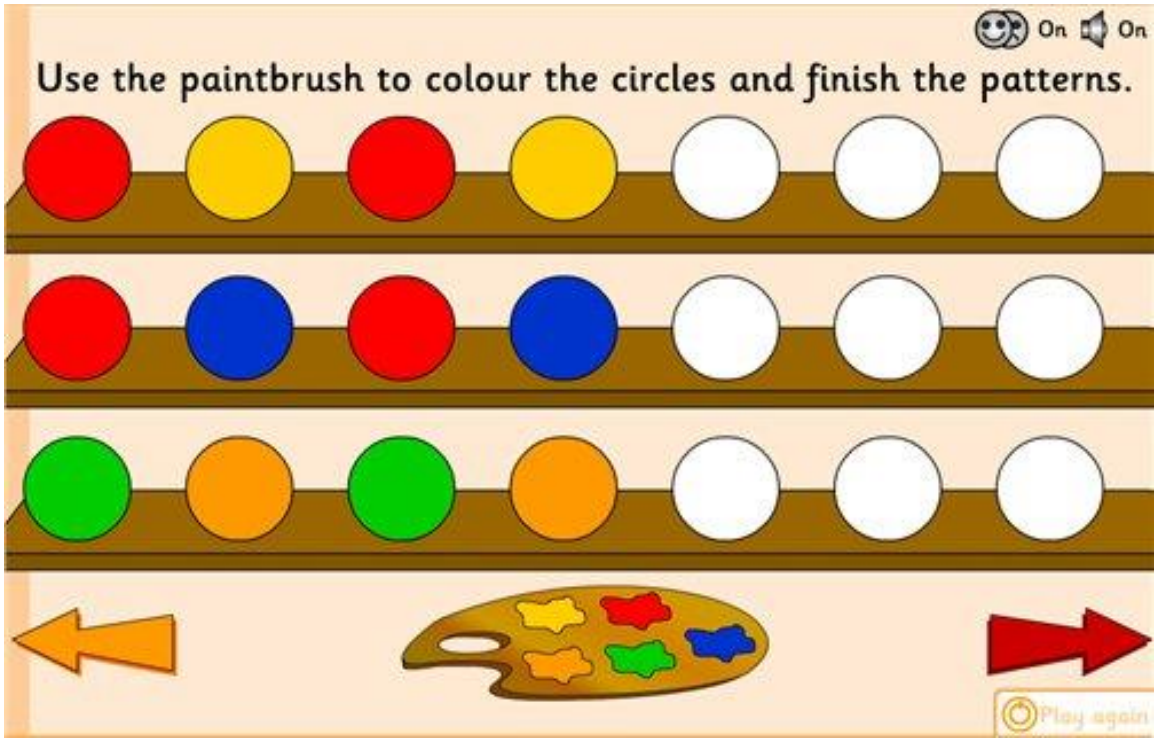


Capacity





Repeating patterns



Space, shape and measure at home

- Cooking together
- Drawing 2D shapes outside with chalk
- Looking at clocks (we focus on o clock and half past)
- Measure in footsteps how long it takes to walk somewhere
- Building with 3D shapes

Further support

- Pop into school to speak to your child's class teacher
- Look at the maths your child is learning on tapestry
- Watch number blocks via cbeebies web site (lots of games too)
- Any questions?