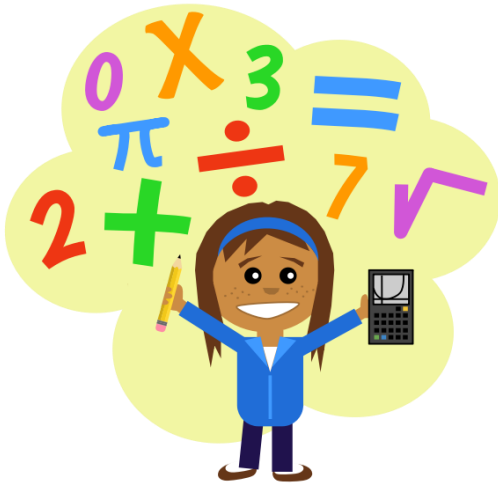
LONDON MEED PRIMARY SCHOOL

Welcome to our EYFS Marvellous Maths with Your Child



Monday 13th March 2023

Miss Griffiths - EYFS Lead
Mrs Balan - Maths Lead

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Development Matters

Aim: to develop a strong grounding in number so that all children develop the necessary building blocks to excel mathematically.

Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

This is done by…

Providing frequent and varied opportunities to build and apply this understanding – such as using manipulatives, including counters and tens frames for organising counting – children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

The curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice and not be afraid to make mistakes.

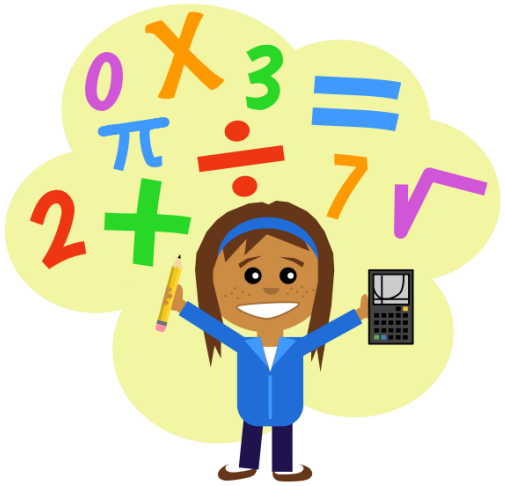
NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Development Matters Statements: 3-4 years

- 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’

Development Matters Statements: Reception

- Count objects, actions and sounds.
- Subitise.
- Link the number symbol (numeral) with its cardinal number value.
- Count beyond 10.
- Compare numbers.
- Understand the *1 more than / 1 less than* relationship between numbers.
- Explore the composition of numbers to 10.
- Automatically recall number bonds 0-5 and some to 10.



NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

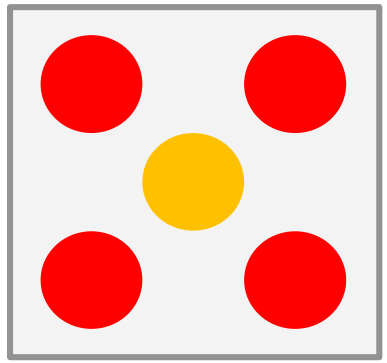
Early Learning Goals (ELGs)

- 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.
- 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.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Mastering Number at Home

Reception



NCETM

NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

What will we be doing today

We will work through the session materials which will cover:

- Subitising
- Composition
- 2 or NOT 2
- Part-part-whole activities with images.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Aims of the session

- Share with you some of the things your child will be learning in school
- Improve your confidence in helping your child with maths
- Create some games and activities for use at home
- Share with you the home learning activities

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Why engage you in your child's learning?

Research evidence suggests that when parents are engaged in their children's learning, outcomes for children can be improved.

The research also highlights the fact that parents feel they need more support to understand the current curriculum content and how they can support their child with their learning at home.

Desforges, C. and Abouchaar, A. (2003); Goodall, J. and Vorhaus, J. (2011); The Education Endowment Foundation (2019); Sarjeant, S. (2021)

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

BBC News Report 2006

69% of parents do not help children with their homework because…

Everything has changed since they were at school and they are not confident in the new methods.

BBC News Report 2010

82% of parents feel unable to help pupils with their homework.

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

The ‘problem’ with maths

“My dad thinks that the way **he** does maths is easier and better than **my** way but he doesn’t understand my way and his way confuses me.”

Pupil – Catford High School

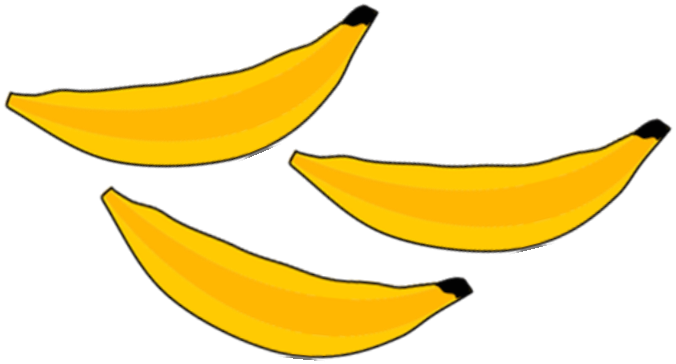
NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

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

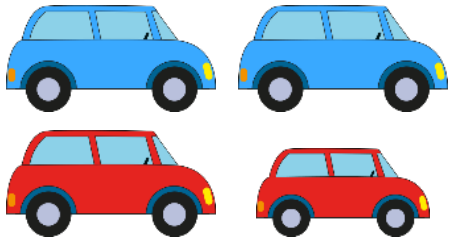
The Mastering Number Programme in Reception will help your child to develop good *number sense*.

Some of the things they are learning include:

Counting



Recognising small numbers of objects and making their own collections



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

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

The Mastering Number Programme is a new national programme based on research into what is important in early maths education.
'Number sense' includes lots of things; the things mentioned here are some of them, but we are only going to focus in this session on **subitising** and **composition of numbers**.

The numbers children use may be smaller than what they can do at home, but we are purposefully focusing on smaller numbers so that the children can develop a **deep understanding of numbers** to develop that strong number sense.

Children will be learning gradually to count out larger sets of objects and join in with the counting numbers, but to have a really good foundation to build on, the smaller numbers are so important.

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

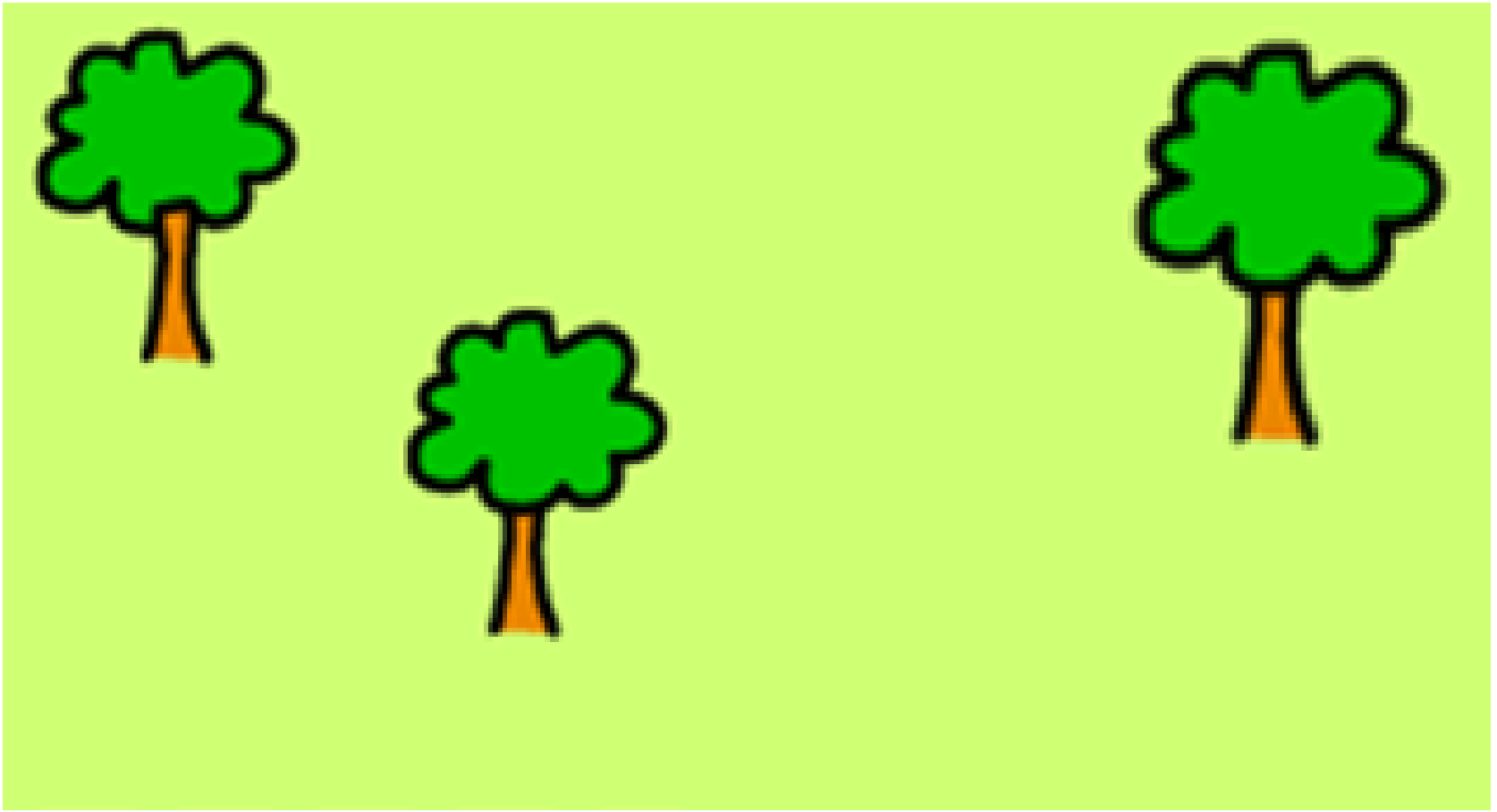
Let’s do some maths with the children!

Look out for when you can use your subitising skills! Get those fast eyes ready!

Please note that we are focusing on the objects, not on written numbers as digits.

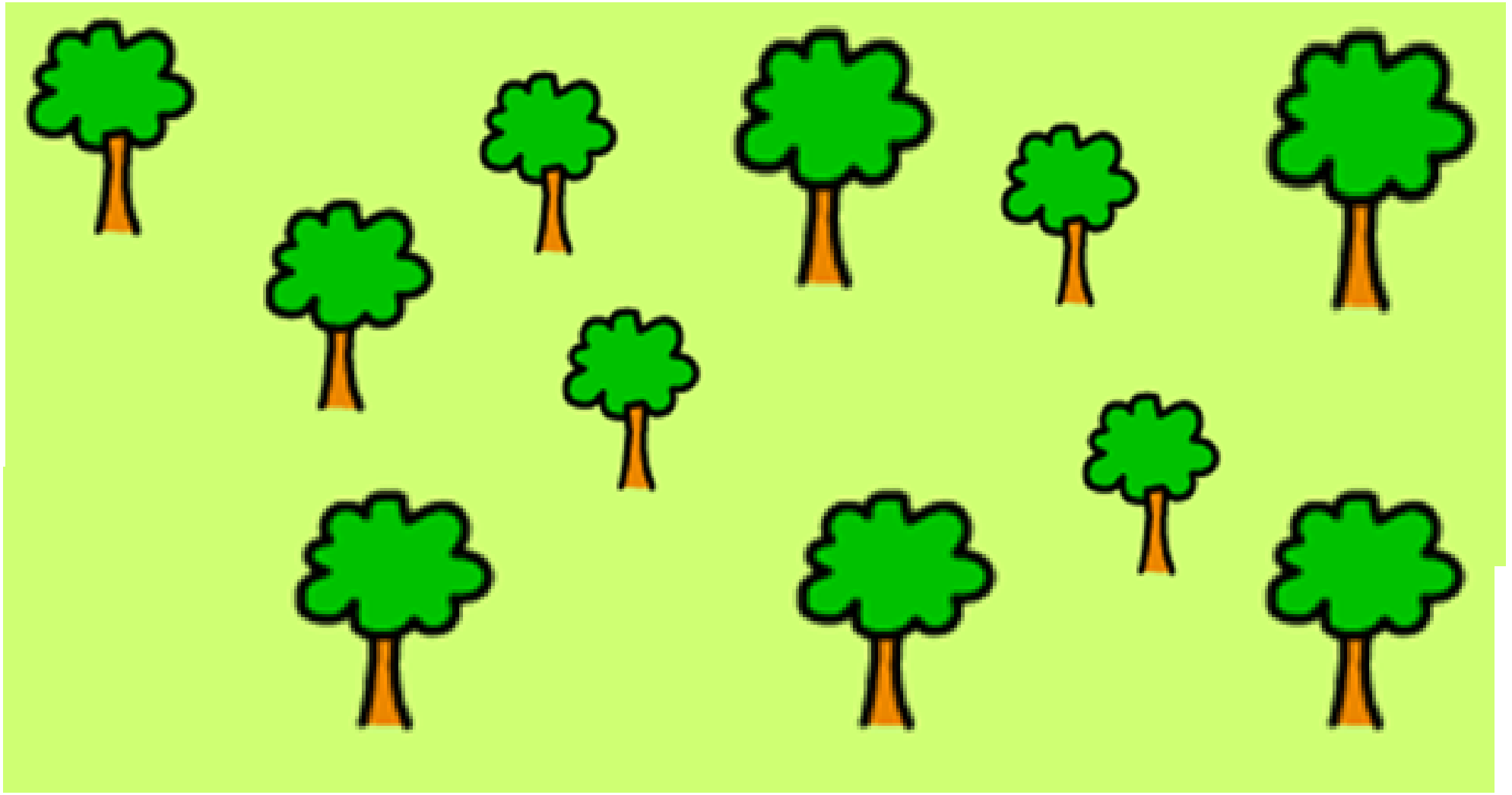
NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

How many?

