Maths At Europa

EYFS - YEAR 1
Introduction to Teaching and Learning

This session

The approach to maths at Europa

Terminology of maths terms as they relate to EYFS

Certain ideas explained further through practical application

Mastery in Maths

At Europa we believe children's chances of success are maximised if they develop deep and lasting understanding of mathematical procedures and concepts.

We deliver lessons based around the most recent pedagogy in mathematics - focusing on a mastery approach which ensures a concrete and pictorial exploration of number. This leads to a familiarity and understanding with 0-10 and a basic fluency which should enable success in their mathematical future.

The curriculum gives access to concepts for all, with an acquisition of depth rather than acceleration through content.

Mastery in Maths - Bilingual teaching - EYFS Expectations

EYFS: As we immerse children in two languages throughout their school life we incorporate the Mastering Number programme theory and practice but also build in teaching and learning styles that mirror national syllabi. This is integrated with the Early Learning Goals and of course ensuring that we teach to the children in front of us.

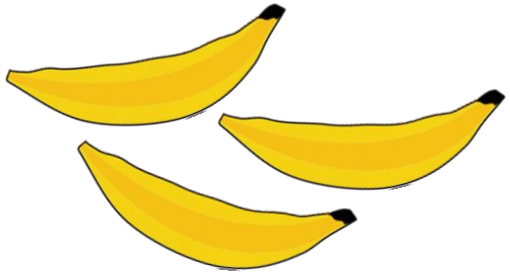
Cardinality & counting, Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents.
1:1 correspondence, Tagging each object with one number word
subitising, recognising small quantities without the need to count them.
conservation of number, Knowing that the number does not change if things are rearranged
comparison, Understanding that comparing numbers involves knowing which numbers are worth more or less than each other.
composition, Understanding that one number can be made up from (composed from) two or more smaller numbers.
pattern, Looking for and finding patterns helps children notice and understand mathematical relationships.
measures, Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later.
shape and space.Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking.

How does Mastering Number help us to teach maths in school?

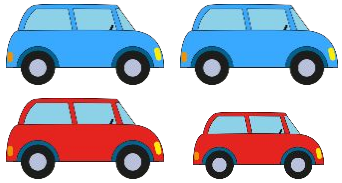
The main aim of the curriculum and the Mastering number approach is to develop good *number sense*.

I will share some ideas of things that you can do at home with your child and give you the chance to receive weekly updates for the next 5 weeks.

Counting



Recognising small numbers of objects and making their own connections



Know different ways to ‘make’ (compose) a number

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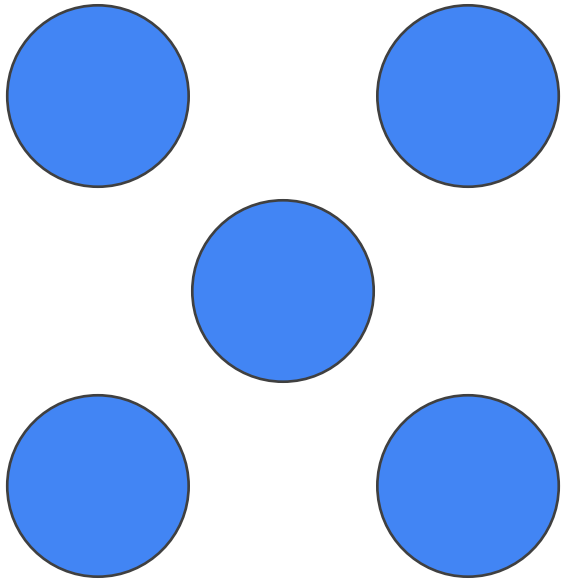
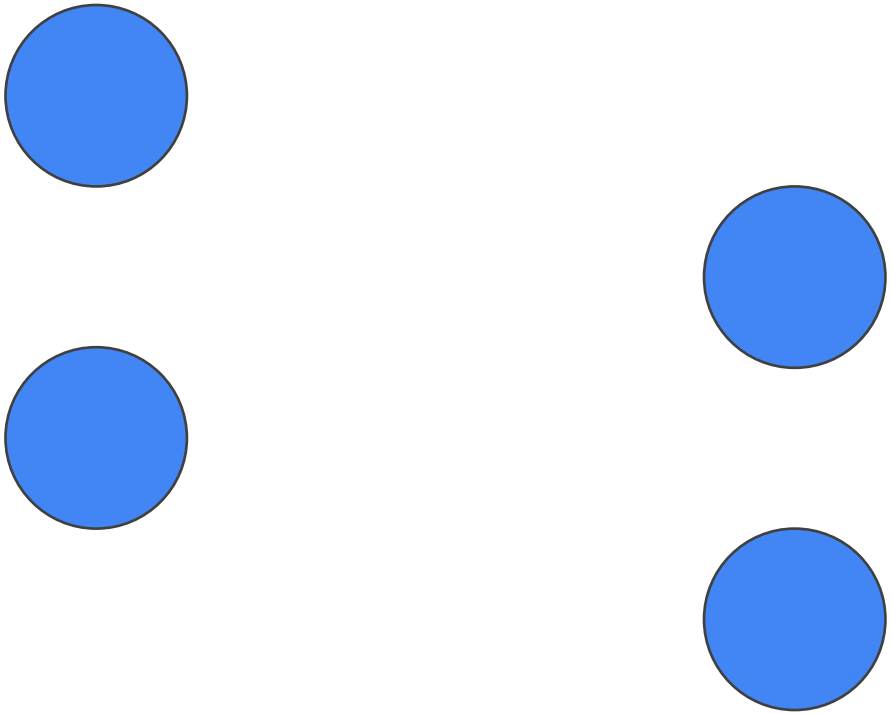
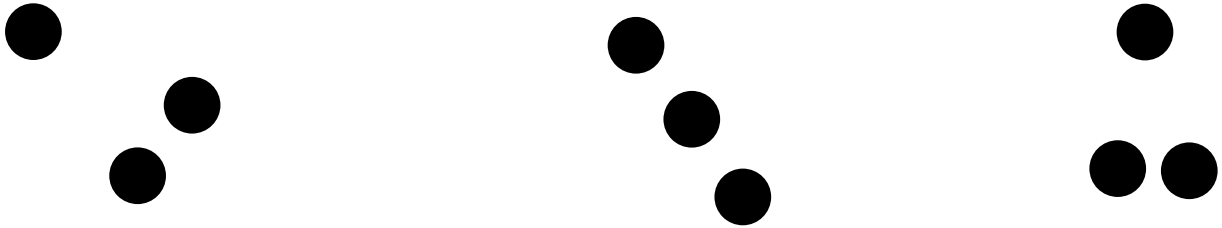




Subitising

Subitising is the ability to recognise a *small quantity* of objects *without the need to count*.

