Mastering Number at Reception and KS1

Supporting pupils to develop good number sense



This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception classes, and progression through KS1 to support success in the future.



https://www.ncetm.org.uk/maths-hubs-projects/mastering-number-at-reception-and-ks1/

What is Mastering Number?

- Used in Reception, Year 1 and Year 2
- The aim is for children to become fluent and flexible with number facts
- Big focus on working with single digits
- Deeper understanding of numbers to help them when working with larger numbers

When is it taught?

Monday to Thursday in addition to their hour maths lesson. A 15 minute session 4x per week.

The phonics of maths!

Why?

Moves away from counting as the main strategy. Equips children with the skills to spot and use facts quickly.

Numberblocks

Numberblocks is used a lot and episodes link with the facts and skills being taught to the children. A visual way to demonstrating key concepts.



Cardinality

Children develop an understanding of the cardinality (the 'howmanyness' of a number).

This means for the number 3, children know the '3'ness of the number.

1) Count in a sequence
2) Count each number with objects and stop counting and know the total so far
3) Subitising- knowing a total without counting

Subitising – recognising a total without counting

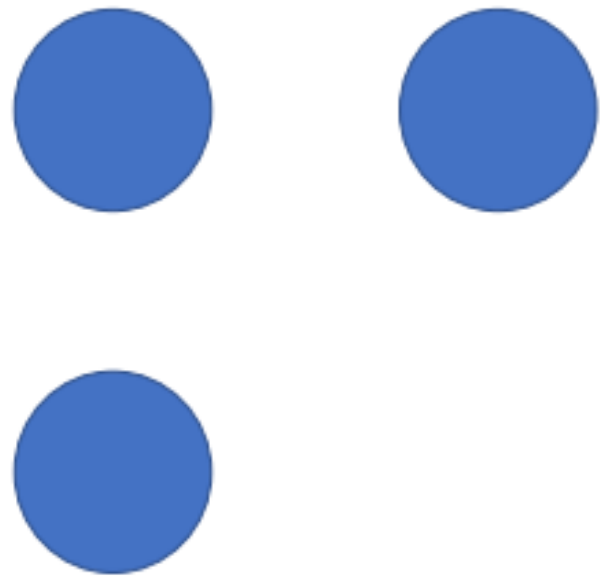
Younger children can recognise 1,2,3 without counting.

Around aged 4, they can recognise 4.

Adults, you can generally recognise 5/6 without counting.

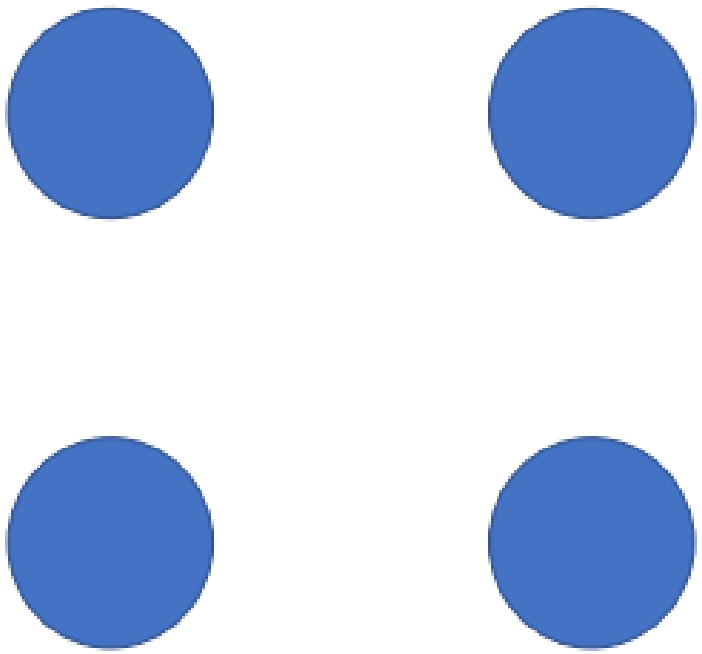
Let's have a go... Show the total on your fingers.