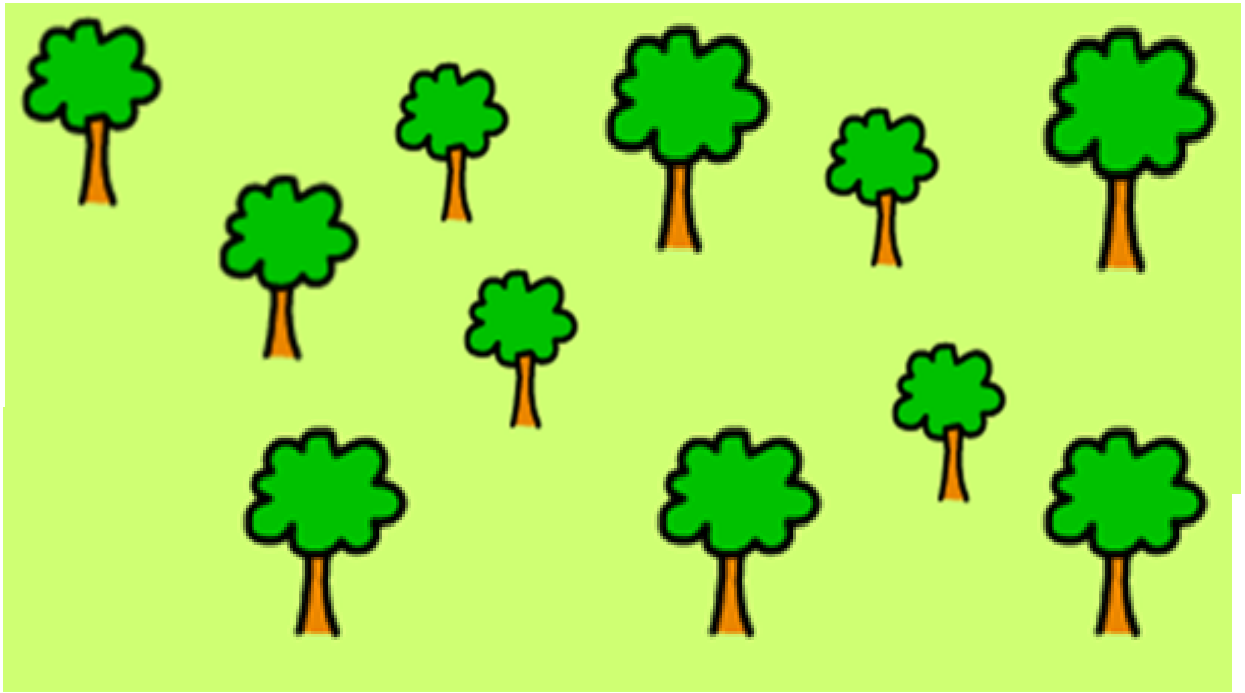


NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

What about this one?

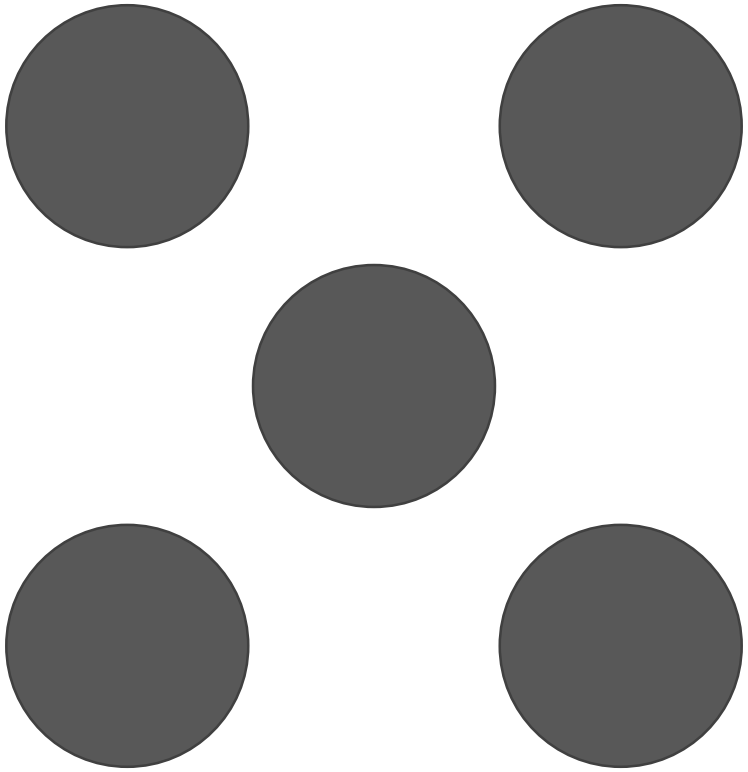


NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

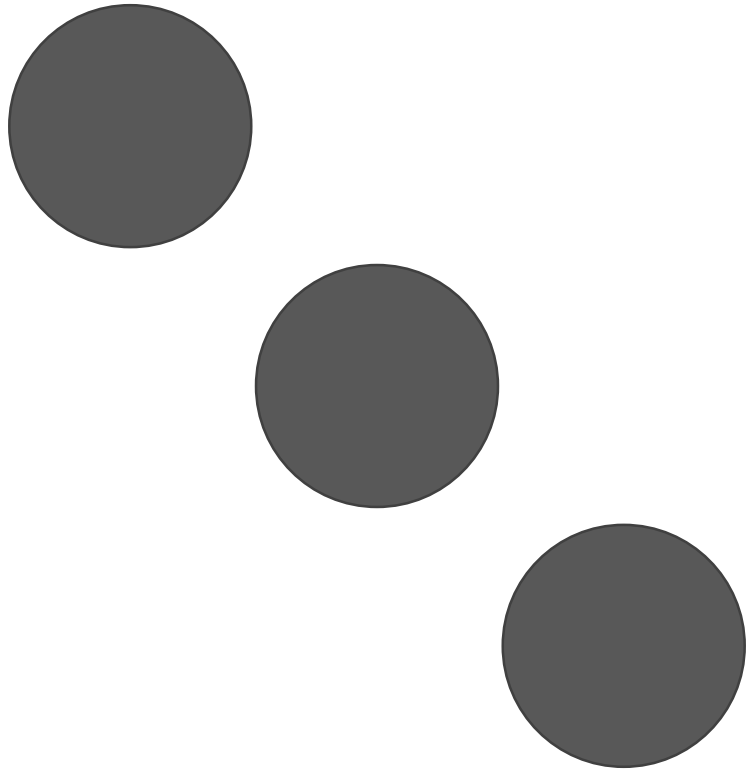


Why was this image harder?

How many?

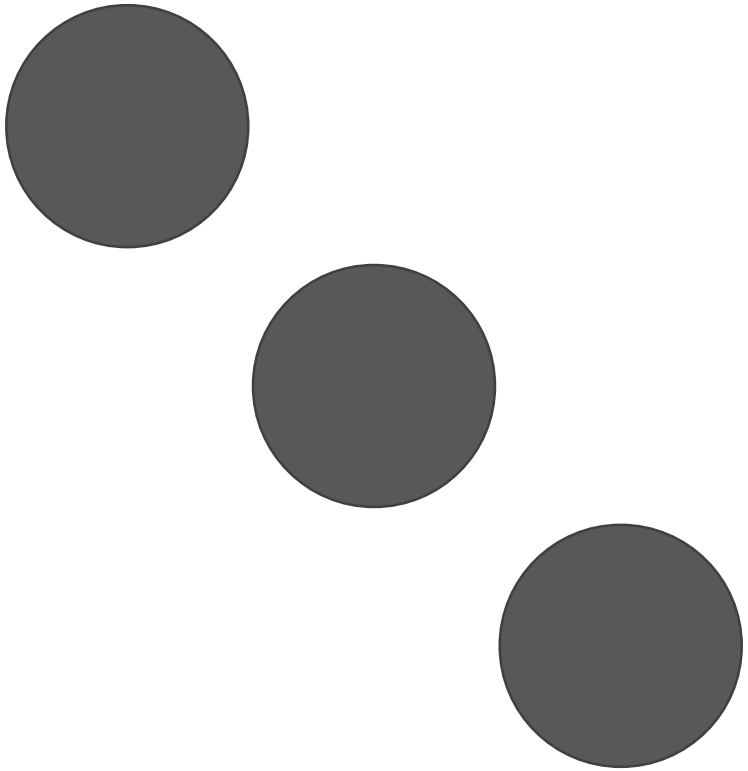


NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

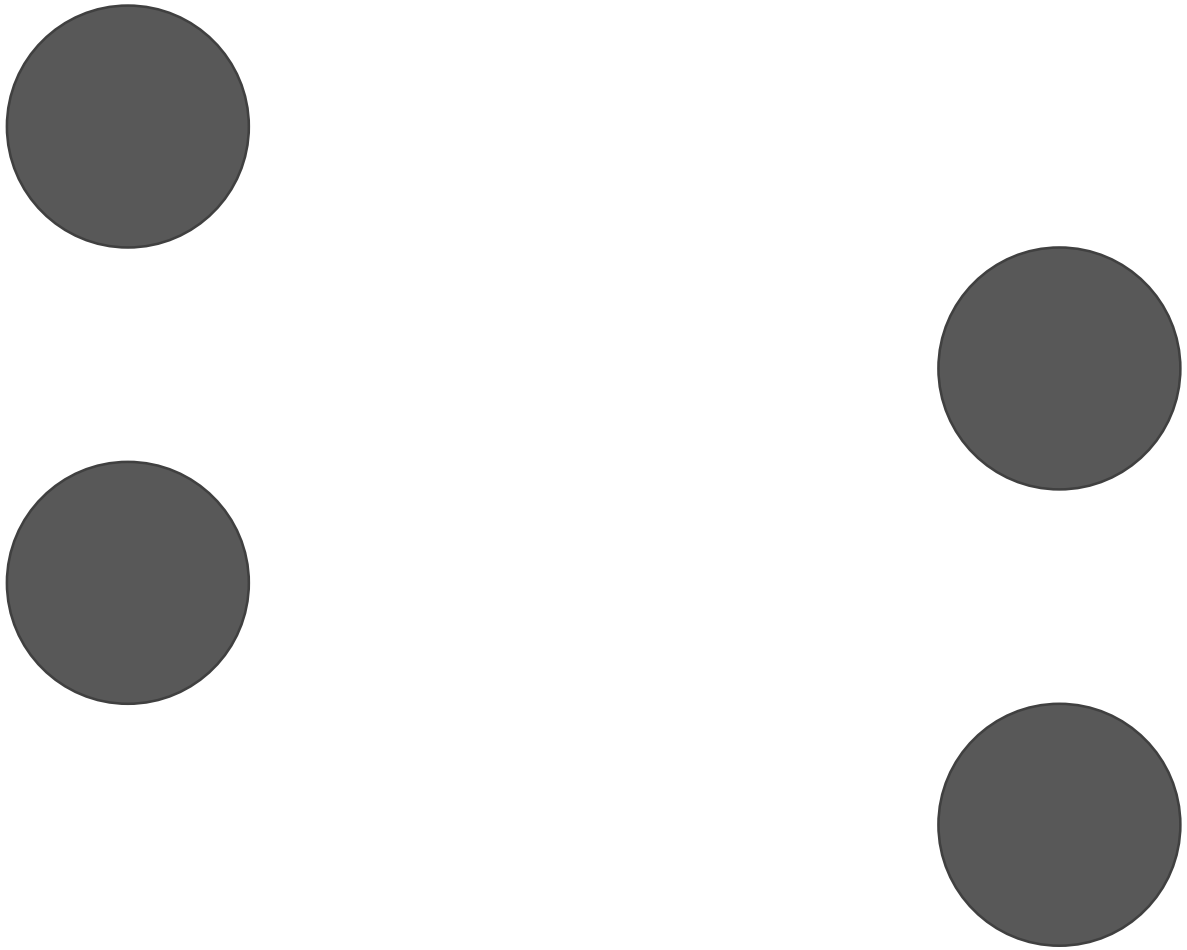


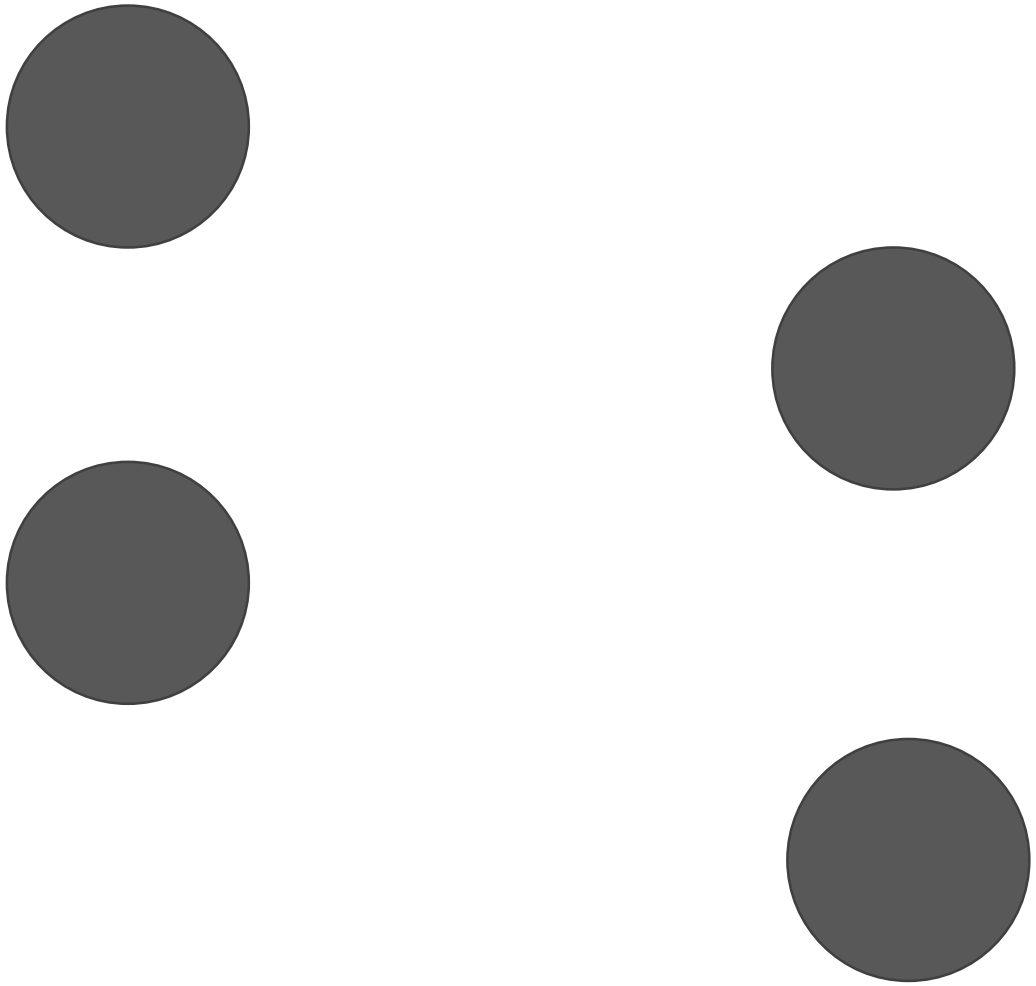
How many?