Sometimes when we subitise we can see two groups at once; if we know that 3 can be ‘made’ of 2 and 1, then we know how many there are altogether without counting.



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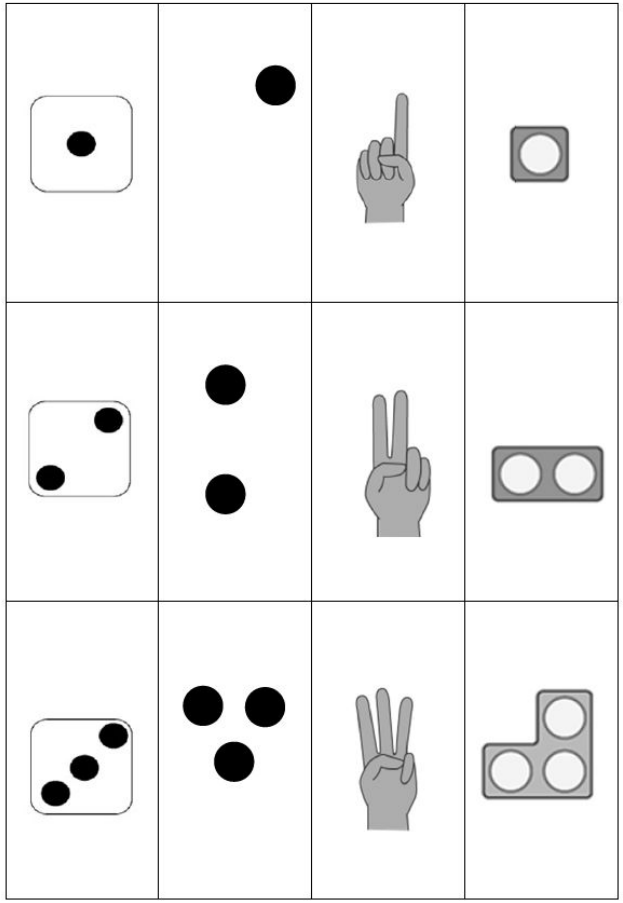
Subitising to three snap. Building up to not counting just say!



You can cut these into 12 separate cards and hand them to your child. Spread the cards out and place them ***face-down*** in front of you. Play matching games.

In Weeks 3 and 5, you will receive extra cards to practise subitising with bigger numbers. Don't throw your cards away!

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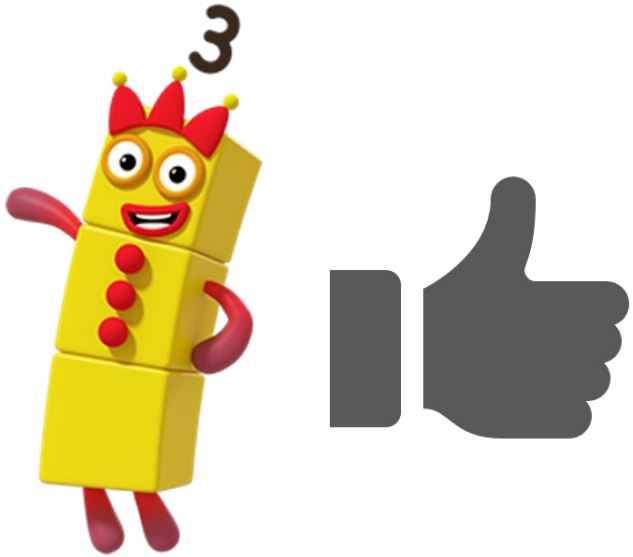
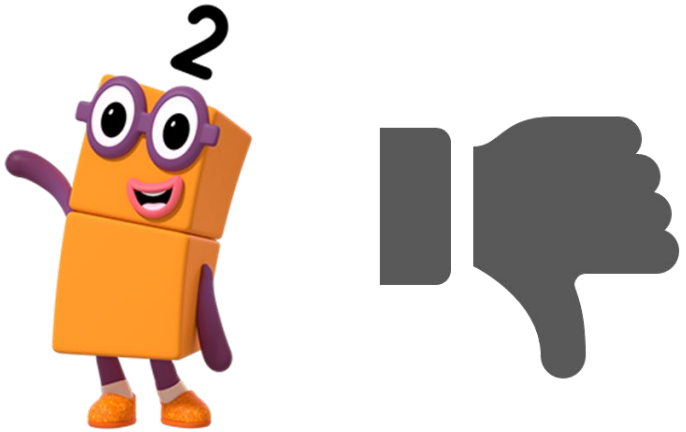
‘3 or NOT 3?’

This activity involves spotting when there are 3 of an object or explaining why there are NOT 3.

Put your thumb UP if you can see 3, and down if it is NOT 3.





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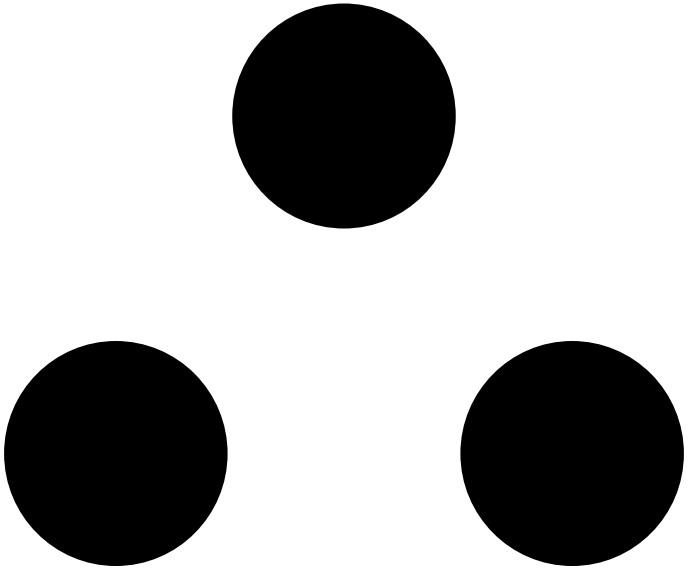

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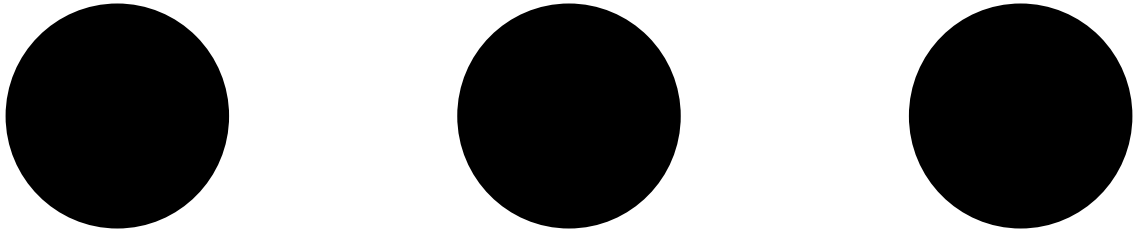