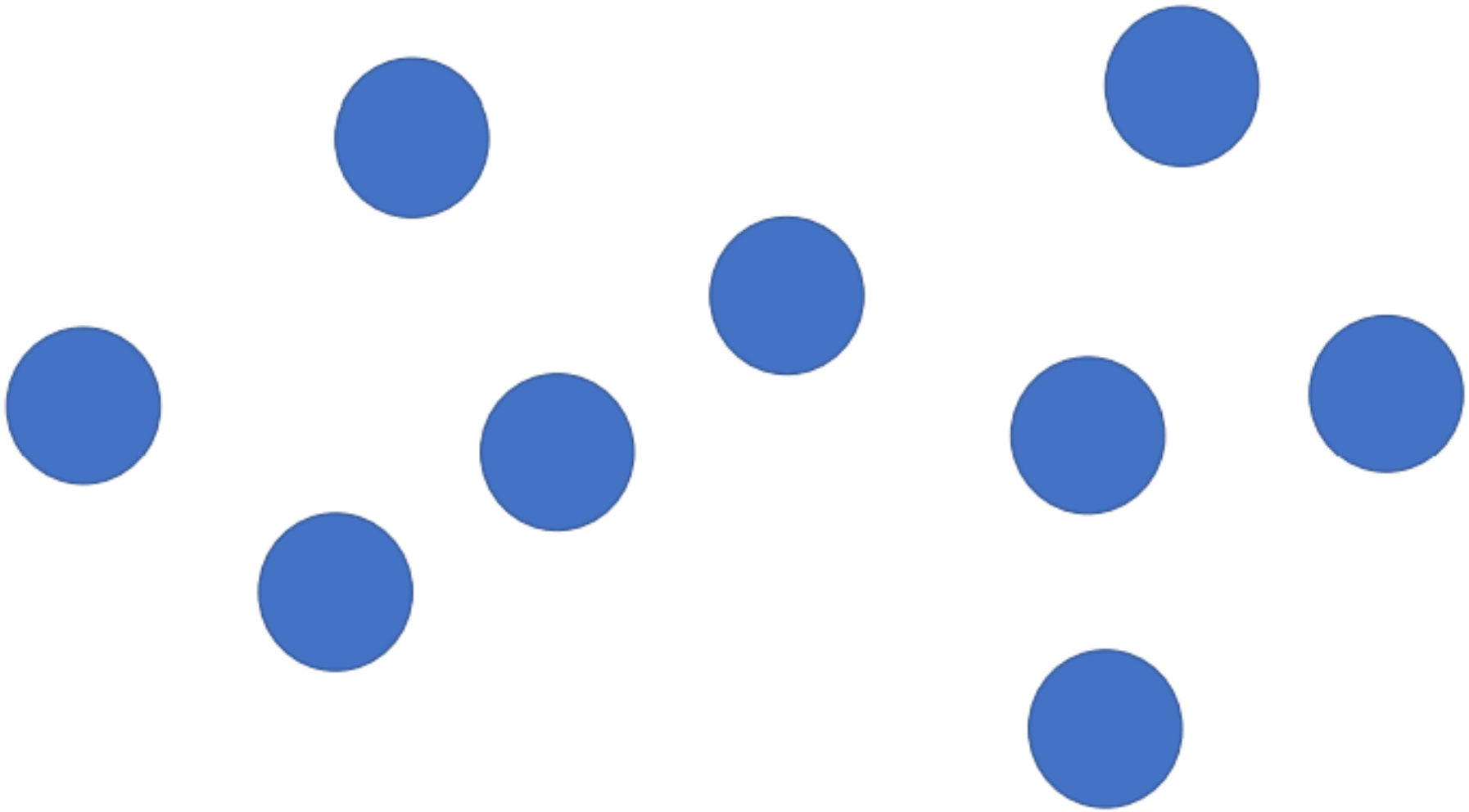




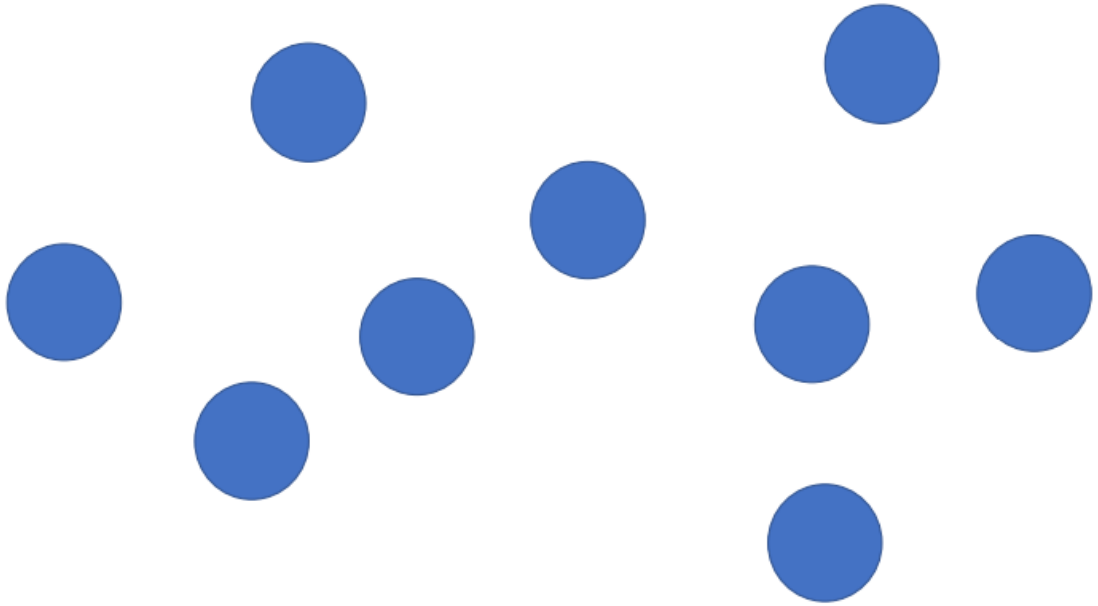








What was tricky about the last one?