That familiar pattern helps, but can we tell when they are not in that familiar pattern?



How many this time?





Most of you managed to see four even though they were not in that special pattern.

We are used to seeing a square four like on a die, but you still recognised it.

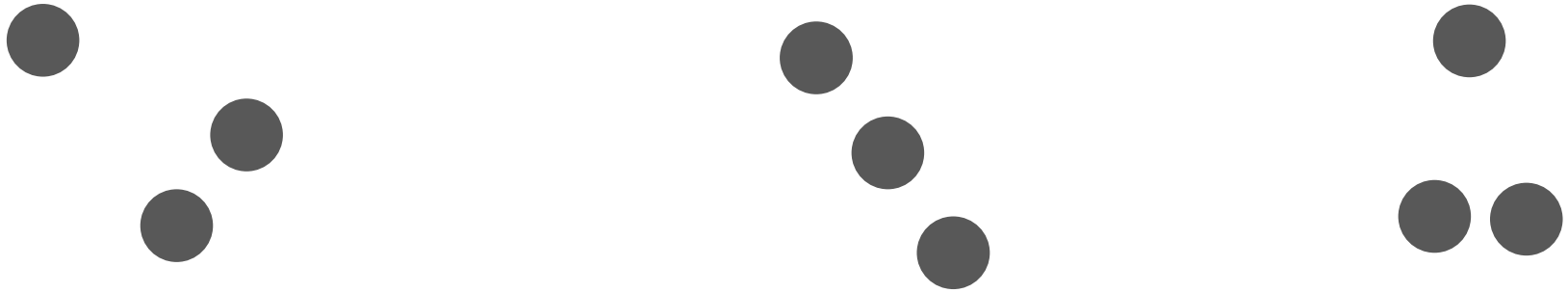
What did you see?
A two and a two and you automatically know that is four.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

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.



NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

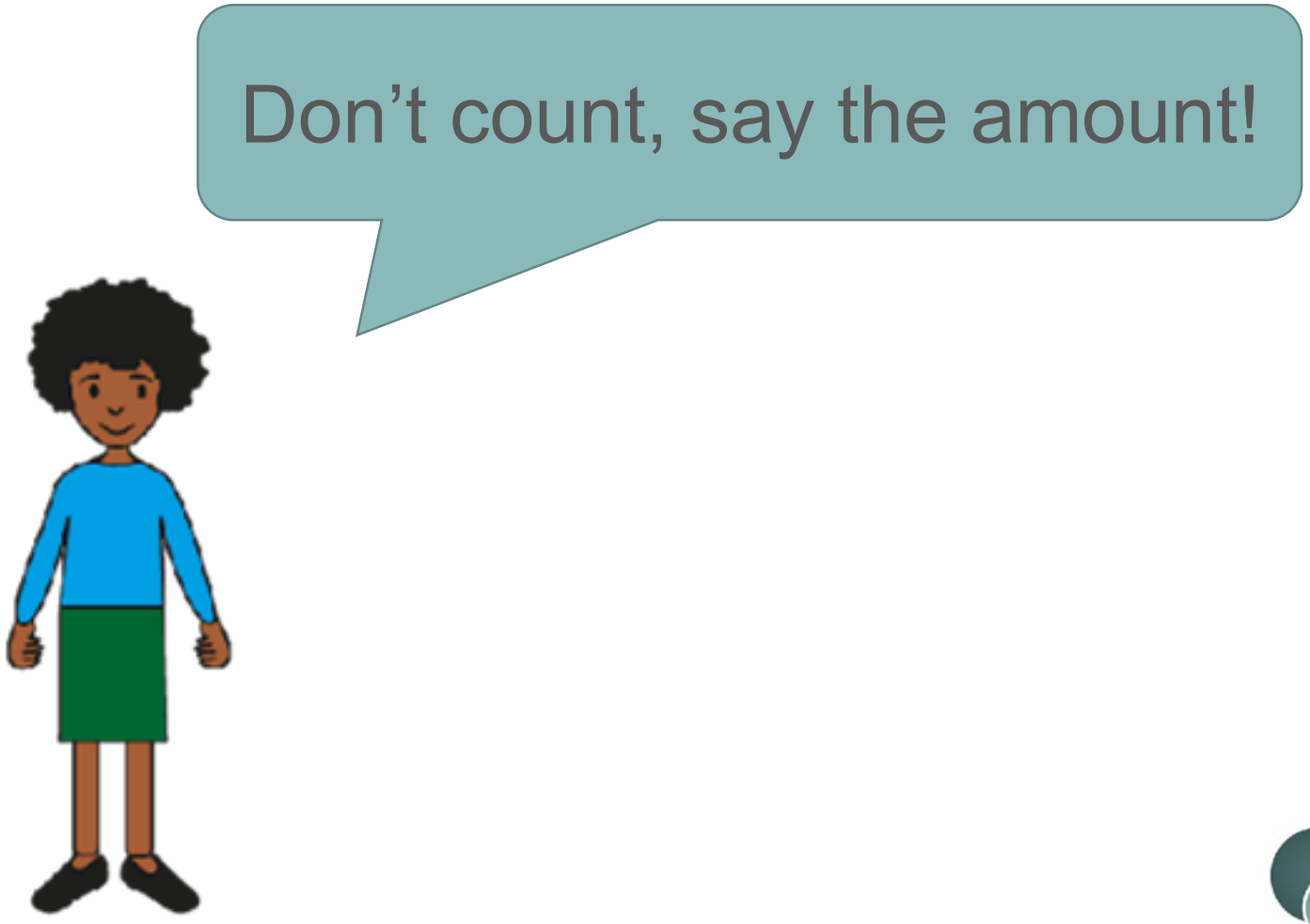
How will knowing how numbers are ‘made’ help?

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

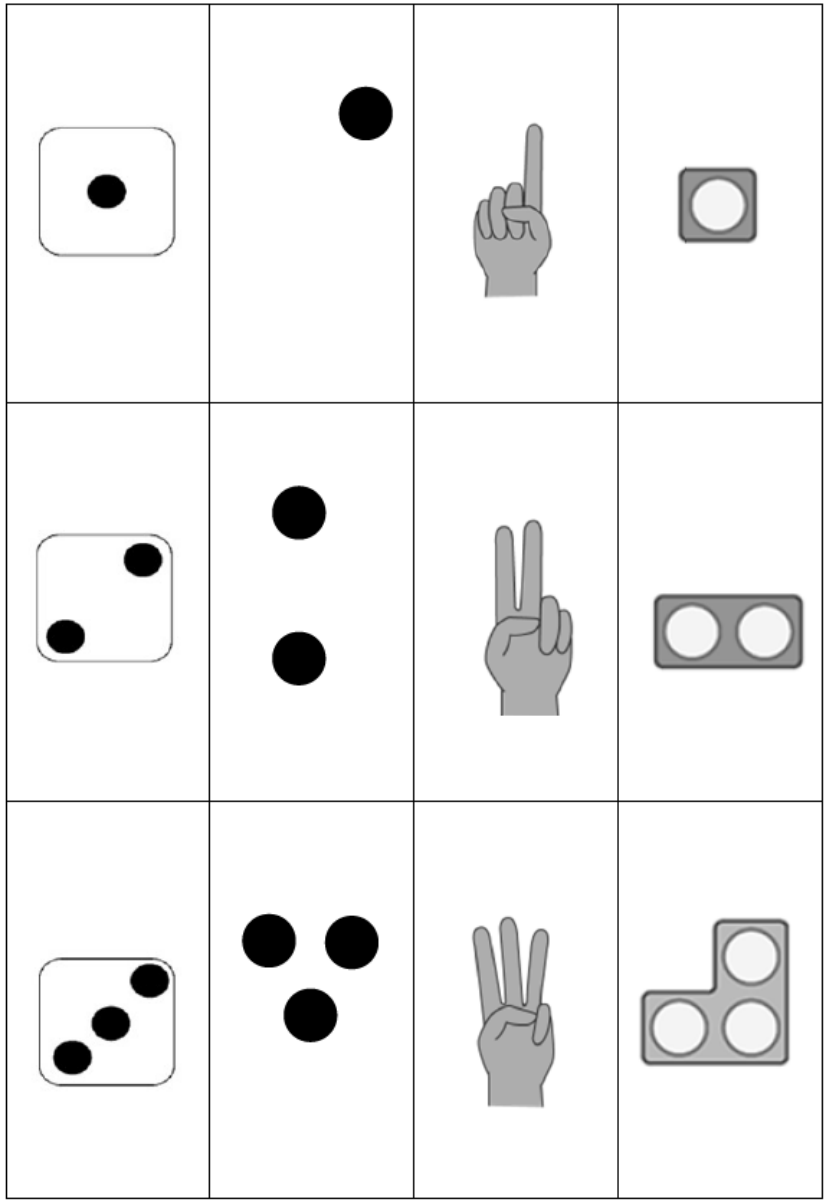
NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Play ‘Subitising to 3 snap’



Week 1 of the activities that you will be doing at home.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS



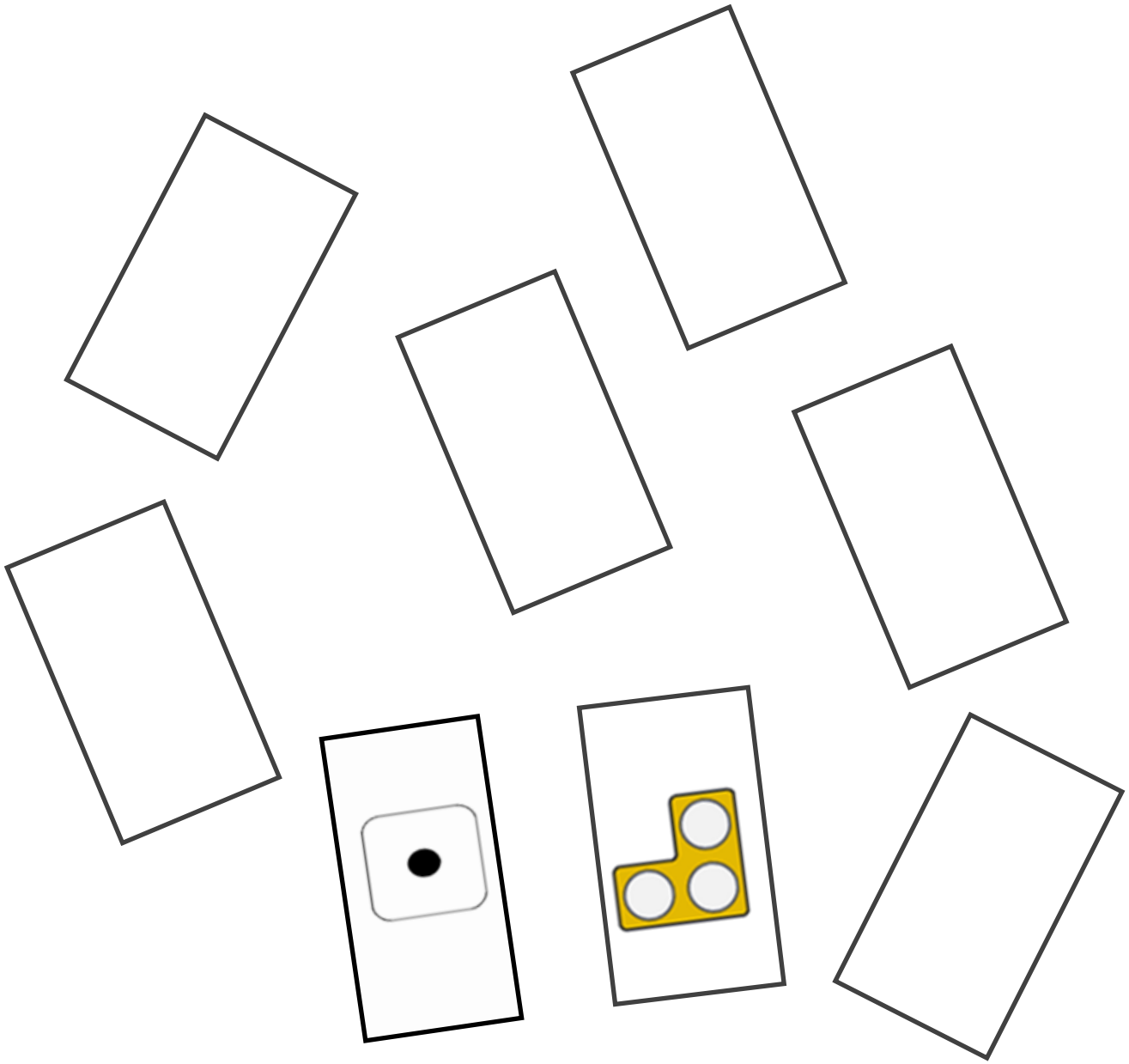
Grown-ups:

Please cut these into 12 separate cards and hand them to your child.

Children:

Please spread the cards out and place them ***face-down*** in front of you. (Ask the grown-up for help if unsure).