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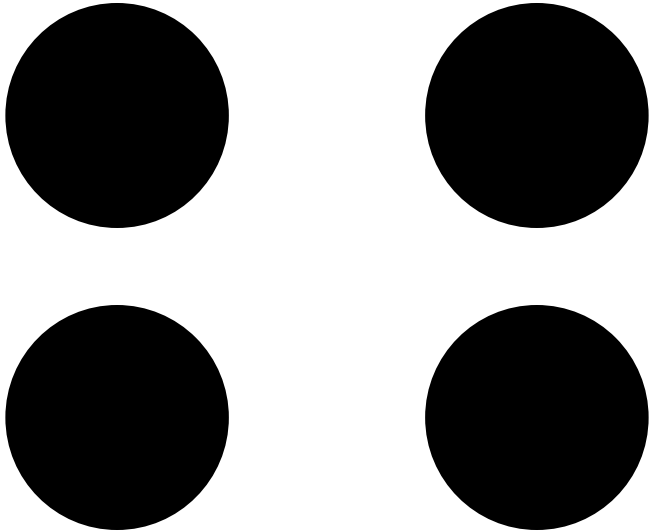

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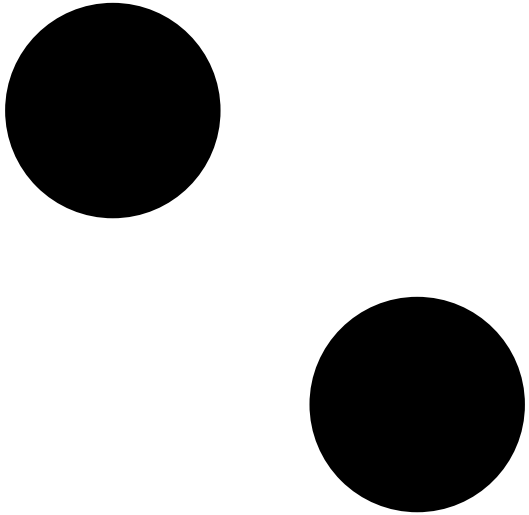

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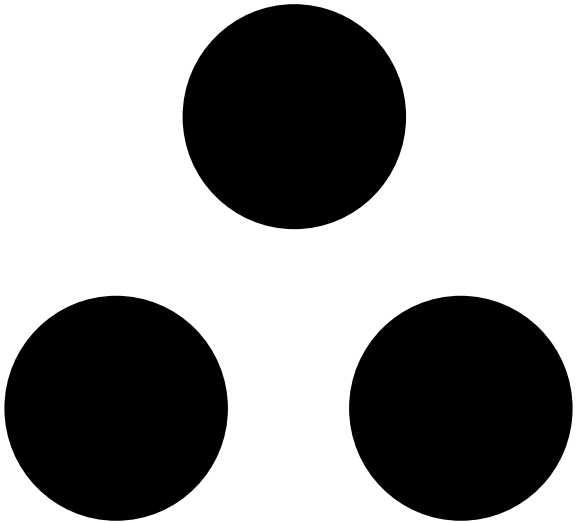

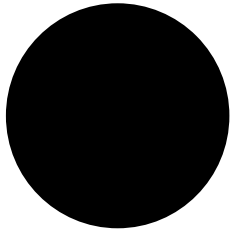

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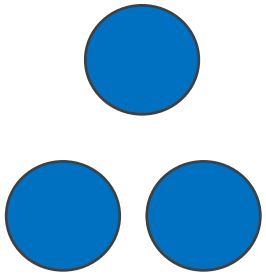
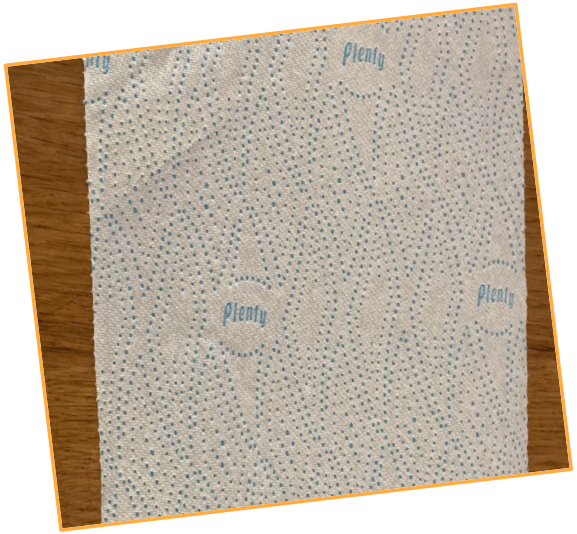
‘3 or NOT 3?’ with counters

You will need 5 counters and something to cover them.





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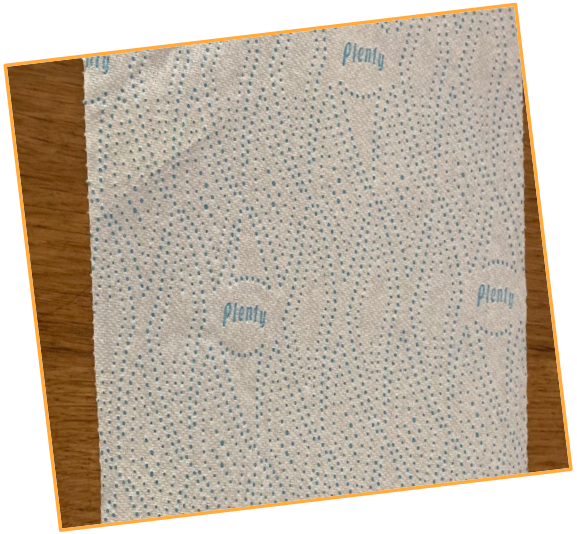
Hide some counters under the towel.



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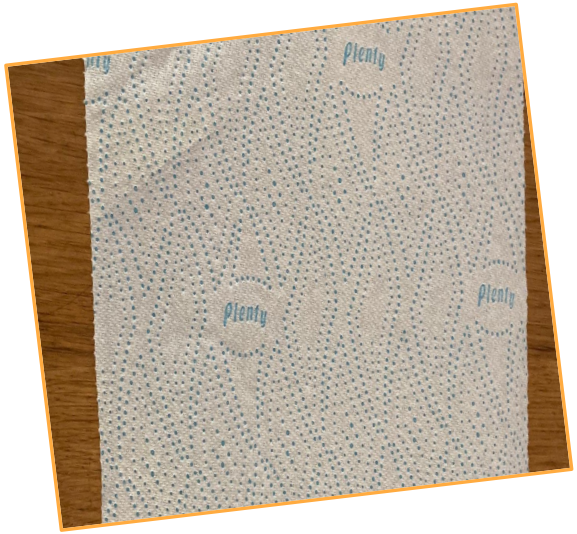
Reveal them quickly and ask …



3 or not 3?