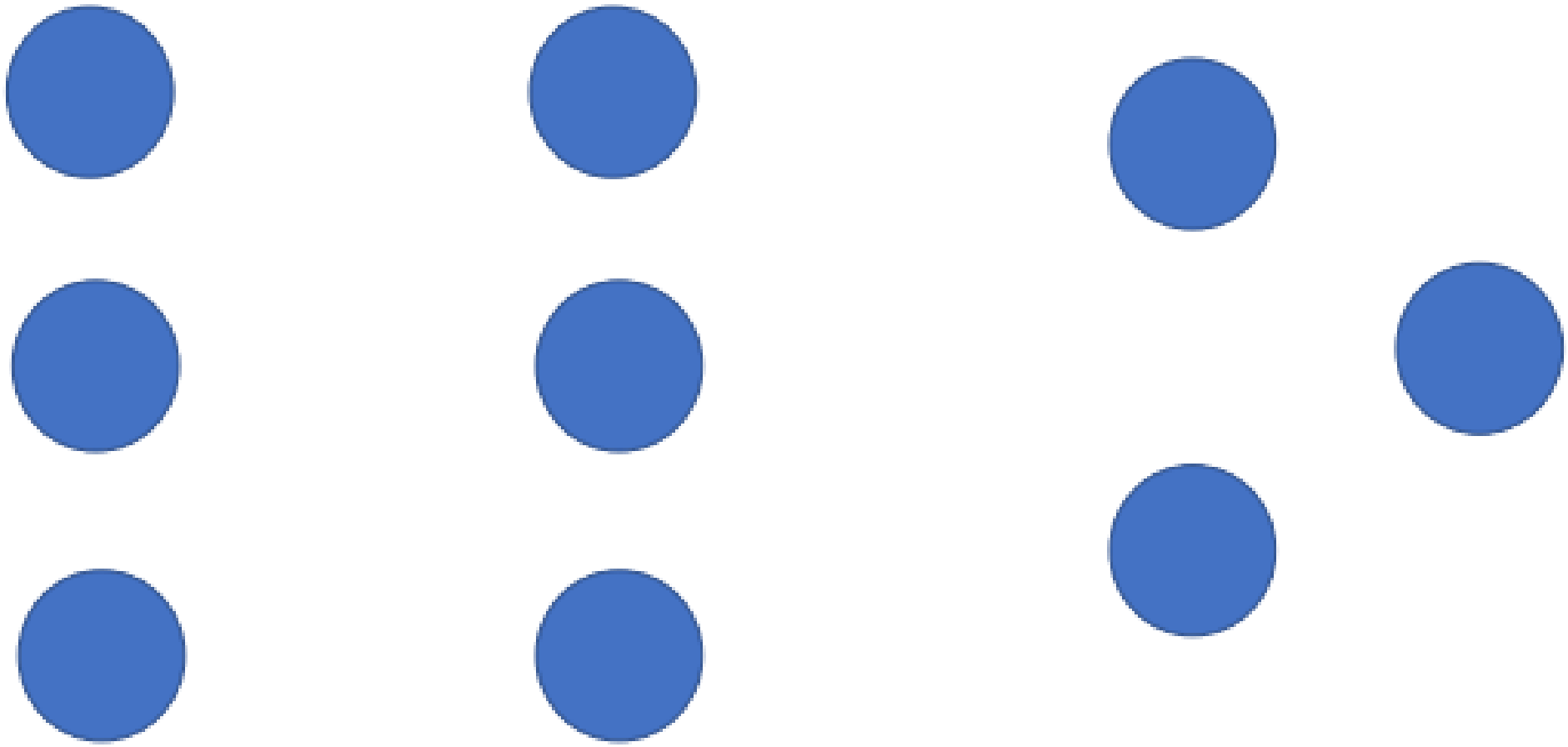


Can you spot any patterns or groups?

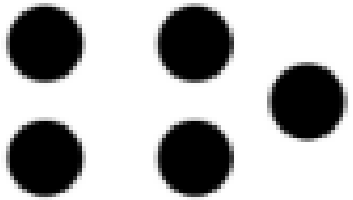
Conceptual subitising

Looking for smaller quantities you can spot to find the whole quantity.

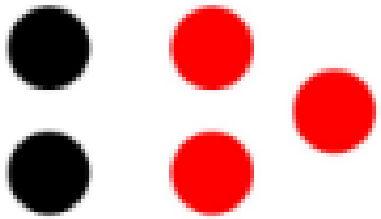
What pattern can you see?



Conceptual Subitising



Patterns are key



"I know this is 5 because I can see 3 red dots and 2 black dots."

You can do subitising at home. . .

- Play dice games
- Spot numbers around
- A number of objects on the carpet and cover it up.
- Paper plate dot patterns
- 1 minute maths White Rose app
- When cooking, chop your carrots cover with a bowl. Use pasta etc.

Can your child recognise the number without counting? Think about the pattern you arrange if you want to work with larger numbers. Speed is key.

Rekenreks



Type of abacus

2 rows of 10.

Arranged with 2 sets of 5.