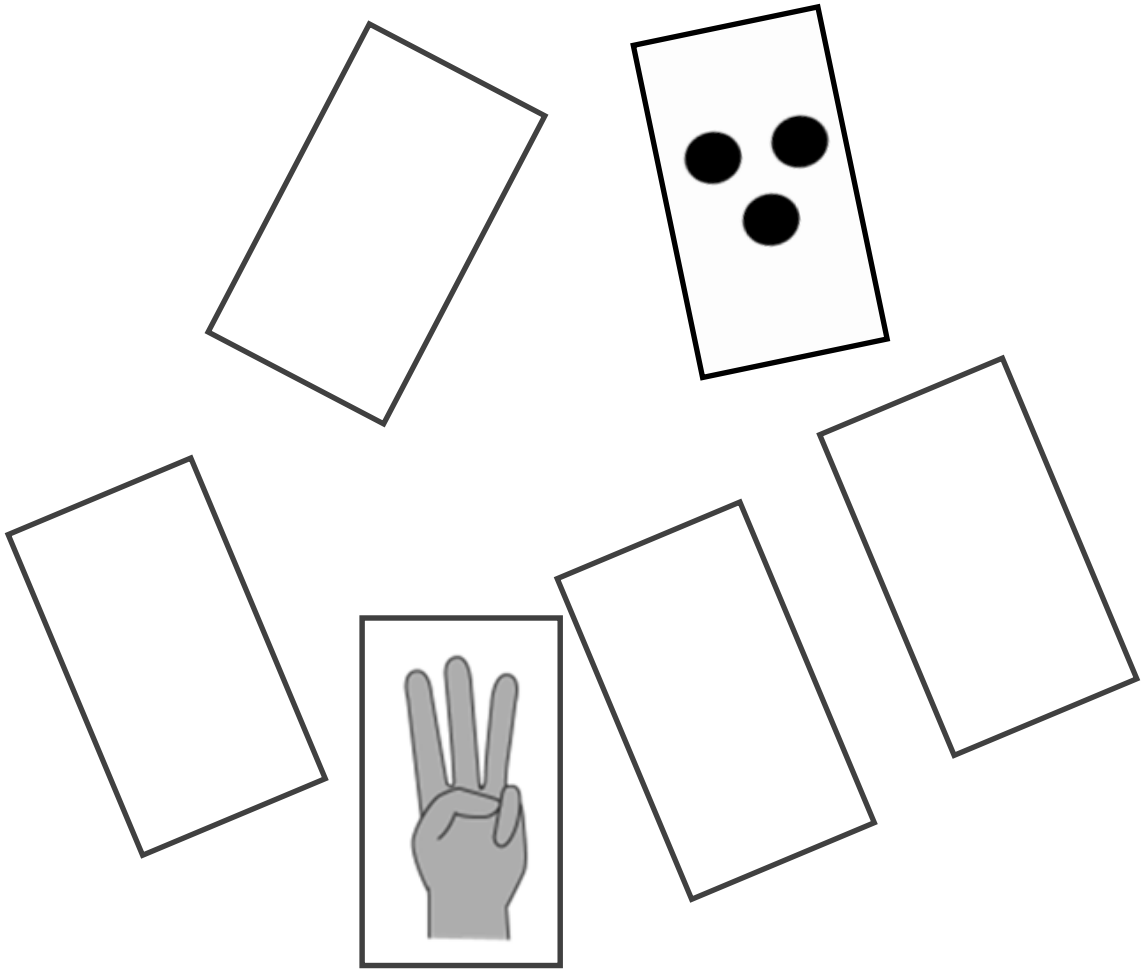
NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS



Take turns to turn two cards over and say the number you can see.

If the numbers do not match, place them back and try to remember where they are in case you need them later.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS



When it is your turn, if you turn over two cards that are the same, you can keep them.

Can you show the number with your fingers?

The winner is the person with the most cards when they are all used up.

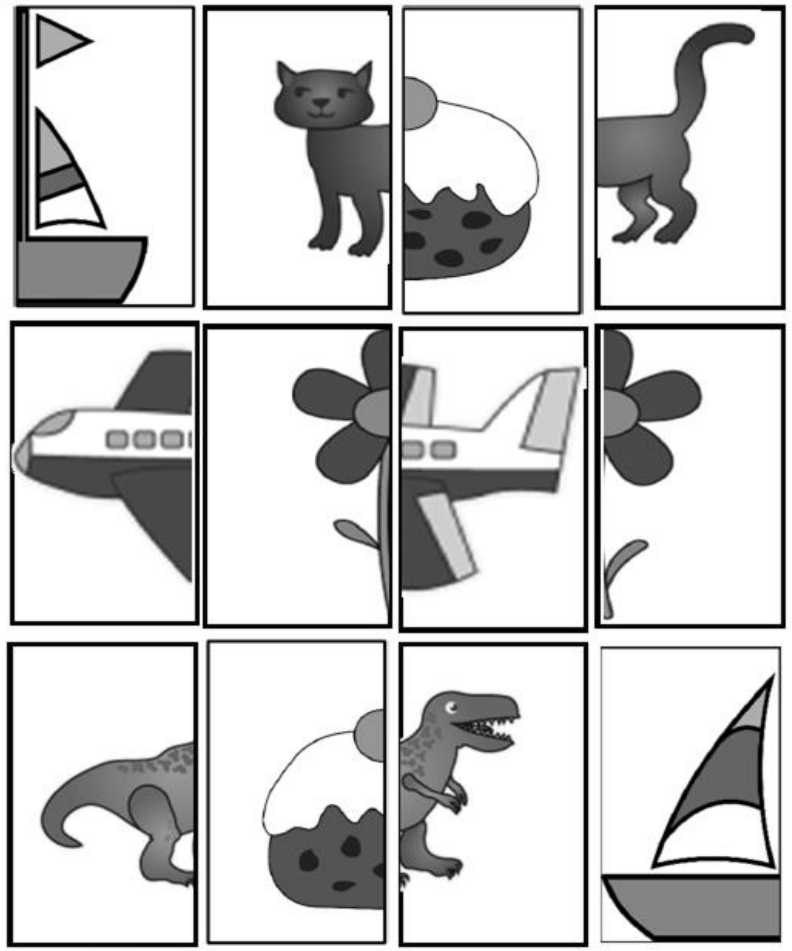
NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Play ‘Part-part-whole’

The ‘hole’ in the donut?

A ‘whole’ donut?

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



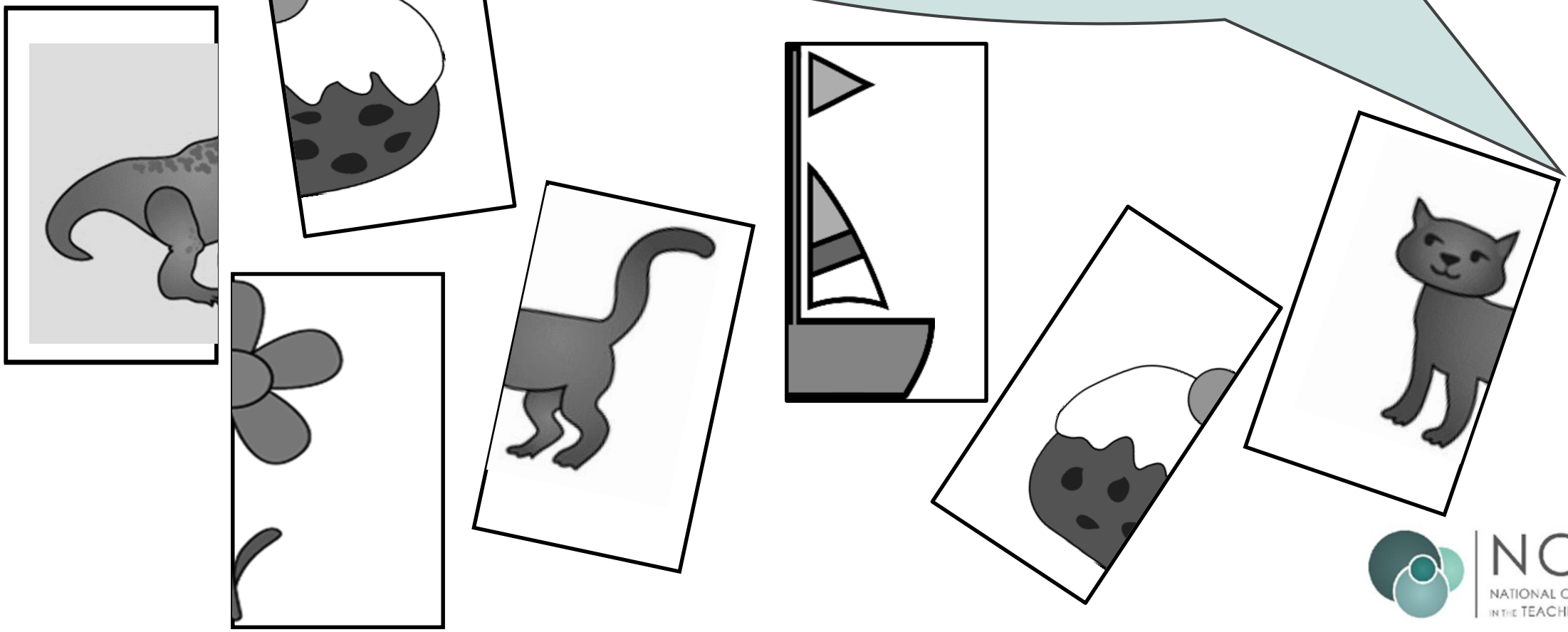
Cut carefully around each of the images.
Lay the cut cards face-up on a flat surface in front of you.
Take it in turns with the grown-up.
Look for two images that look like they are part of a whole.
Pick them up and say 'part' 'part'.
Put them together and say 'whole.'

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.

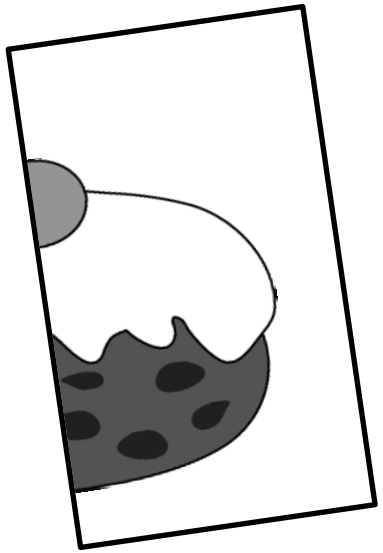
NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

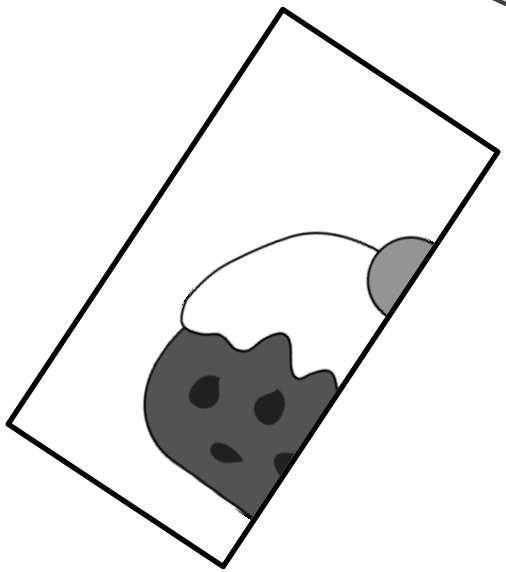
Can you see two *parts* that make a *whole* image?



NCETM
NATIONAL CENTRE for EXCELLENCE IN THE TEACHING OF MATHEMATICS

Pick up each piece and say:
‘part… part…’