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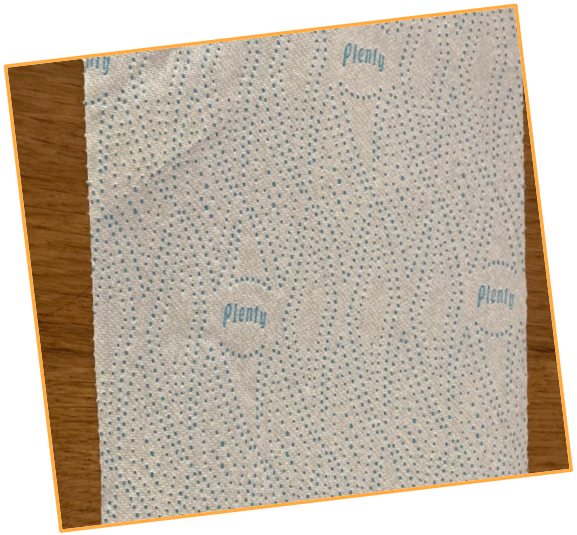
In Week 4, you will try this with different numbers…



4 or not 4?

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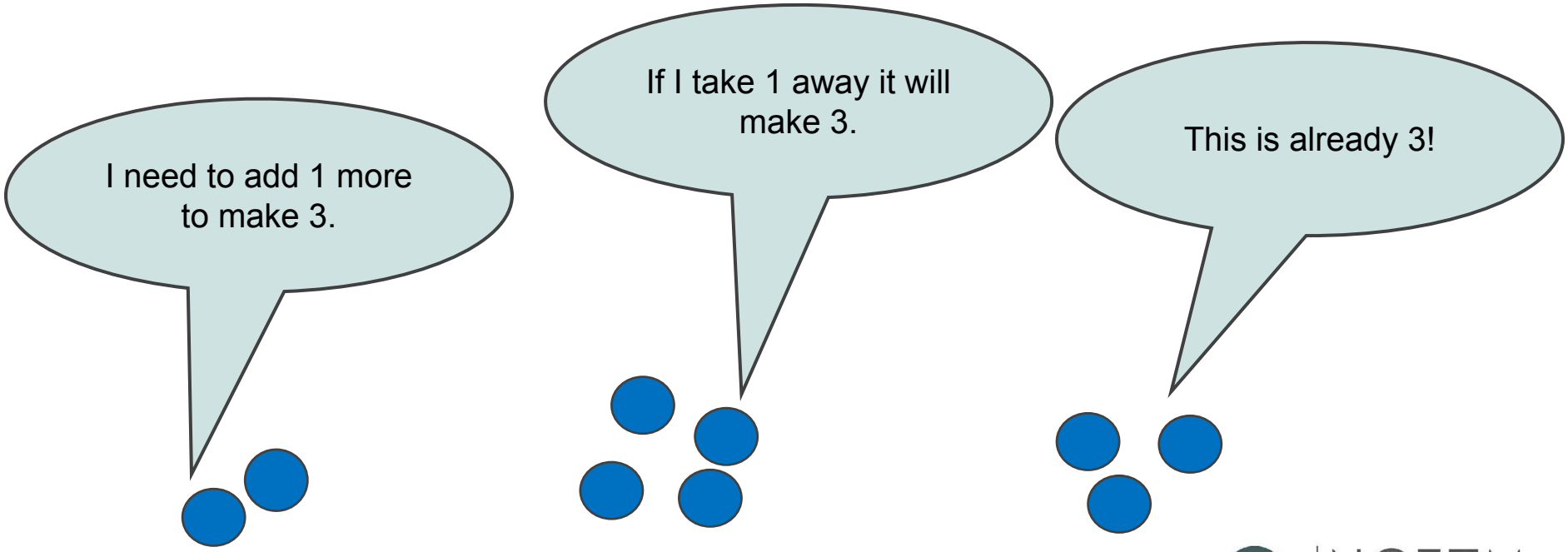
Now ask: ‘What do you need to do to make it 3?’



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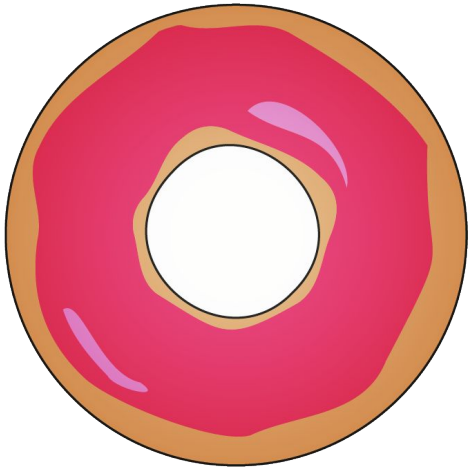
‘Part-part-whole’

The ‘hole’ in the donut?



A ‘whole’ donut?

How will knowing how numbers are ‘made’ help?

If children know that **4 can be made of 3 and 1,** they can apply this knowledge later on to see that:

30 and 10 is 40
300 and 100 is 400
and that;
400 take away 100 is 300

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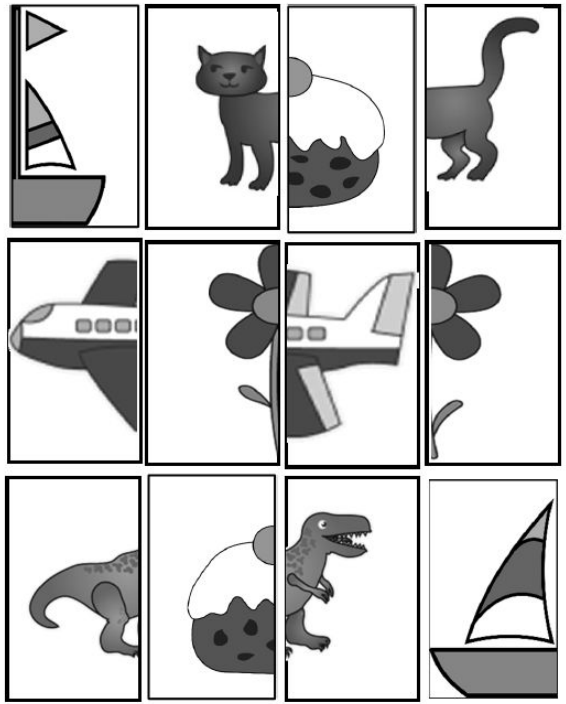
Find 2 **parts** that make a **whole**.



Cut carefully around each of the images.
Lay the cut cards face-up on a flat surface in front of you.
Take it in turns with the grown-up.
Look for two images that look like they are part of a whole.
Pick them up and say 'part' 'part'.
Put them together and say 'whole.'