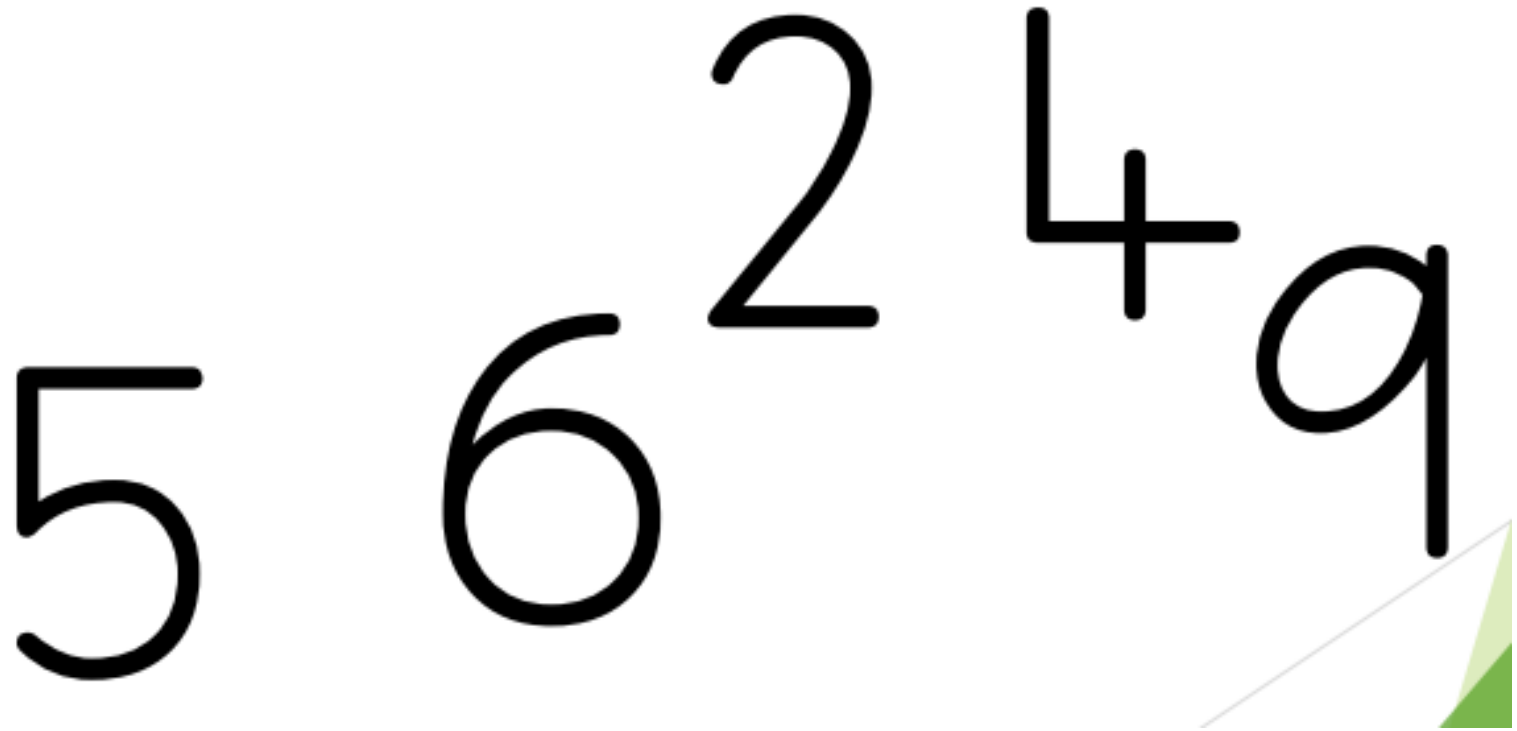
Whites to the right, Reds at the ready.

Don't count.

One push ..

Show me . . .

One push. . .



How do you know?

Rekenreks

Rekenrek helps reinforce composition of numbers.

Children will understand that numbers are made up of other numbers.

'See the numbers inside'

First that numbers are made of 1s.

5 is made of 5 1s

Then 1 and 4 or 2 and 3.



STEM sentences

Children use STEM sentences throughout sessions and are encouraged to use full sentences.

Tricky key vocabulary can be introduced.

Teacher may say a sentence and children repeat it.

Language is then repeated for different examples.

STEM Sentences

One push 5.

One push 6.



STEM sentence:

6 is made of 5 and 1.

5 and 1 make 6.

Rekenrek is great for:

Doubles using both rows.

Becoming automatic with fact recall.

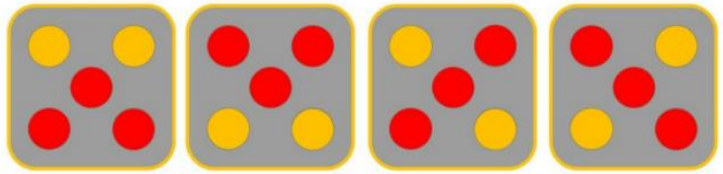
Looking at odd and even numbers.

Other representations are used too

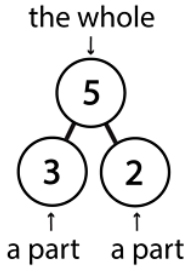
Hungarian Dice Frame

Pattern of 2 sets of 5 builds up the idea of 10.

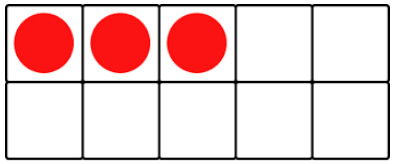
Fill up one set of 5 first- 5 and a bit



Part – Whole model



5 frame and tens frame



Visual representations (children on a bus, birds on a fence etc)



At Home

- Watch Numberblocks
- Practise subitising
- White Rose 1 minute maths app
- White Rose interactive rekenrek
- Talk about maths e.g. The number 4. Don't just count 4 objects. A shape with 4 sides. Objects into 4 groups. What does it look like on a dice? What number comes before 4? After? What number is one more than 4? Can you show me 4 on your fingers? Can you show me it in a different way? On two hands?