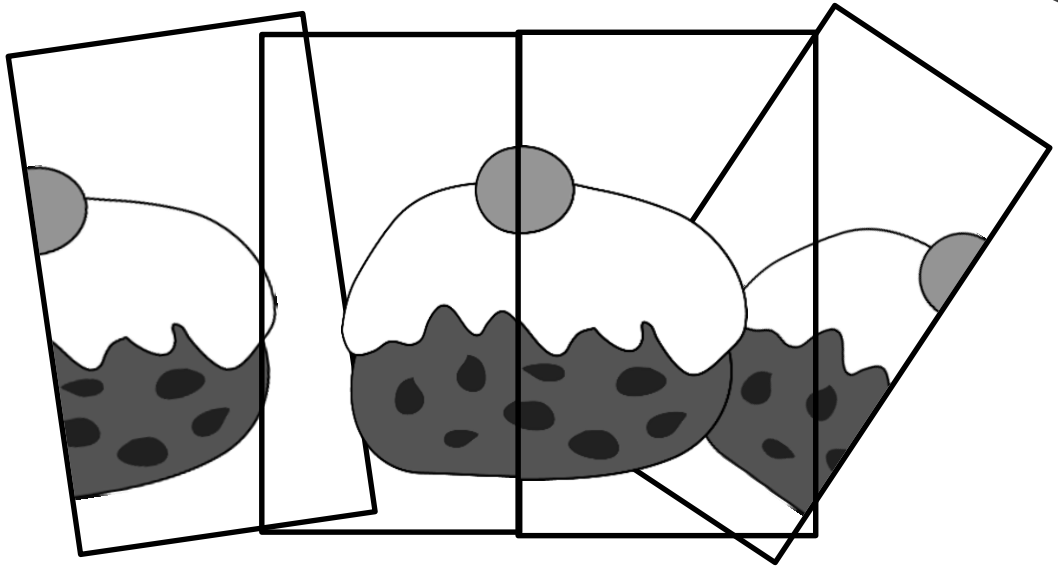




NCETM
NATIONAL CENTRE for EXCELLENCE IN THE TEACHING OF MATHEMATICS

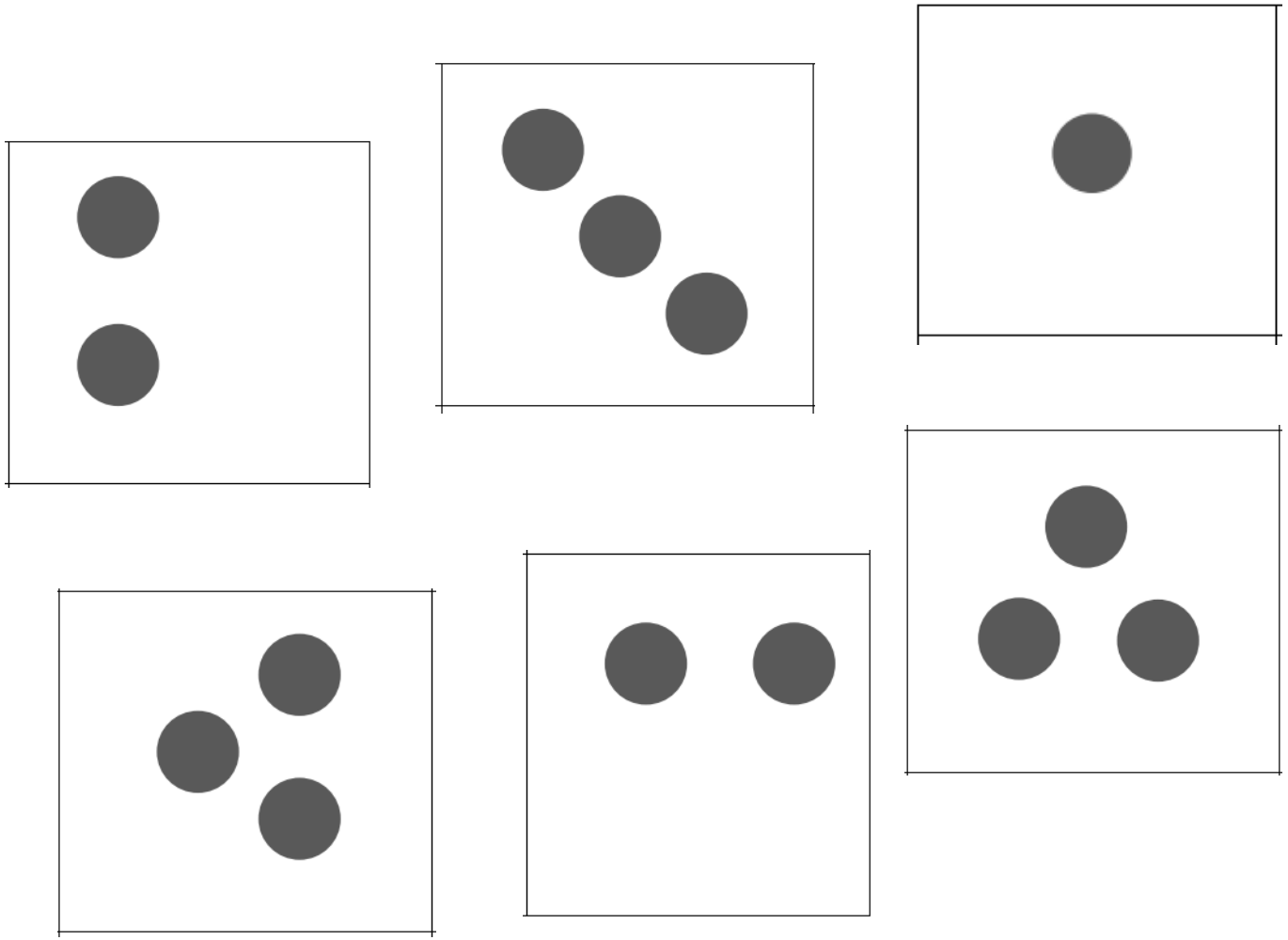
Now put them together and say: ‘whole!’

Can you find all the ‘wholes’ by doing the same?



NCETM
NATIONAL CENTRE for EXCELLENCE IN THE TEACHING OF MATHEMATICS

Part-part-whole with dots



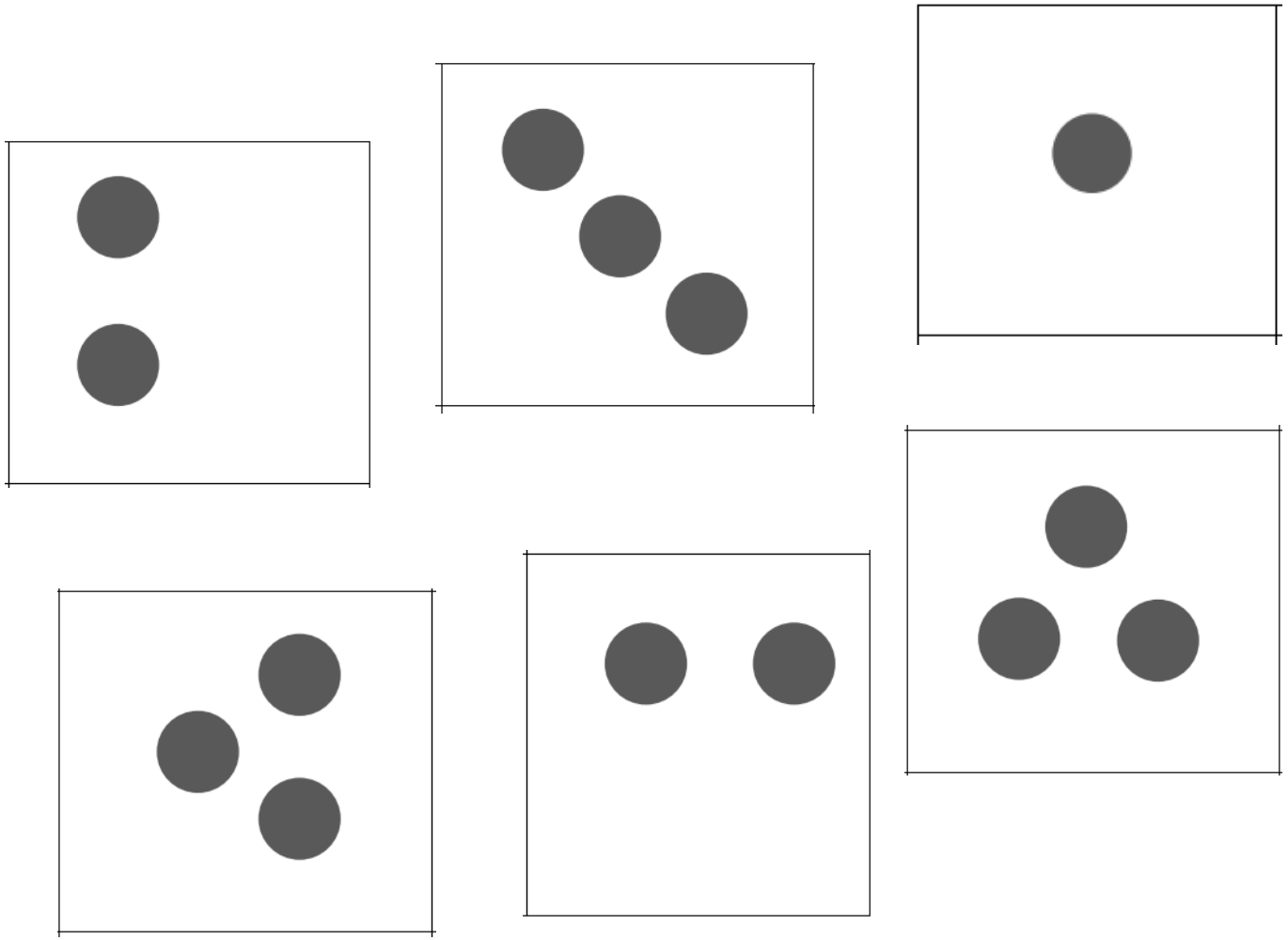
In Week 3, you will play ‘part-part-whole’ with dots.

Now we move on to seeing a set of objects as a ‘whole group’ and seeing some of the objects as ‘part of the whole’ and seeing both parts at the same time as the whole.

What we are asking children to do is really important in terms of developing their understanding of the concept of numbers being made up of other numbers.

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

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’.

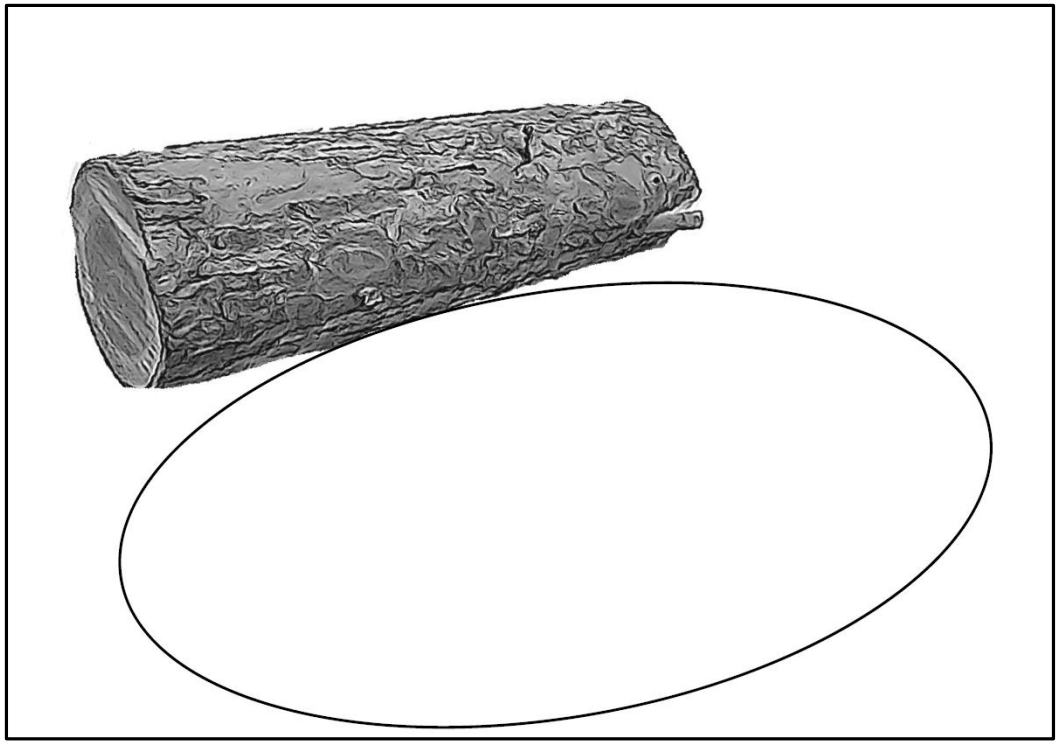
NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Play ‘3 frogs on a log’ - this is an example of seeing a whole group and the parts inside it at the same time.

You will need...

3 frogs (counters)