Grown-ups will need to carefully cut out these cards.

Children: place the cards ***face-up*** so you can see the pictures and spread the cards out in front of you.

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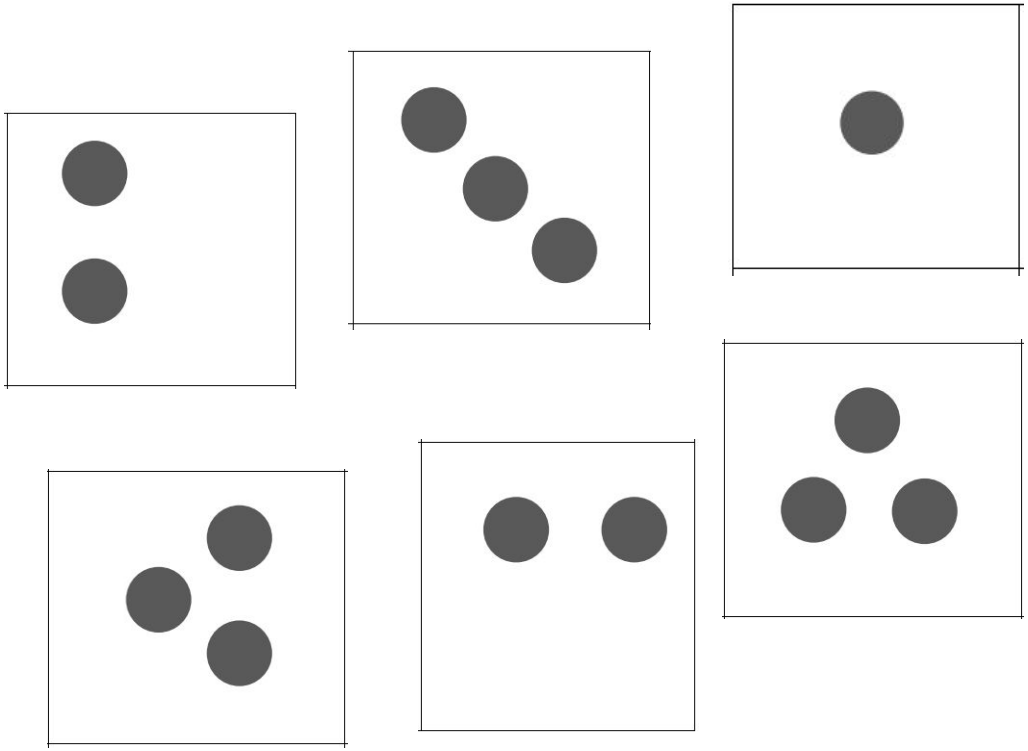
Part-part-whole with dots



In Week 3, you will play ‘part-part-whole’ with dots.

One person will pick up a card, and the other person must pick up the card that will ‘make 4’.

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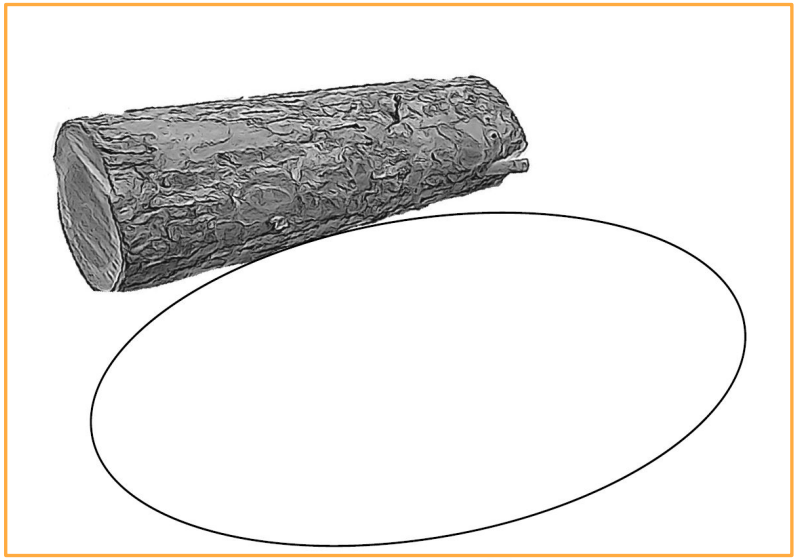
Play ‘3 frogs on a log’

You will need...

3 frogs
(counters)

The frogs on a log sheet



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You will also need to show the numbers on your fingers!

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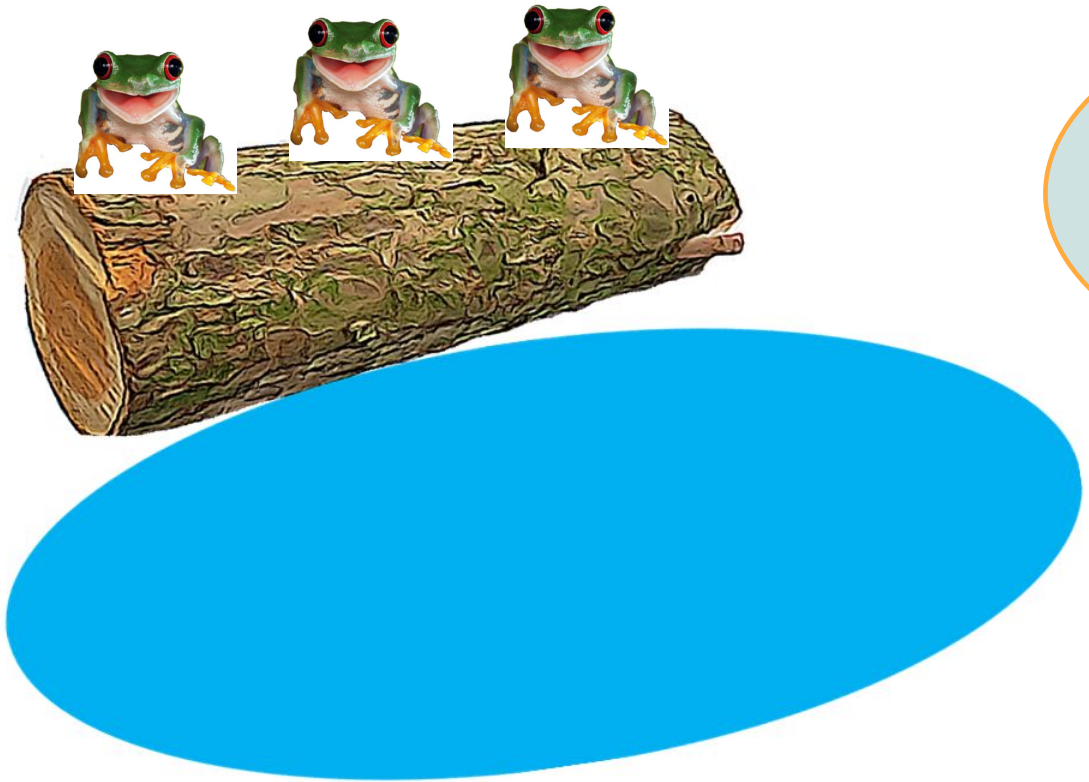
Put 3 frogs on the log



Ask your child

Show with your fingers:
How many are on the log?
How many in the pool?
How many altogether?

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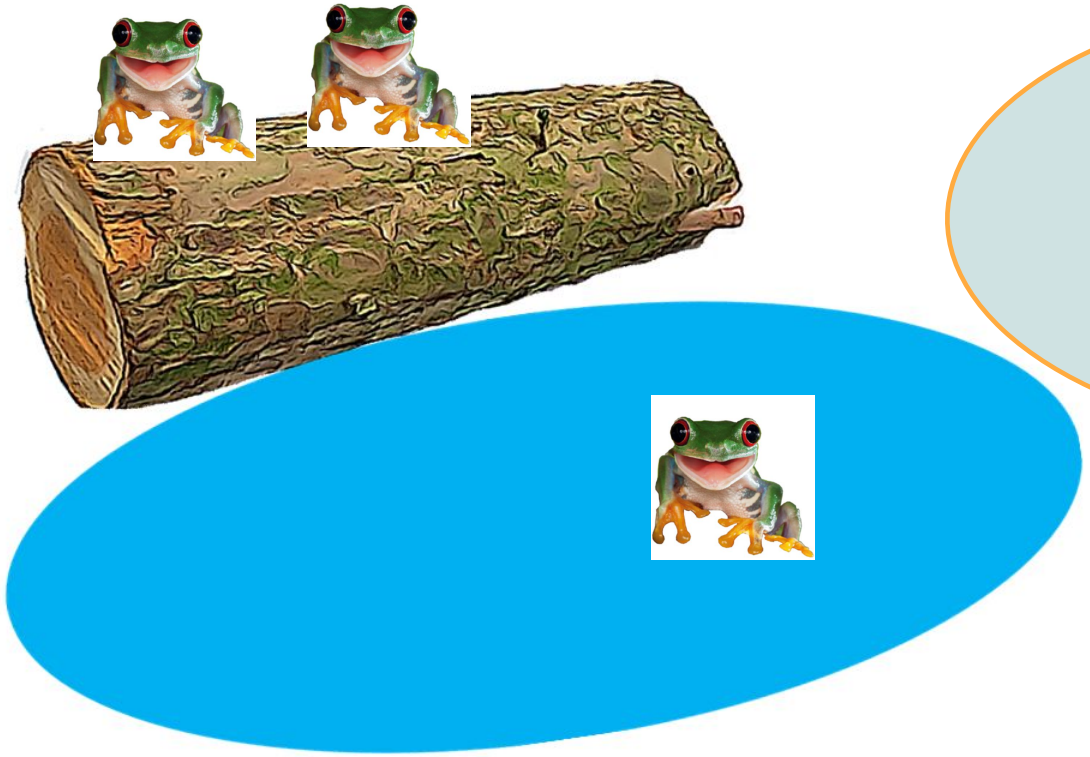
Put a frog in the pool.



Ask your child

Is it still three?
Show with your fingers:
How many are on the log?
How many in the pool?
How many altogether?

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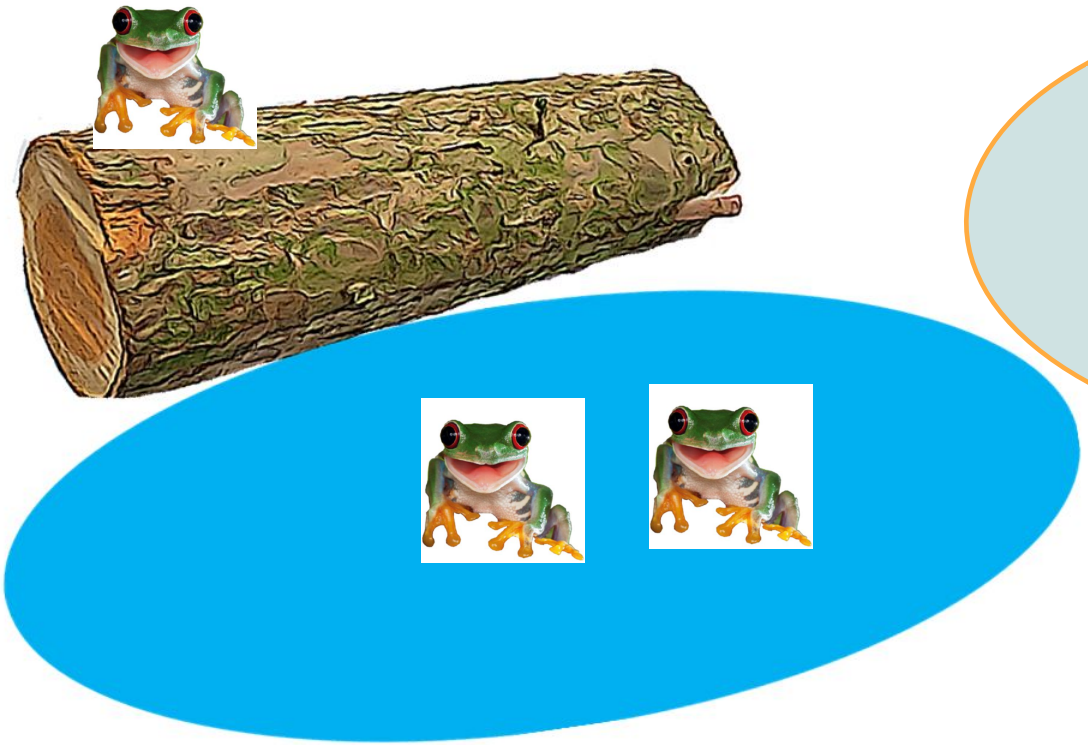
Put another frog in the pool.



Ask your child

Is it still three?
Show with your fingers:
How many are on the log?
How many in the pool?
How many altogether?