The frogs on a log sheet

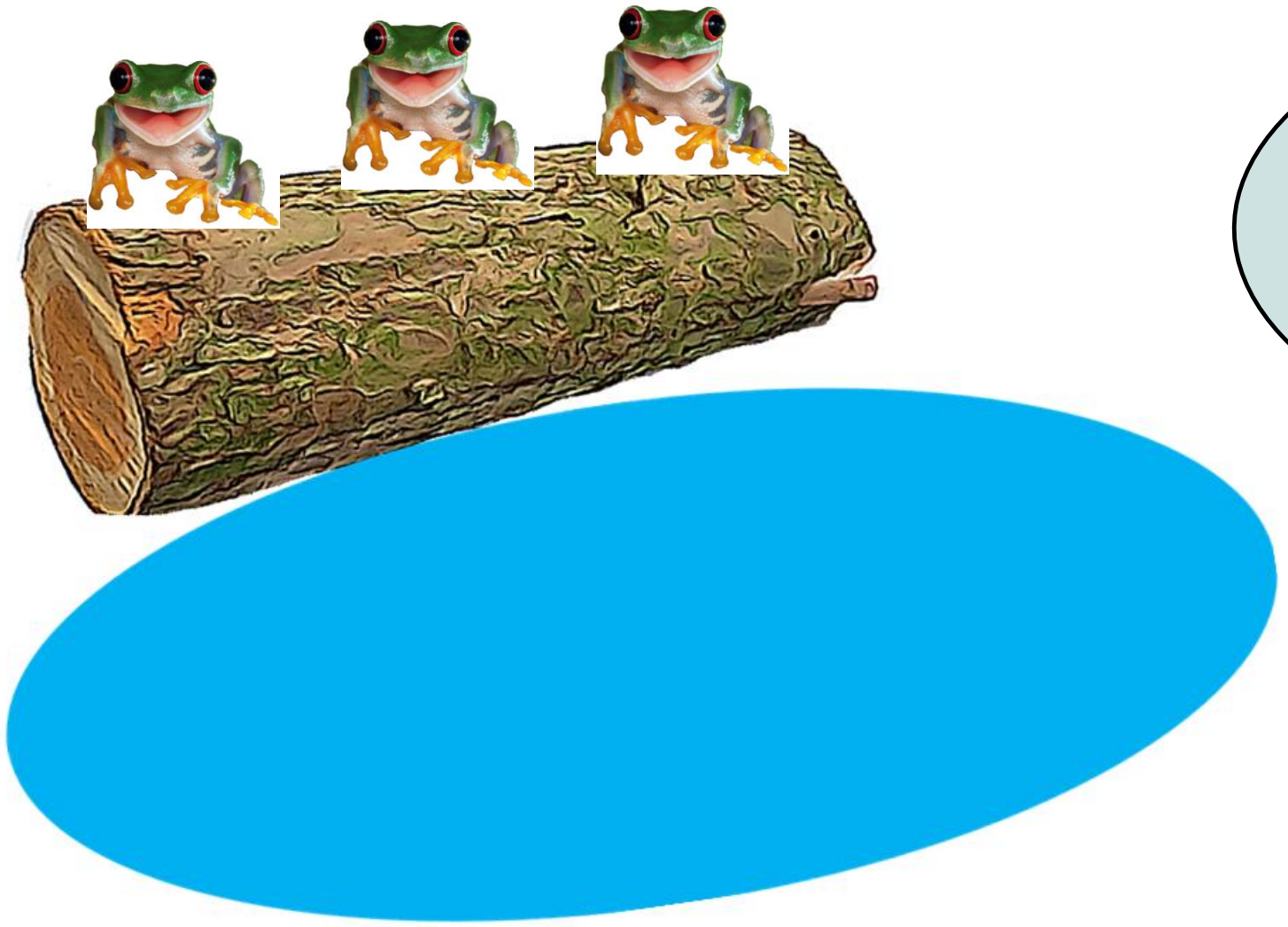


NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

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

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Put 3 frogs on the log



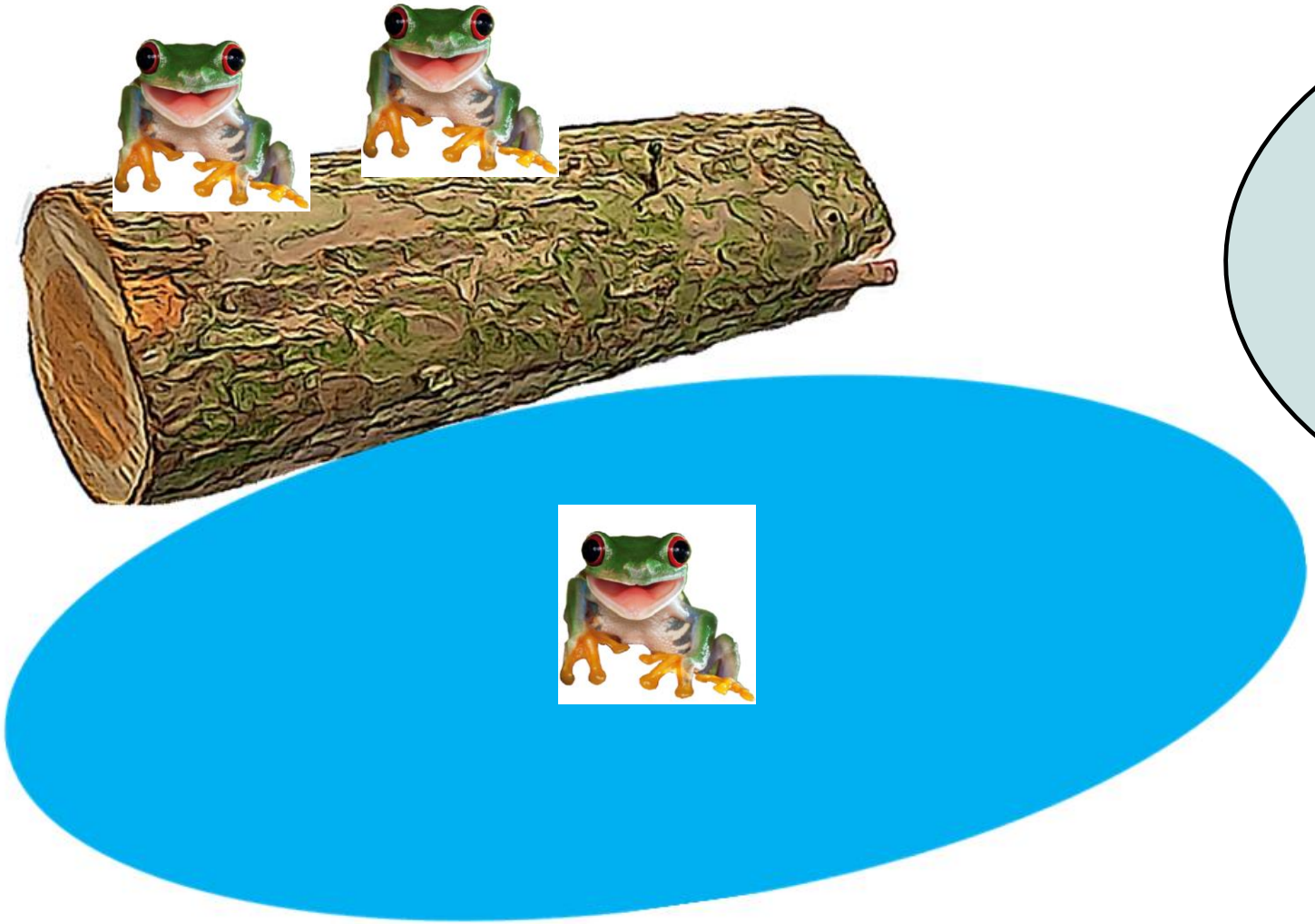
Ask your child

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

Please note that there are different ways to do it: children may show three middle fingers of one hand, or two fingers and a thumb. That's evidence of deep understanding.

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Put 1 frog in the pool.



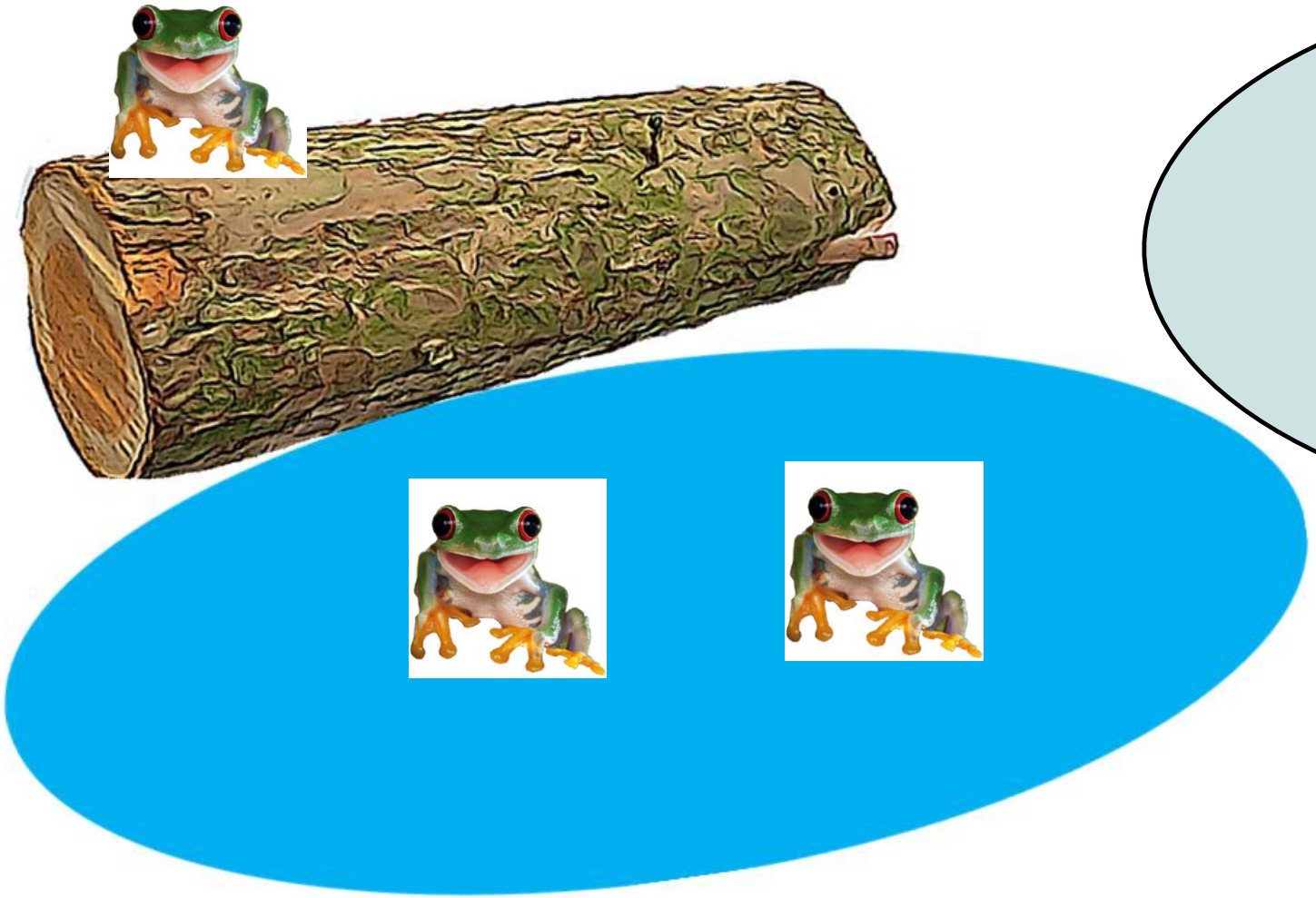
Ask your child

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

The emphasis here is on there still being three, even though they are in two sets – some on the log and some in the pool.
Children will need to put 1 finger down and 1 finger up on the other hand – this ensures that 3 are still shown (conservation of number).

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Put another frog in the pool.



Ask your child

Is it still three?

Show with your fingers:

How many are on the log?

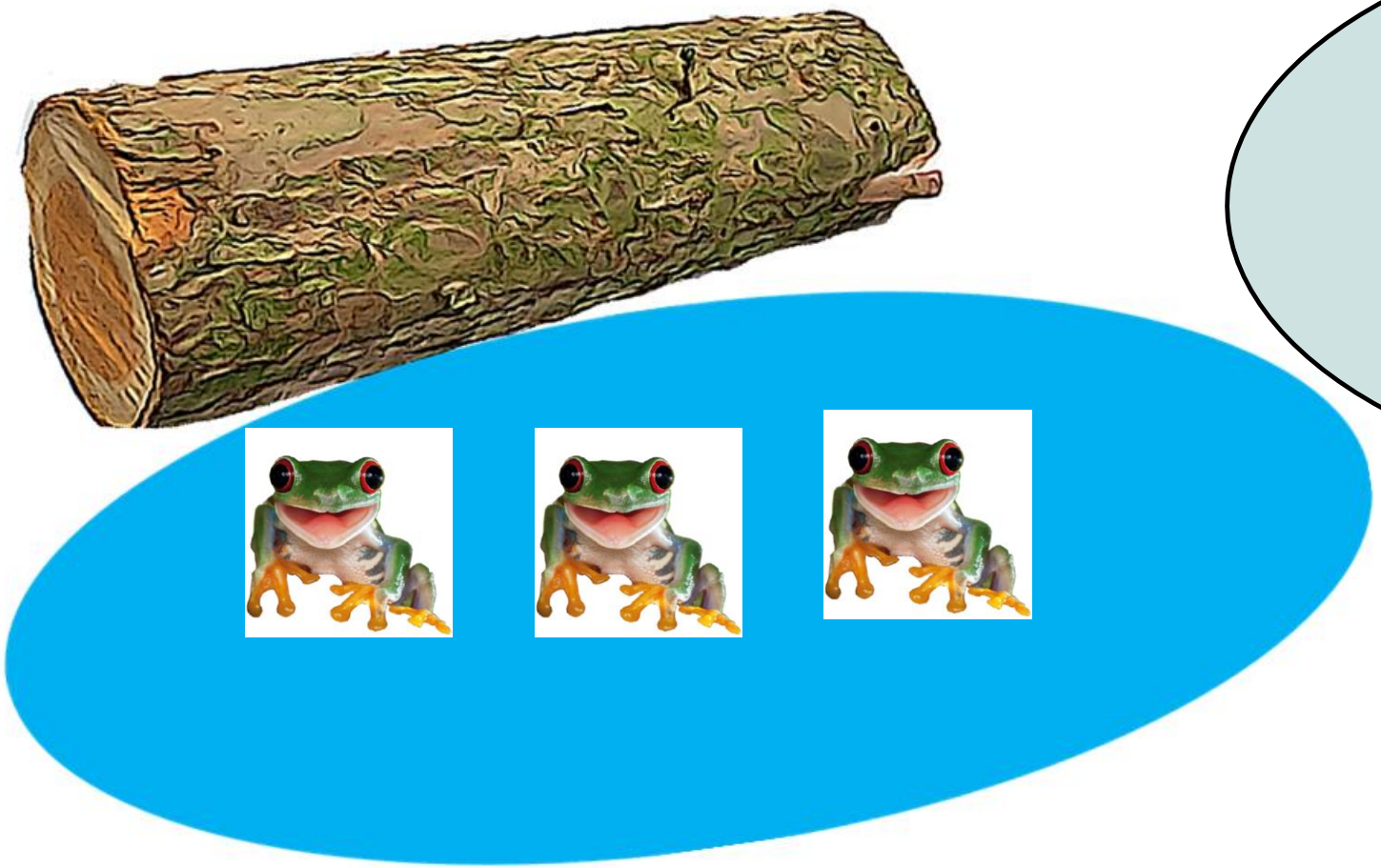
How many in the pool?

How many altogether?

The emphasis here is on there still being three even though they are in two sets – some on the log and some in the pool. Gesture with their finger – How many altogether?

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

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?

The emphasis here is on there still being three. Now we have none on the log and three in the pool, but there are still 3 altogether. How many altogether?

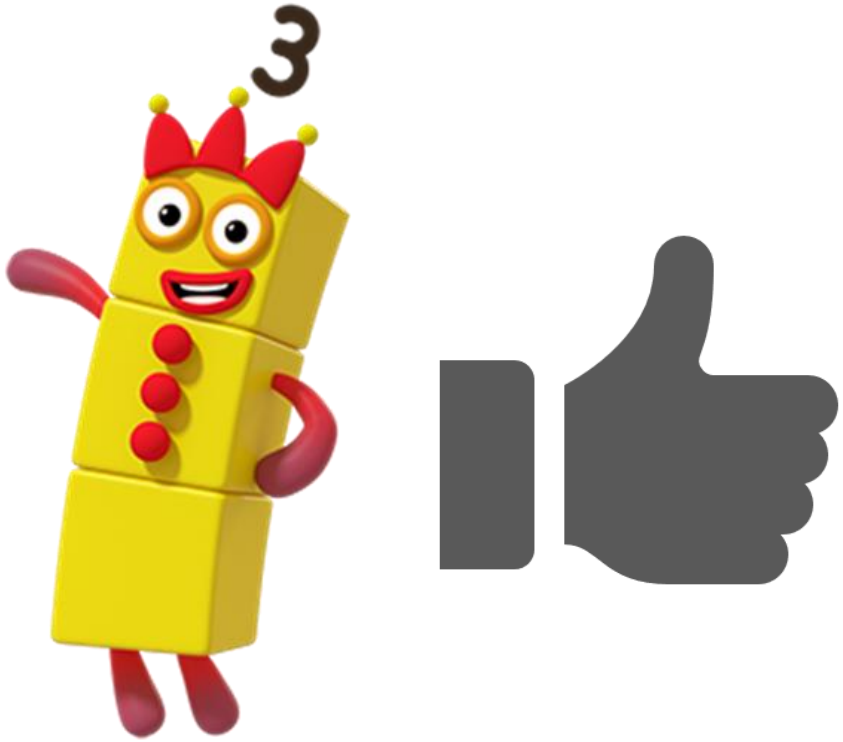
NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

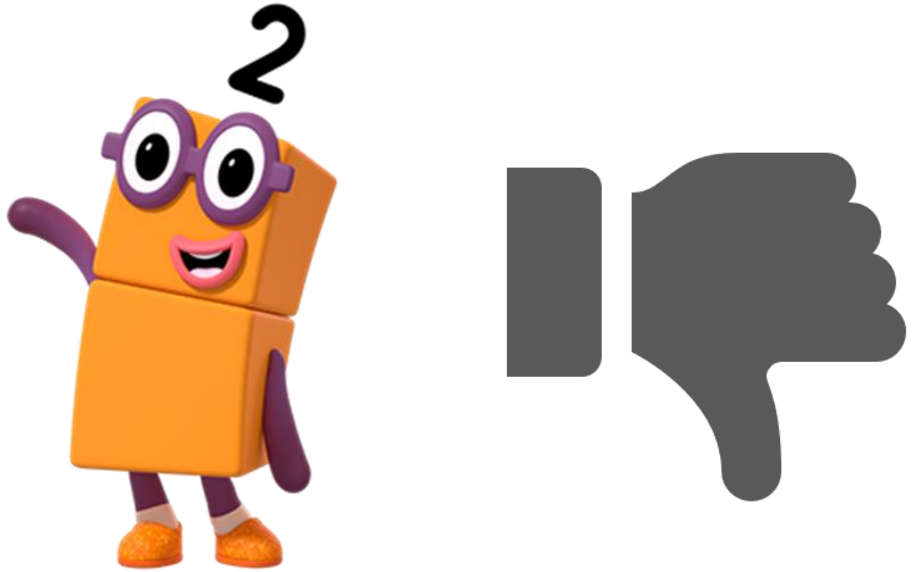
Play ‘3 or NOT 3?’