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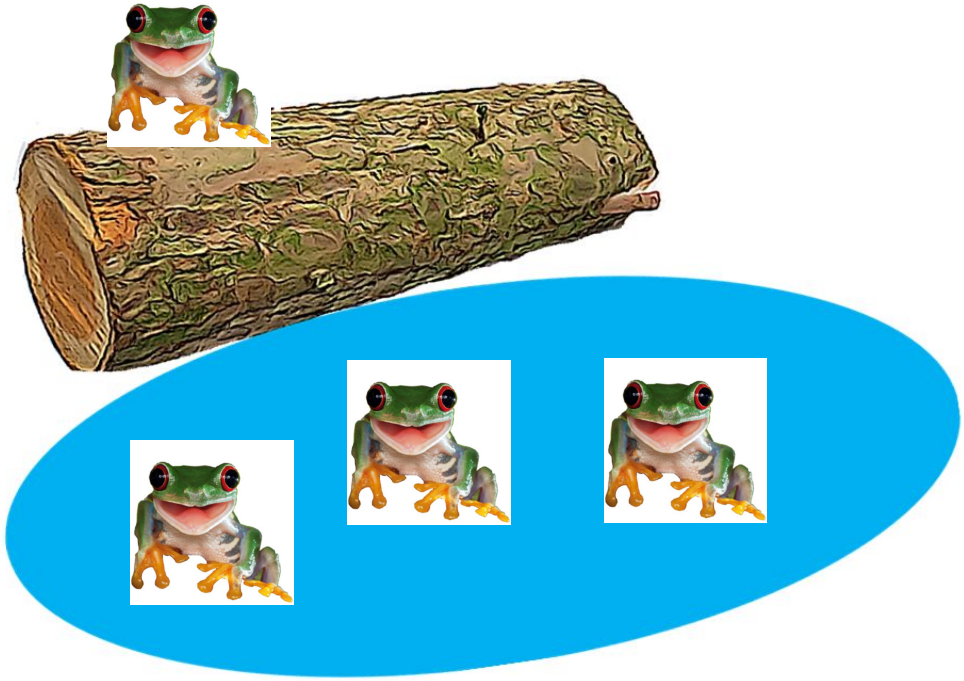

In Week 4, you will play this game again with 4 frogs… or even 5!

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Moving from EYFS to Y1

Initially recapping and revising number knowledge and writing of digits, start to count and recognise numbers to 100 but continue to focus on manipulating numbers to 10 and then 20.

It is important to focus on securing bonds and fact families to 10; understanding the interplay of these numbers.

Composition and decomposition; Larger numbers are further along a number track or going up if you have a vertical number line.

Developing the ability to compare numbers up to 20;

Knowing securely 1 more or 1 less.

Stretching to add/subtract within 10 and then 20; concrete - pictorial - abstract

Fluency: fwd/bckwd on their head!

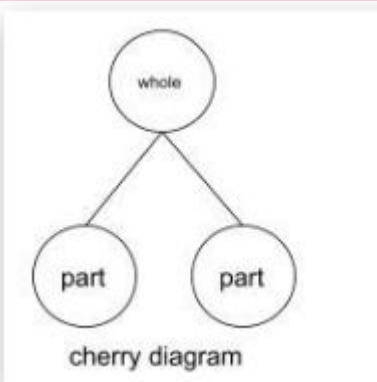
THESE are ESSENTIAL foundations for mathematics and being able to go into greater depth within 20 is much more important than being able to count to 1000.

Progressing from concrete in EYFS to pictorial and abstract in Y1

Models and Images: a number track to go up and down and relate this to the abstract add/subtract.

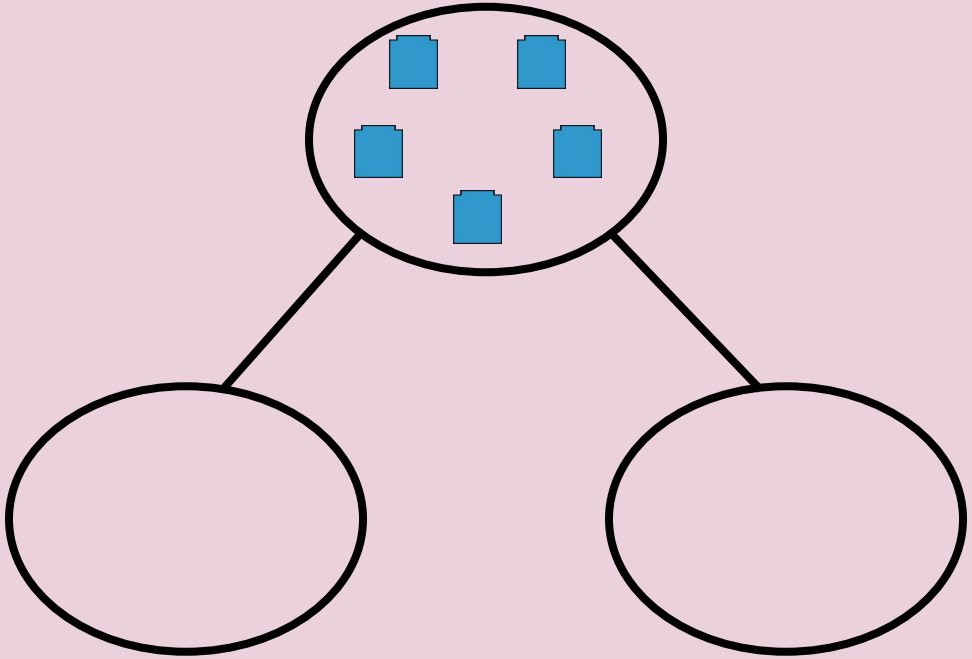
Use of Numicon to consolidate understanding of 1 more / 1 less, odd & even, adding numbers together, composition of number and bonds, and an alternative way of modelling part/part whole.

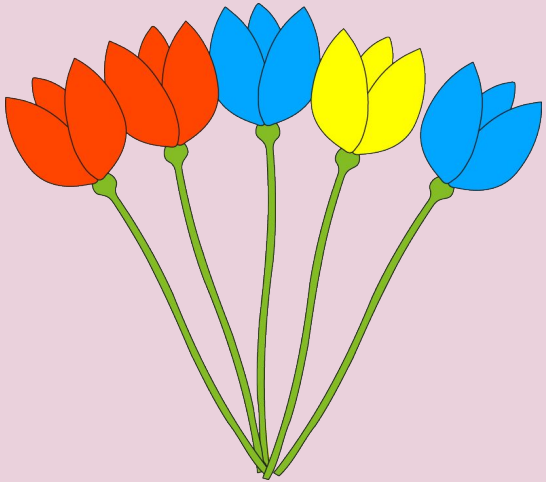
Language - importance of Part/Part whole (part, part, part Whole) and the modelling of this, including how this relates to fact families and additive structures.

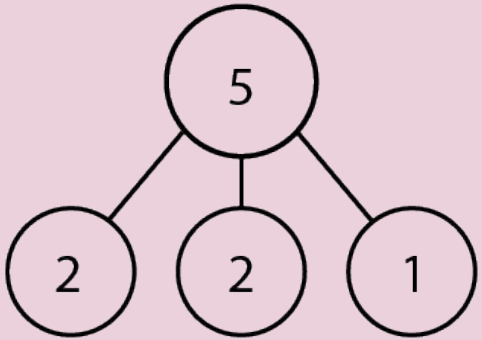


cherry diagram

Fact Families, additive structures, inverse, missing number



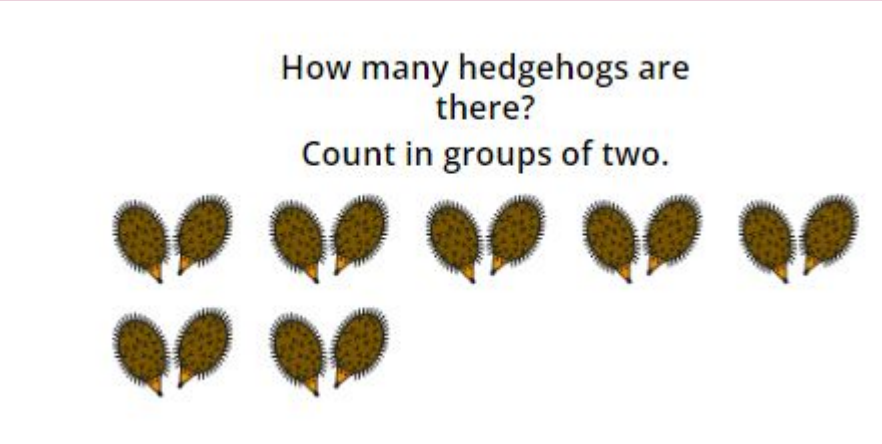




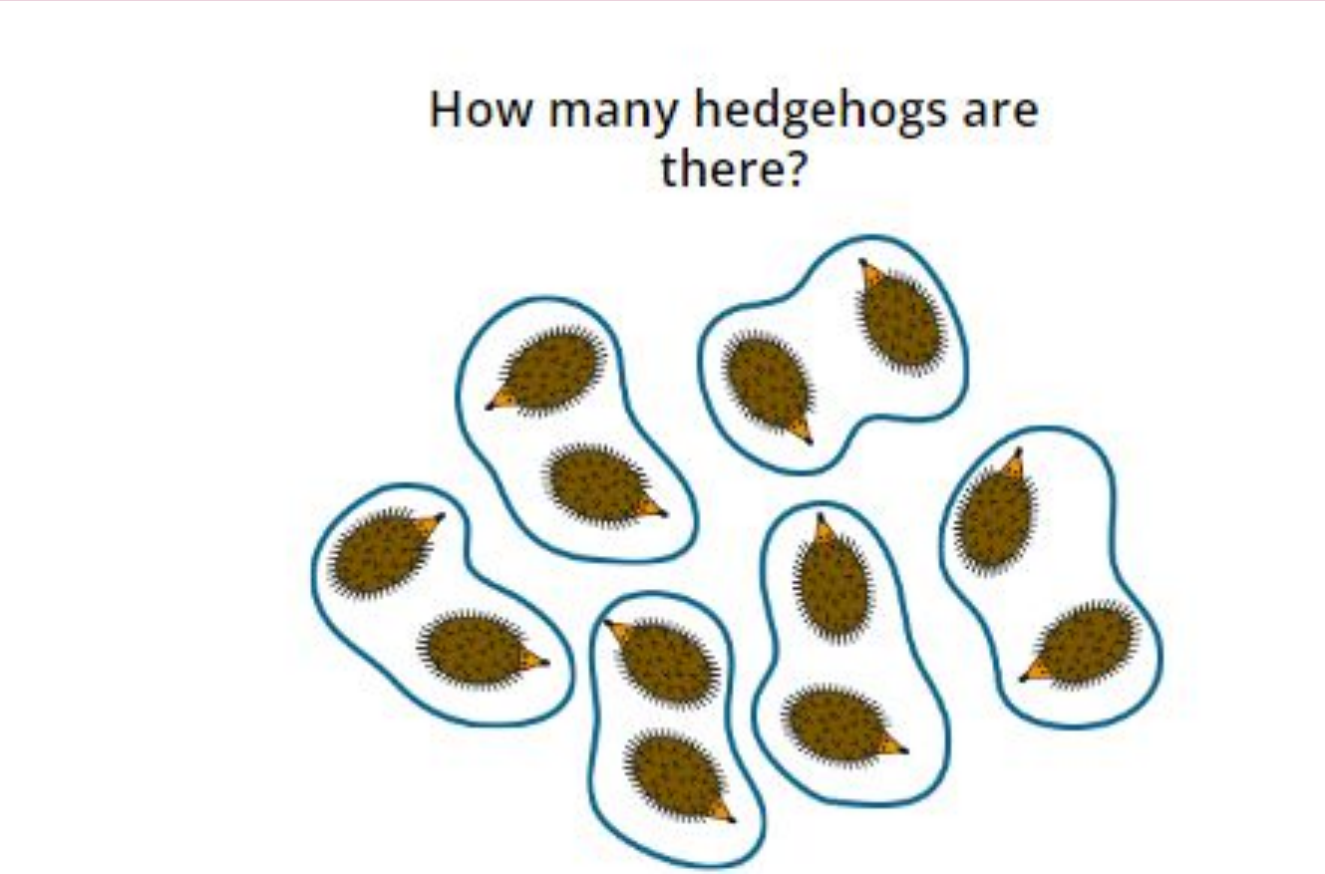
Multiplication and Division

Year 1 = focussing on the structure of repeated addition and teaching through manipulatives and pictorial representations.

Explore the concept of unitising by counting in units of two, five or ten; investigate how objects can be counted efficiently by counting in units other than one;



Skip counting for multiplication to abstract calculation



2+2+2+2+2+2 =

6 x 2 =

Lesson

Get some who are present to take part in a maths session
5 min intro - counting stick (2s)and ping pong (2s)
10 minutes: Bonds to 6, show me 6 with your fingers, show me in another way, can you show me 6 with the numicon? What about in the part part whole model?
Show me with counters; how many different ways can you and your partner show me? Remember the whole needs to always be 6 but there should be different parts,

How could we write these as a number sentence?
Can you show me that on a number track?

What about if I wrote these three numbers as a subtraction?
How could you show me that - use any equipment.

Shall we try 7? How can you solve the missing number?
missing number, what does equals mean?
How can we use a pan balance to physically manipulate our number sentence.

End with game for 10

Mini Lesson

FINALLY

Matific - online streamed language maths resource but this is a digital tool and is only part of learning mathematics. A fluency in number comes with mathematical oracy; using Manipulatives - even just an egg box and some buttons (especially a ten one) can create more mathematical conversation.

Any Questions?

Volunteers needed for September 2023 - July 2024 to help with groups of children in maths.

At this stage I am gathering info, there will be training and placing.

Form will be sent out, **please fill it in** if you would like the presentation emailed to you and/or the lesson ideas for the next 5 weeks and if you are able to volunteer any time for supporting Maths at Europa.

Thank you for your time.