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

Mathematical talk is really important and talking about the smaller numbers will help children later on as they will feel more confident talking about numbers.

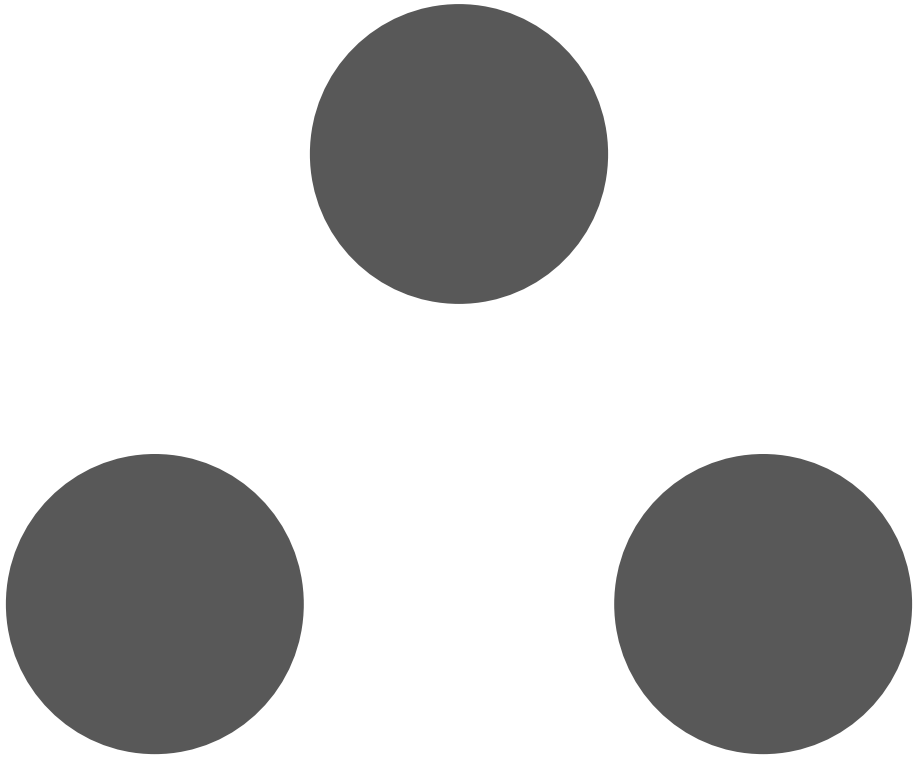
Put your thumb UP if you can see 3, and down if it is NOT 3.



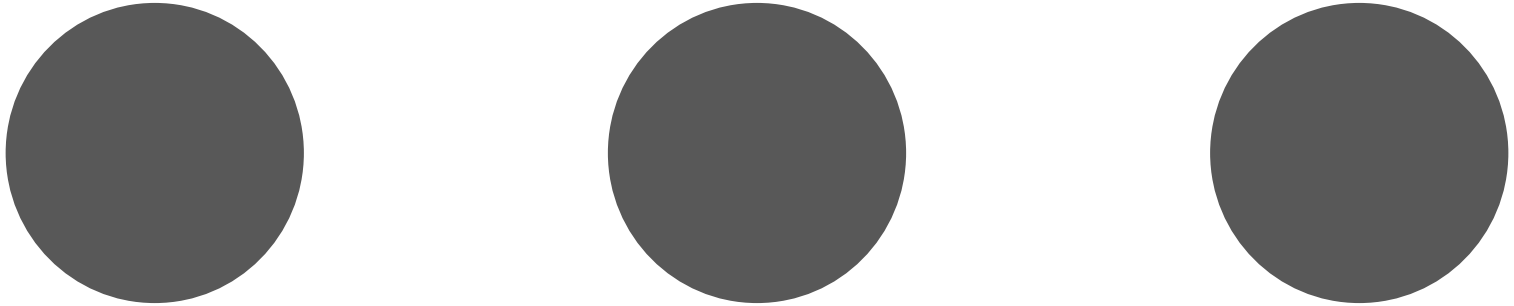


‘3 or NOT 3?’

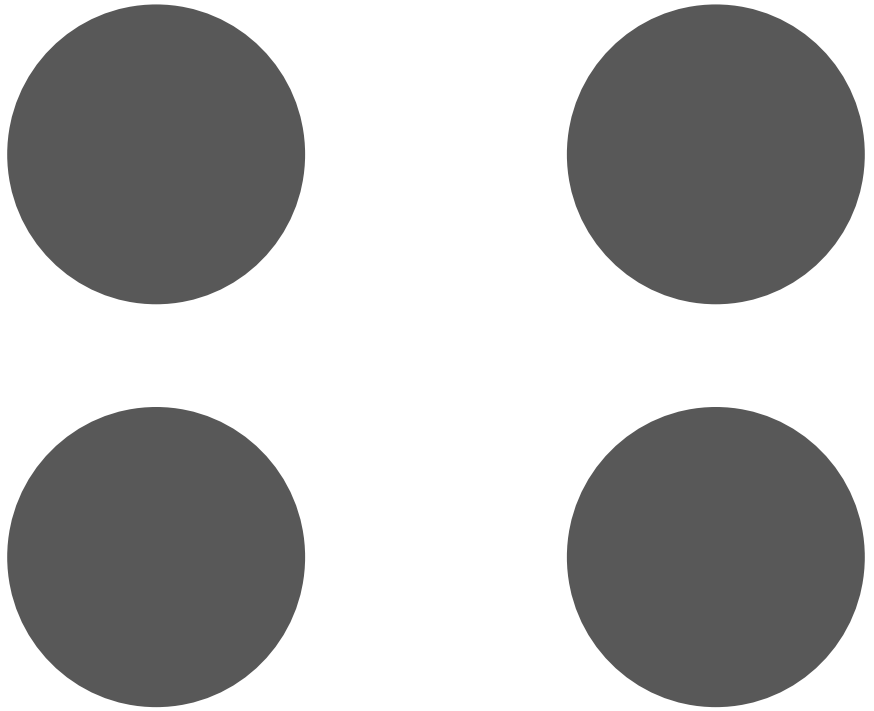
‘3 or NOT 3?’



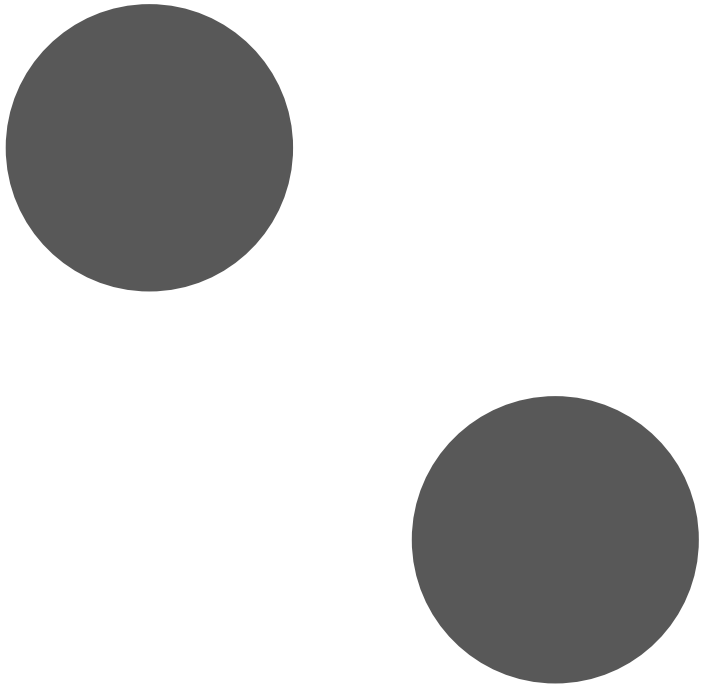
‘3 or NOT 3?’



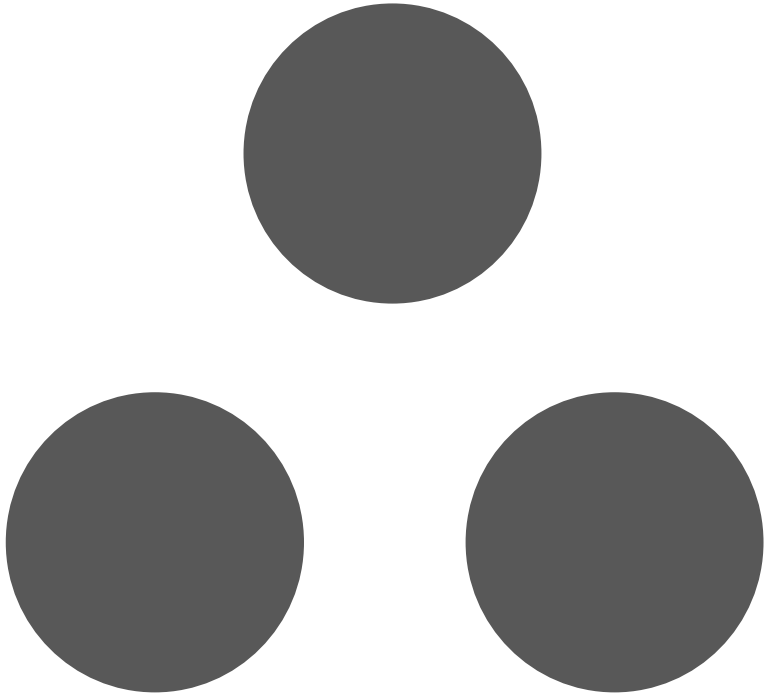
‘3 or NOT 3?’

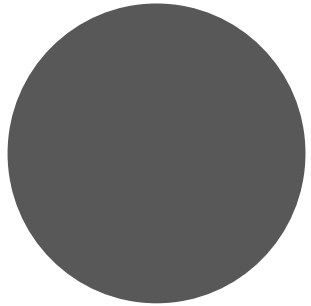


‘3 or NOT 3?’



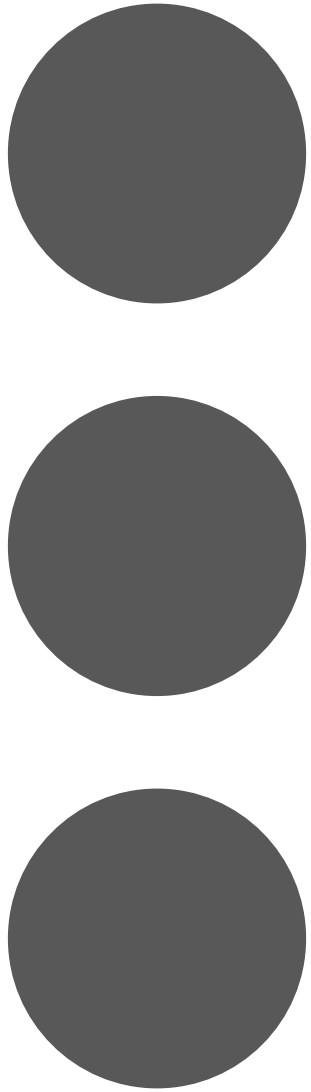
‘3 or NOT 3?’





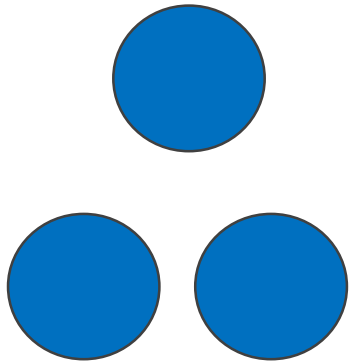
NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

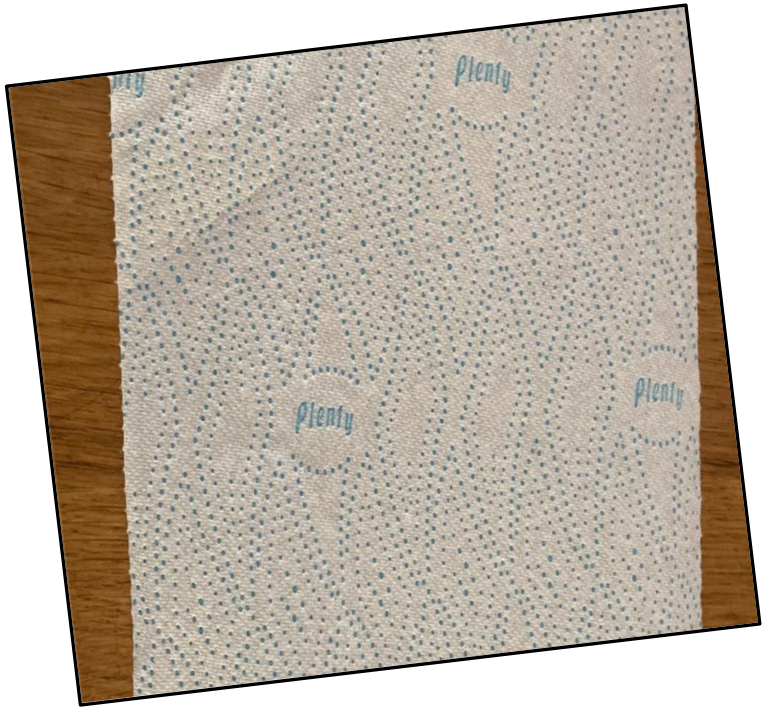
‘3 or NOT 3?’



Play ‘3 or NOT 3?’ with counters

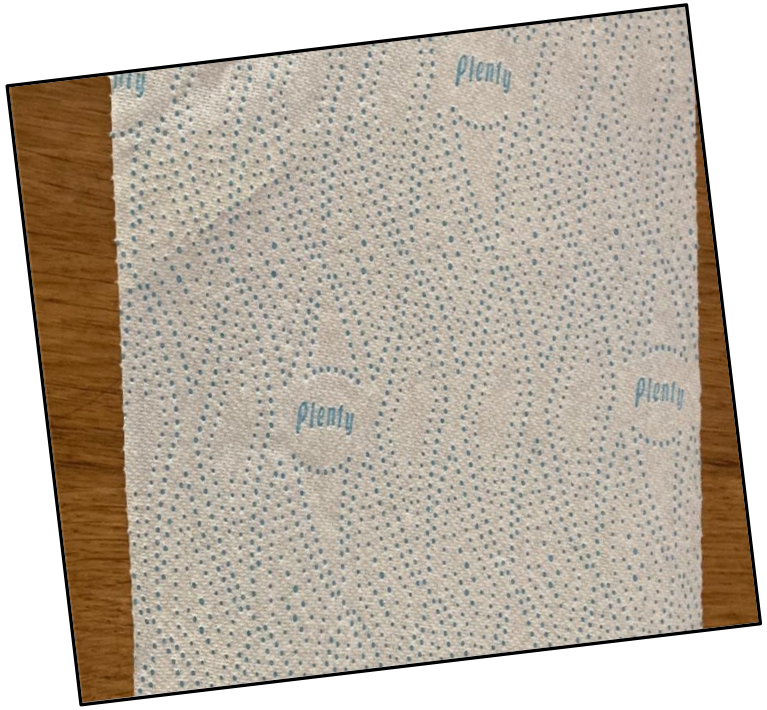
You will need 5 counters and something to cover them.





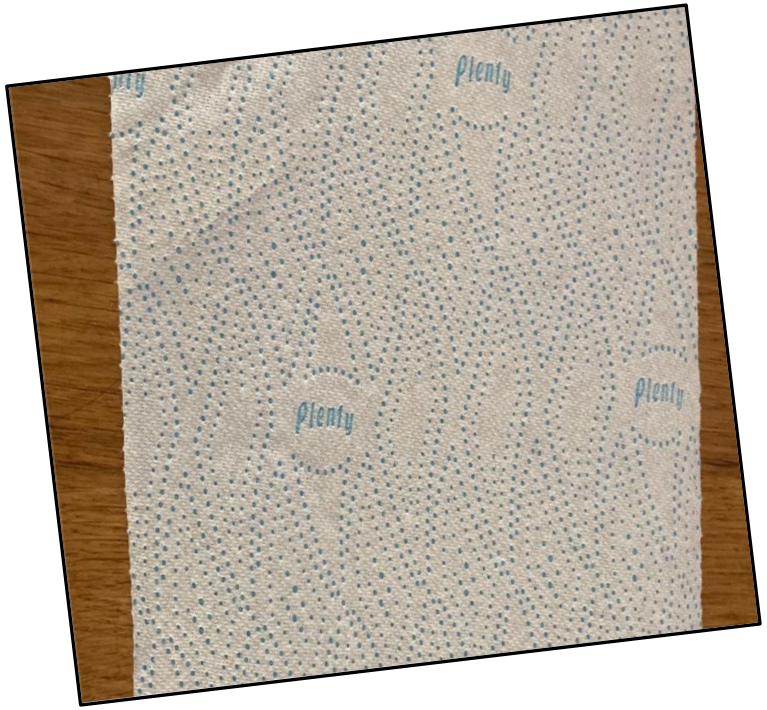
NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Grown-ups, hide some counters under the towel.



NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Reveal them quickly and ask your child…

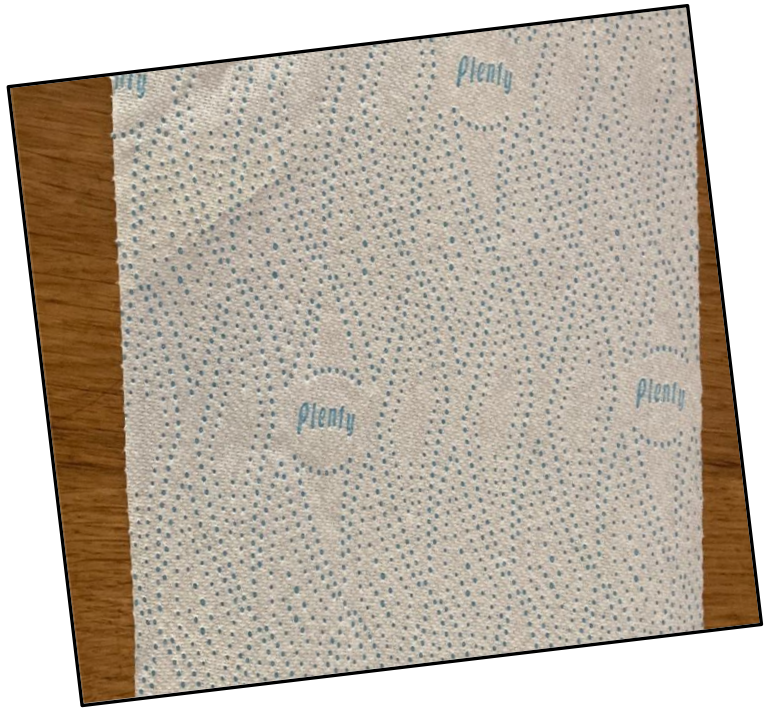


3 or not 3?

It is really important to point out that we don't want to focus on what the number IS – just whether it is 3 or NOT. Talk about why we know it is not 3.
Remember not to say 'it is three' but to say 'it is not 3.'

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

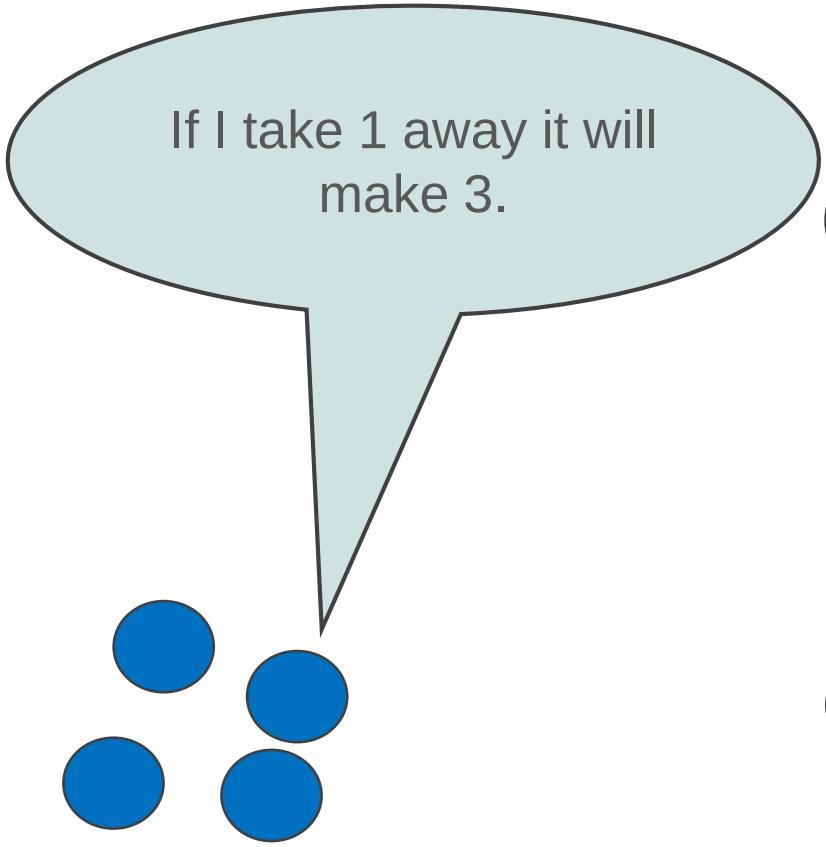
In Week 4, you will try this with different numbers…

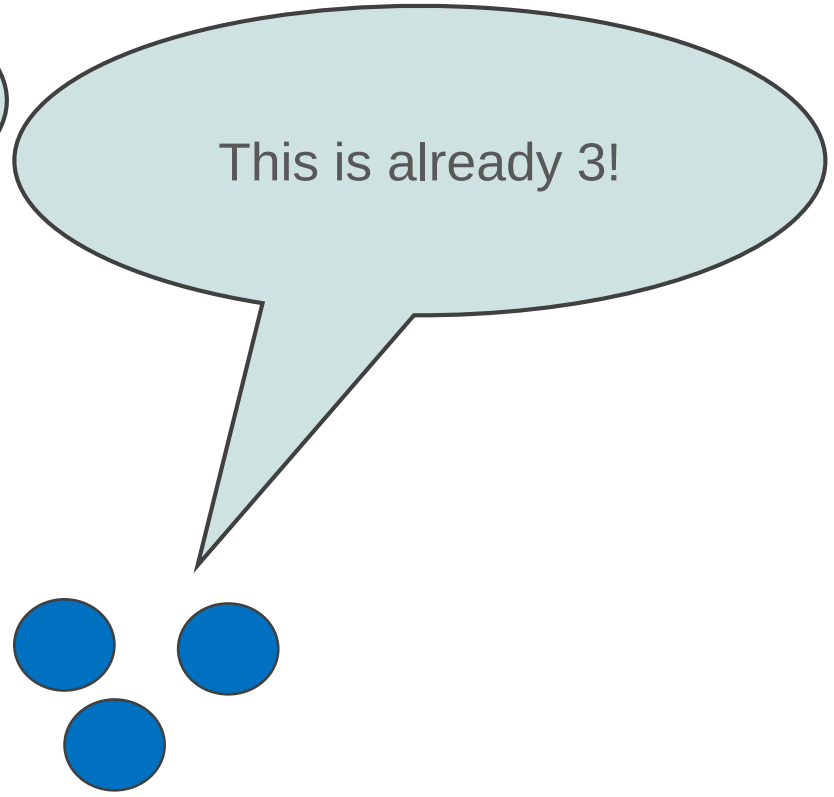


4 or not 4?

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

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





Before playing the game, it would be useful to model this language to your child, to promote these responses.

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Home Learning

You are going to take all the games we made today home with you.

The home learning for each week is set out on a sheet with instructions.

We anticipate that you will spend about ten minutes on the activity, each day. Sometimes, it may not take 10 minutes which is fine – maybe you could try some of the additional activities too on those days.

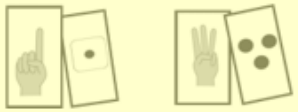
Where possible, we would like you to stick to the order of the homework exercises. The additional activities are optional. They might be attempted on the same day, or at the weekend, depending on time.

Some children have clubs during the week and will miss homework. We ask you to try to fit a 10-minute session in at the weekend instead.

Mastering Number at Home

Reception – Week 1

Play 'Subitising to 3 Snap'



(Monday, Wednesday and Friday)

How to play

- Cut out the subitising cards on the worksheet **'Subitising to 3 Snap'**.
- Place the cards face-down on a flat surface.
- Take it in turns to turn over 2 cards at a time. Say the numbers you see on each card.
- If the numbers are the same, the player taking the turn wins the cards. If the numbers are different, the player must turn the cards face-down again.
- The winner is the player with the most cards at the end of the game.

Play the 'Part–part–whole game'

(Tuesday and Thursday)

How to play

- Cut out the image cards on the worksheet **'Part–part–whole game'**.
- Place the cards face-up on a flat surface.
- Take it in turns to pick 2 cards that make a whole.
- Say, *"part, part"*, as you pick up the cards, and *"whole"* as you put them together to make the complete image.

Other things to try at home

Hiding games

Hide up to 3 objects, such as acorns, blocks or small toys, under a tea towel, or under your hand. Quickly reveal the objects, then hide them again, saying, *"How many?"* Can your child subitise the amount without counting?

Be '2-spotters'

Ask your child to spot things at home that there are 2 of. Some things are often found in 2s, such as shoes or socks, but we can have 2 of anything!

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

It would be helpful if you could make a comment each day to show how well your child attempted the work, any success stories and what you may notice about their learning.

Please ensure that the diary is returned, preferably with comments, to help us determine what your child is confident or less confident with - thank you.

Mastering Number at Home

My Diary – Reception, Week 1

Please complete your diary with your grown-up every day.

Name:

Day	Activities completed (please tick)	✓	Grown-ups – comment about your child's learning
Mon	We played 'Subitising to 3 Snap'.	√	Played the game with Aunty Jane. Found it tricky but it was fun.
Tues	We played the 'Part–part–whole game'.		
Wed	We played 'Subitising to 3 Snap'.		
Thurs	We played the 'Part–part–whole game'.		
Fri	We played 'Subitising to 3 Snap'.		

Grown-ups – please indicate how you and your child found the work this week.

Very confident  It was okay  Not too sure 

NCETM
NATIONAL CENTRE for EXCELLENCE in the TEACHING of MATHEMATICS

Any questions?

NCETM

NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS