



# Maths in EYFS at Newdigate Infant School



# Aims of this session

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

# **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.

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.

# **Expectations for your child at the end of** **Reception**

Maths Early Learning Goals (ELG):

This is the knowledge, skills and understanding children should have at the end of the academic year in which they turn five. Teachers make a holistic, best fit judgement about a child's development, and their readiness for year 1.

# ELG: Number

Children at the expected level of development will:

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.

# **ELG: Numerical Patterns**

Children at the expected level of development will:

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.

# Shape, Space and Measure

- Use mathematical names for solid 3D shapes and flat 2D shapes and describe them.
- Use positional language such as 'behind' or 'next to'.
- Order two or three items by length or height.
- Order two items by weight or capacity.
- Use objects and shapes to create and describe patterns.
- Order and sequence familiar events e.g. today, tomorrow, yesterday, morning, afternoon.
- Use language related to money.
- Use language related to time e.g. o'clock.

# Six key areas of early mathematics learning



## Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents



## 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



## Shape and Space

Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking



## Measures

Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

There are six key areas of early mathematics learning, which collectively provide a platform for everything children will encounter as they progress through their maths learning at primary school, and beyond.



# Maths in Reception

The first few years of a child's life are especially important for mathematics development.

The objective for those working in Early Years, then, is to ensure that all children develop firm mathematical foundations in a way that is **engaging**, and appropriate for their age.

**Children's chances of success are maximised if they develop deep and lasting understanding of mathematical procedures and concepts.**

# Mastering Number Programme

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

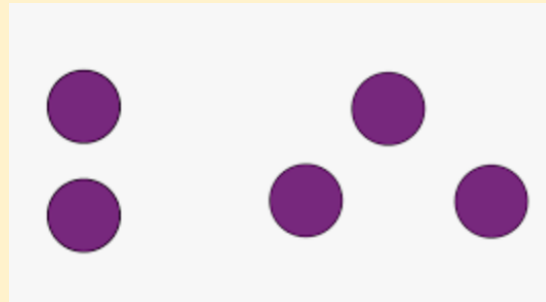
The Mastering Number Programme in Reception will help your child to develop good number sense.

Some of the things they are learning include:

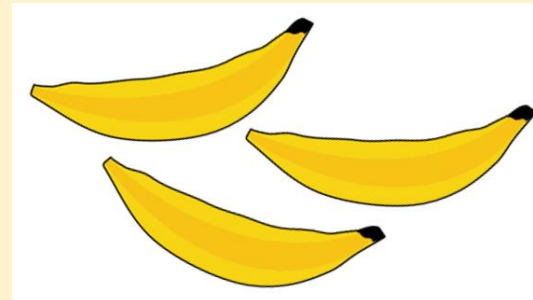
Counting



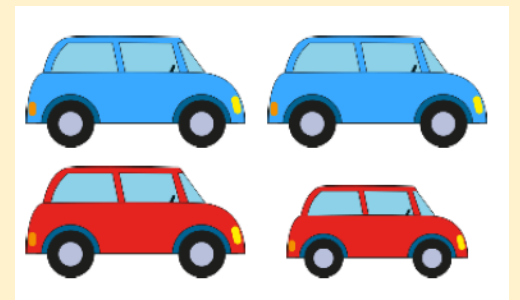
Subitising



Recognising small numbers of objects and making their own collections



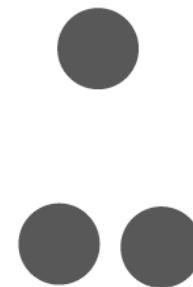
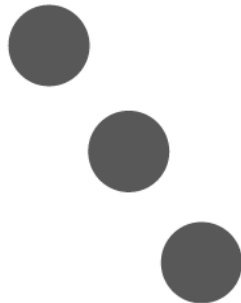
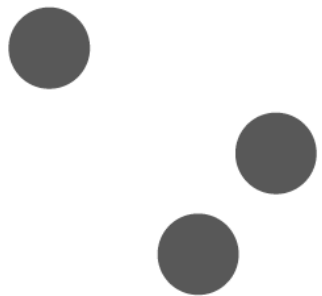
Know different ways to 'make' (compose) a number



# 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.



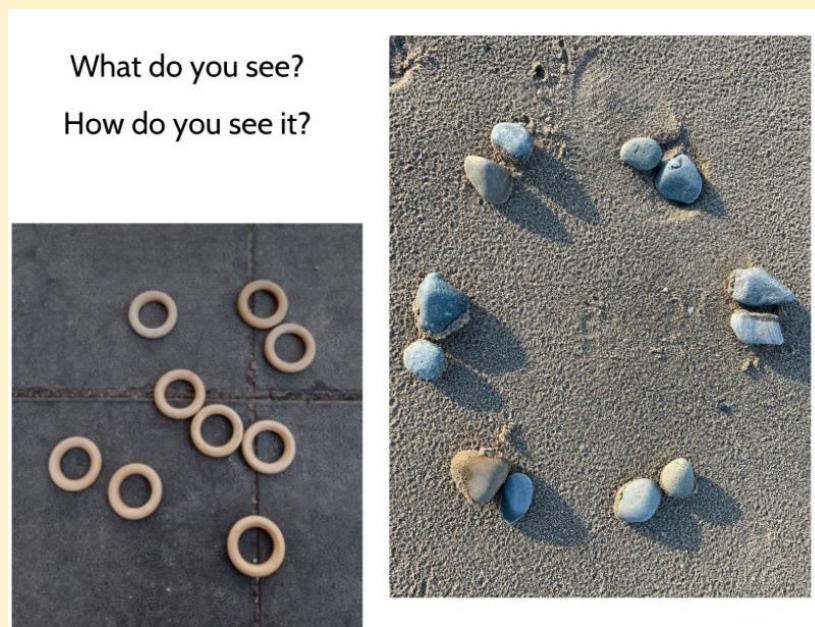


**Subitising** is the ability to see an amount without counting.

This ability starts from birth and is the stage before counting.

Subitising is more efficient than counting and supports a deep number sense.

Supports addition, subtraction, multiplication and division.

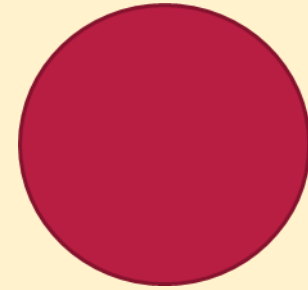
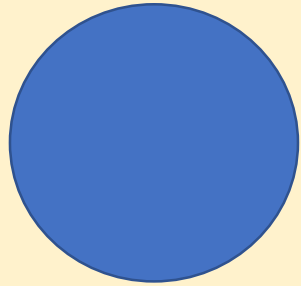


**Let's do some maths!**



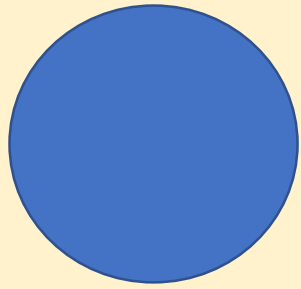
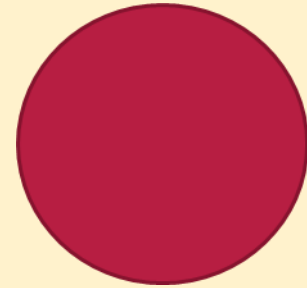
Look out for when you can use your subitising skills! Get those fast eyes ready!

What do you notice?



How do you see it?

What do you notice?



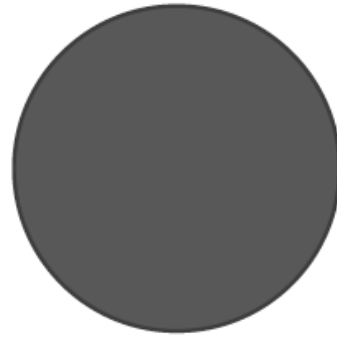
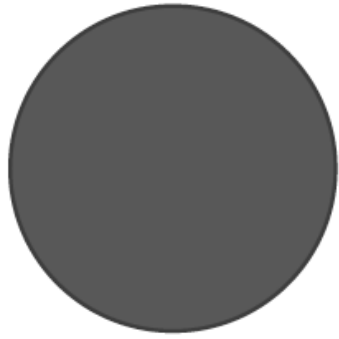
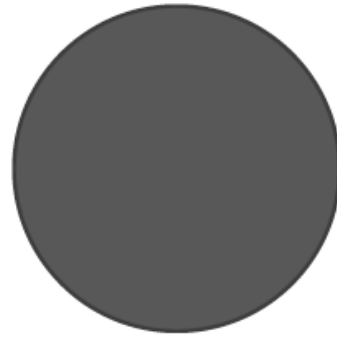
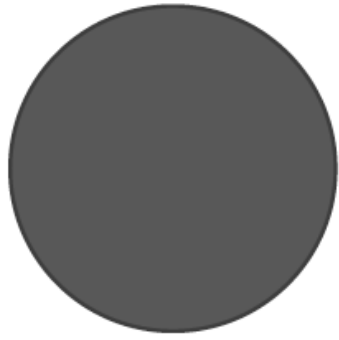
How do you see it?

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





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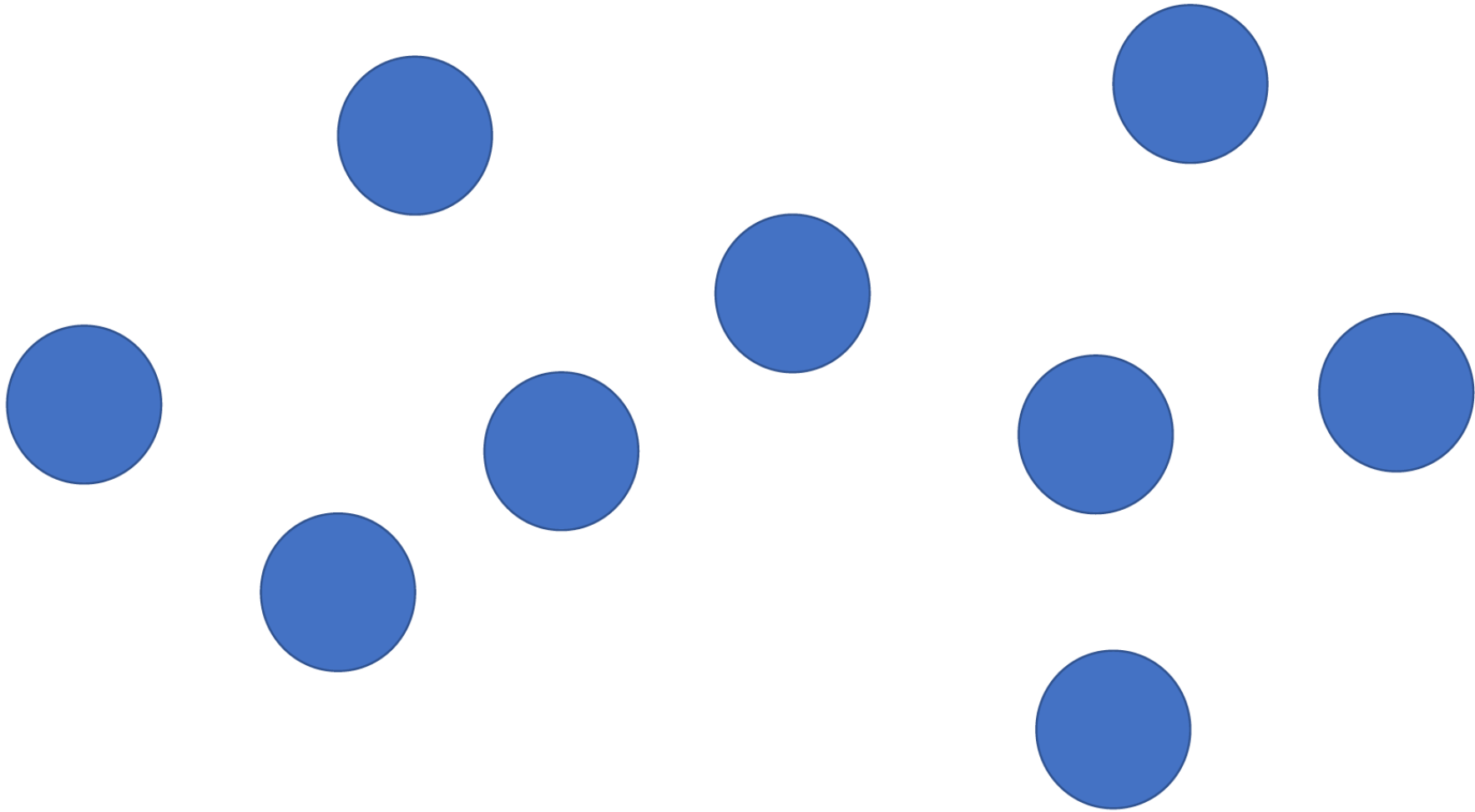
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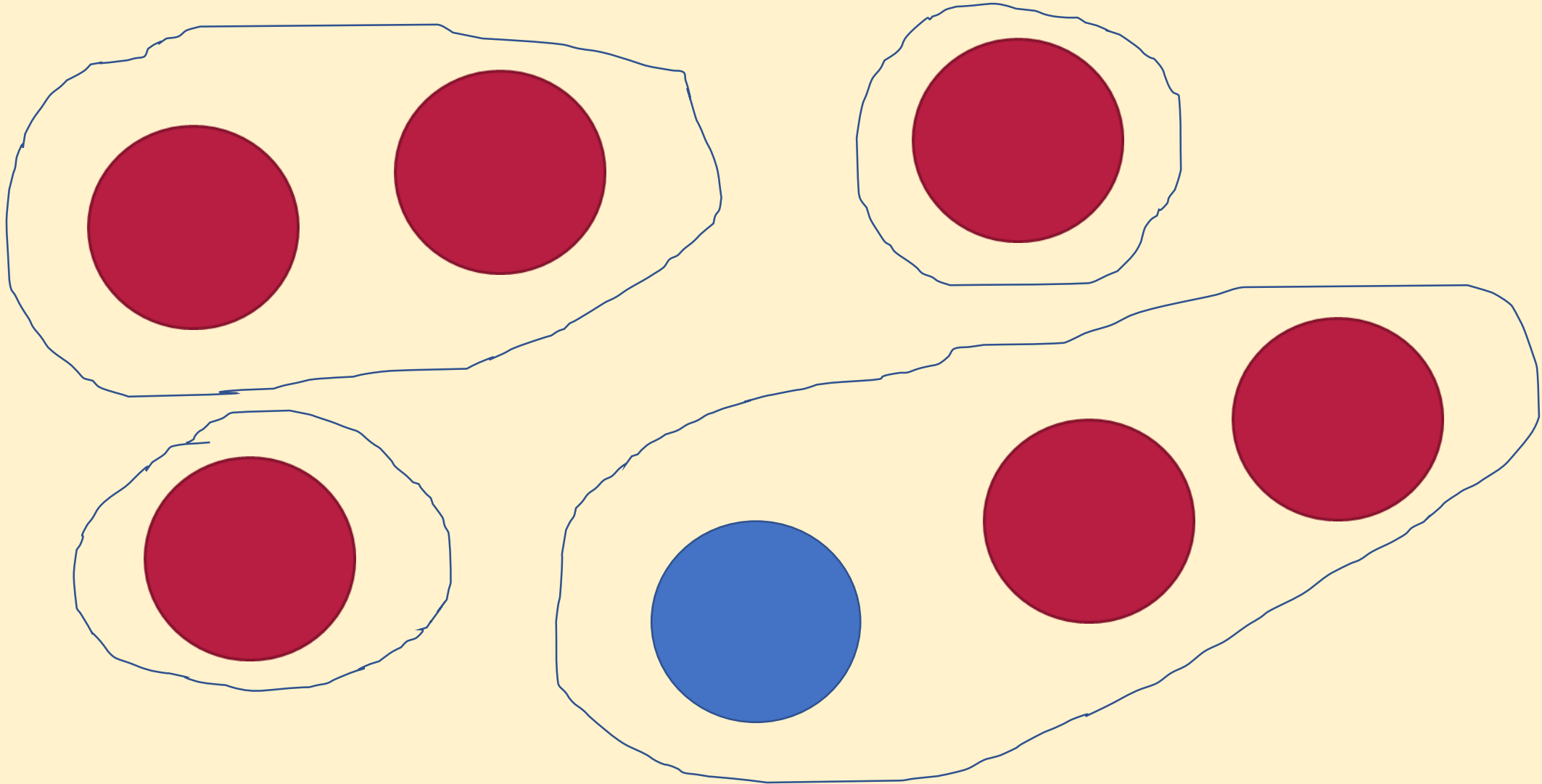
# Subitising

- Conceptual Subitising

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What do you notice?

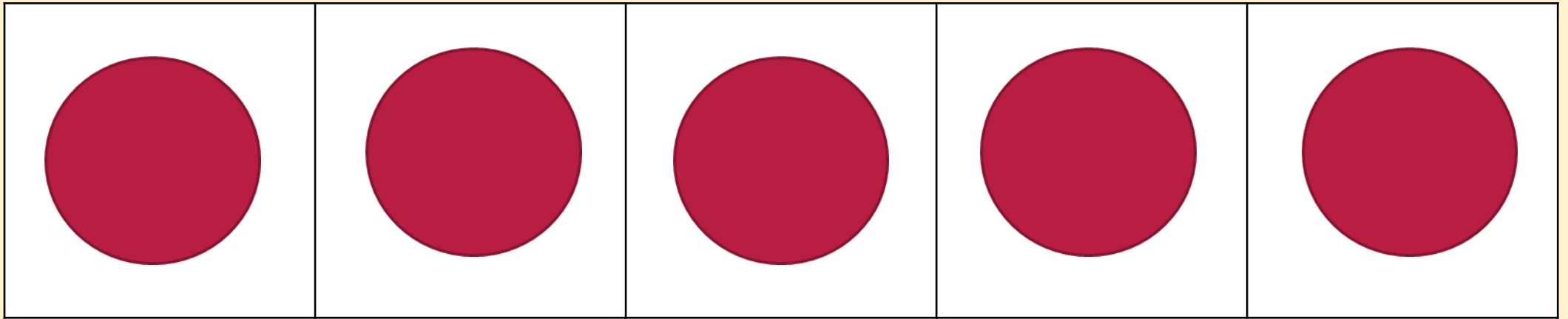


How do you see it?

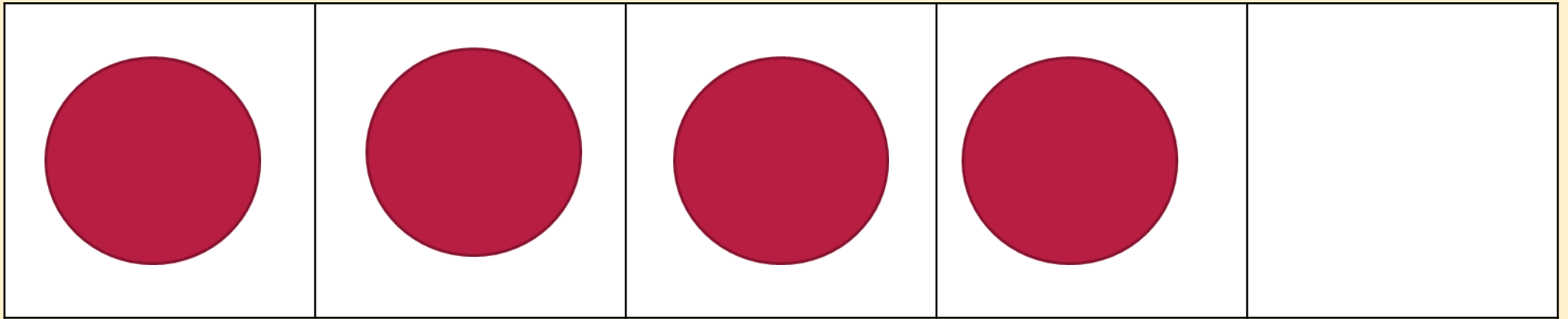
# 5 and 10 frames

- Supports number bonds and much more.
- Embeds visual images to support future understanding.

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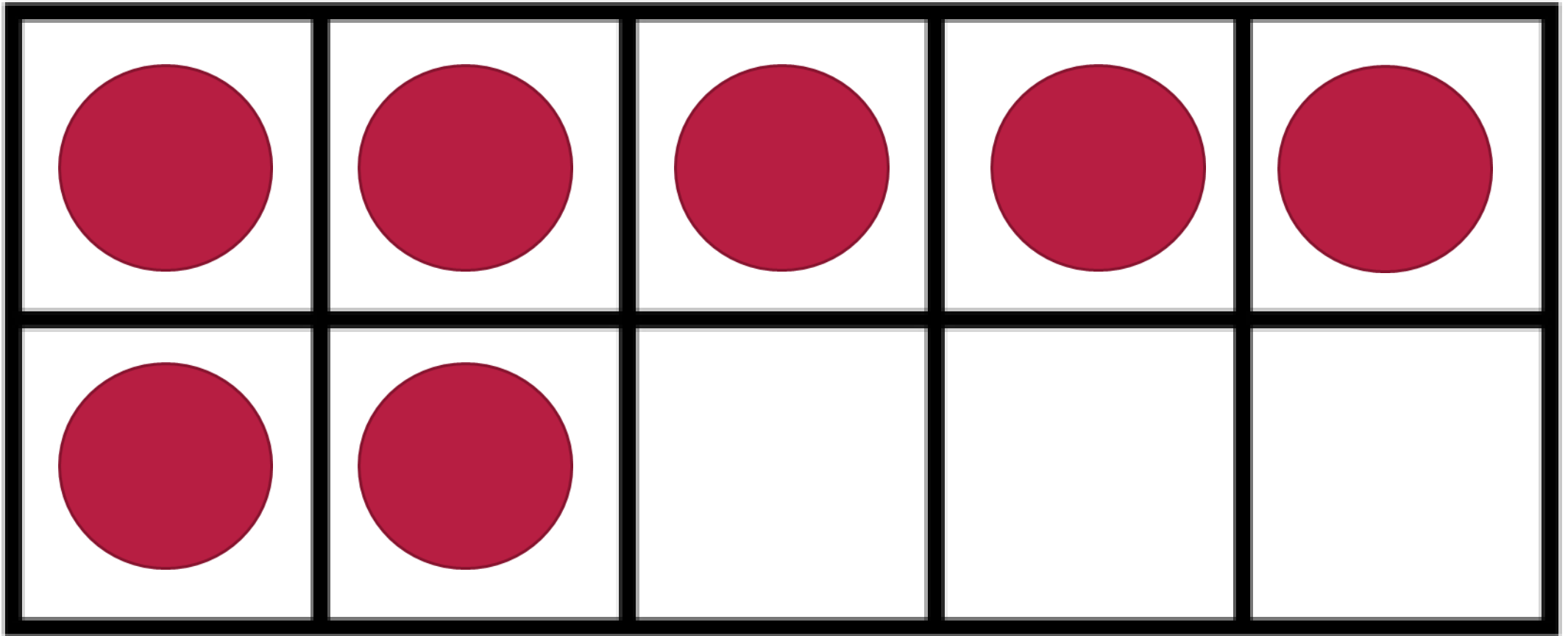


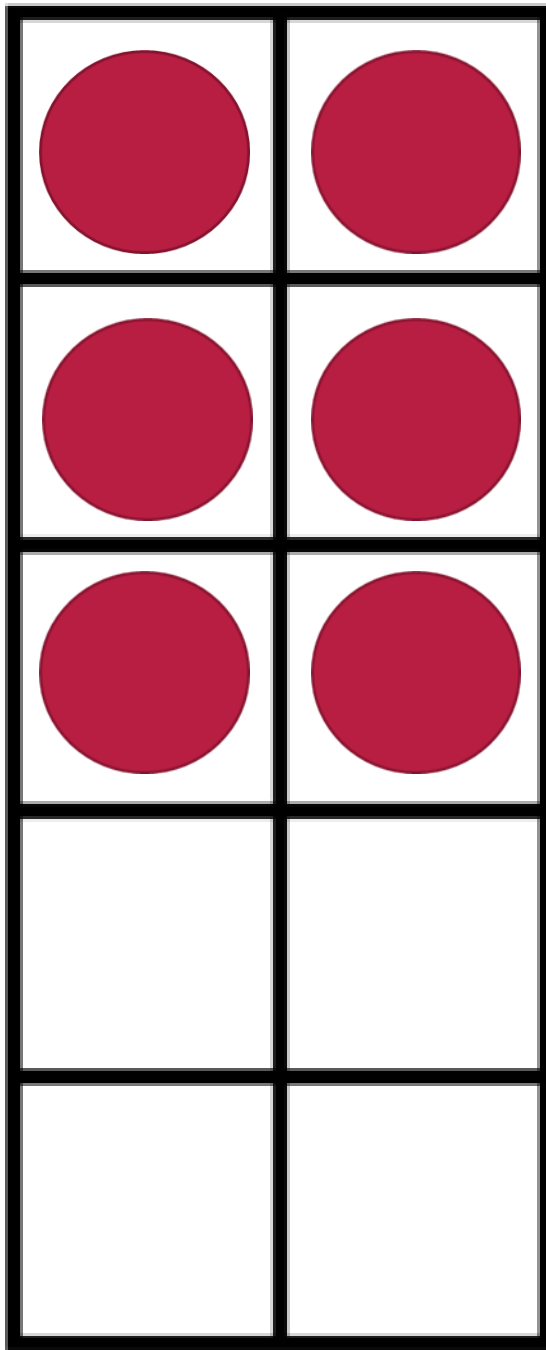
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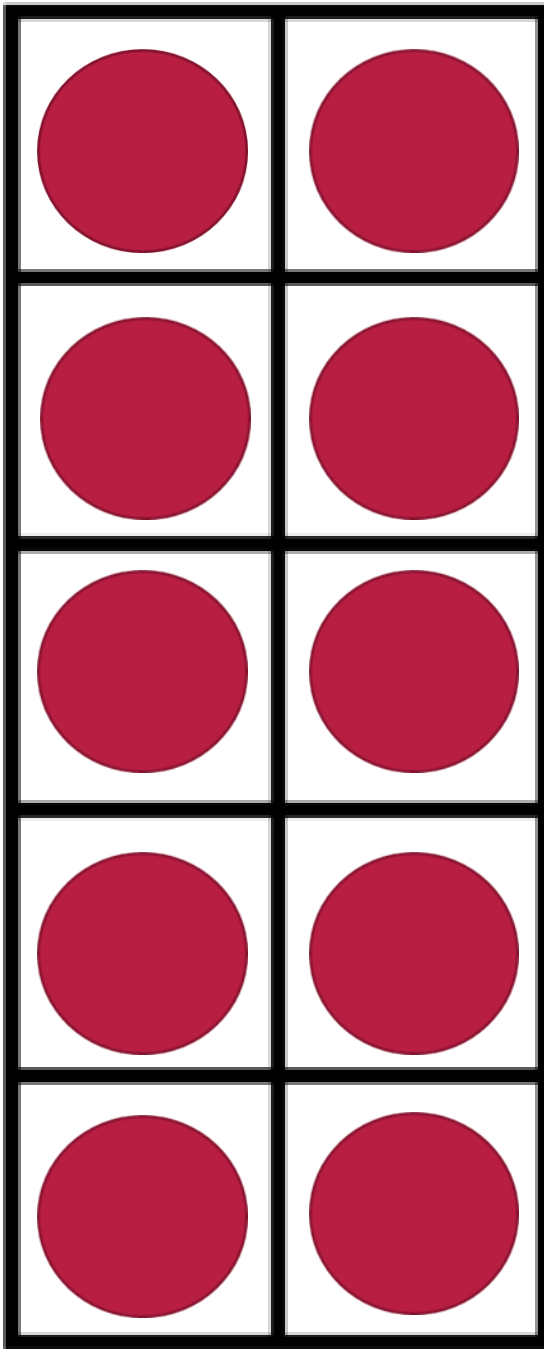




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# Where does Counting Fit?

- Counting Songs
- Counting sounds
- Counting steps



# Noticing

- On family walks.
- Gardening.
- At the supermarket.
- Books, stories and magazines



# 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

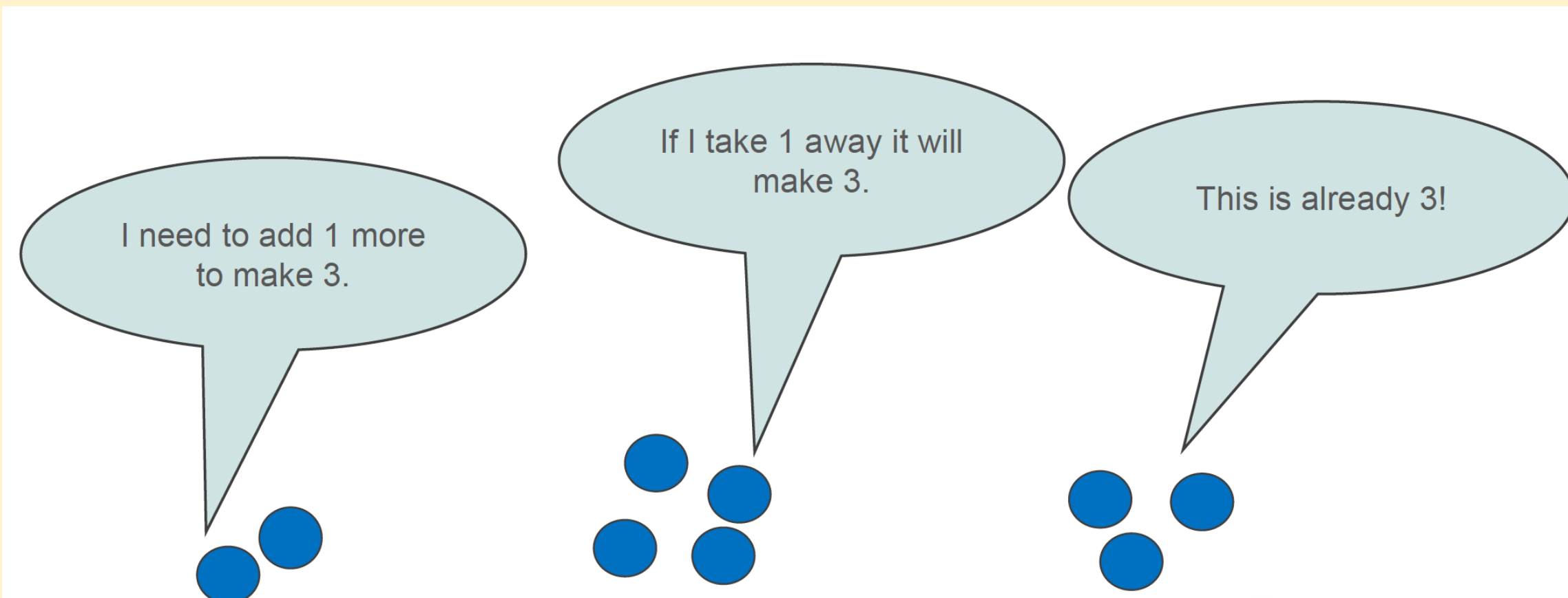
300 and 100 is 400

and that;

400 take away 100 is 300



# Reasoning: What do you need to do to make 3?





# How we teach Maths in Reception

Maths happens both indoors and outdoors through a wide range of practical activities using lots of concrete resources.

Children are taught in a whole class carpet session focused on a particular area of their learning.

Children then have the opportunity to practise those skills and choose from different indoor and outdoor activities all based around the skill they have just learnt.

Child initiated play.

Adult led group tasks.





# Ways in which maths may be taught in Reception

- Through Songs – “1,2,3,4,5 Once I caught a fish alive”.
- Using the language for counting on, altogether, one more etc
- Matching numbers to objects up to 20
- Representing numbers e.g. making marks
- Using daily routines as an opportunity for maths – e.g. representing the date on a tens frame, using a calendar to count down to Christmas, sharing out the milk and fruit, tidy up time (please can you collect 5 pencils....)

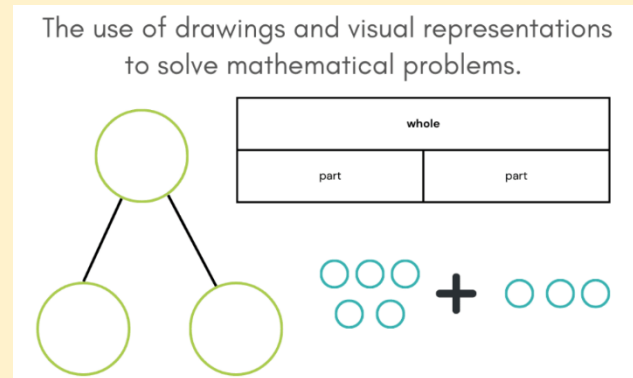
# OFFICIAL Our approach:

For children to have a true understanding of a Mathematical concept, there are three phases they need to master:

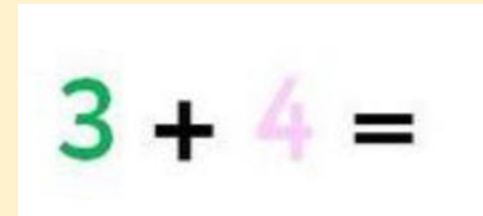
**Active/ Concrete**



**Pictorial**



**and Abstract.**


$$3 + 4 =$$

Children develop their Mathematical understanding in the following ways:

**Exploring** - playing with numbers, exploring weight, capacity, measures, counters, dice.

**Reasoning** - answering why and how, talking about what they found.

**Problem solving** - How can I make 5? A shape with 3 corners?

**Fluency** - quick mental recall! Coming to an answer quickly and without in depth thinking.

This is important as it will form the foundations of a child's Mathematical knowledge.

## How Can You Help at Home?



### Counting:

- Practise counting in ones, forwards and backwards to twenty. Sing counting songs and rhymes.
- Ask children to help set the table or sort the washing-can they match the pairs of socks, count in 2s, tell you if there is an odd/ even number?
- Look for things to count when you're out-how many cars/ birds/ dogs can you count?
- Go on a treasure hunt: Can you find 5 flowers/ 7 twigs/ 10 leaves

### Games:

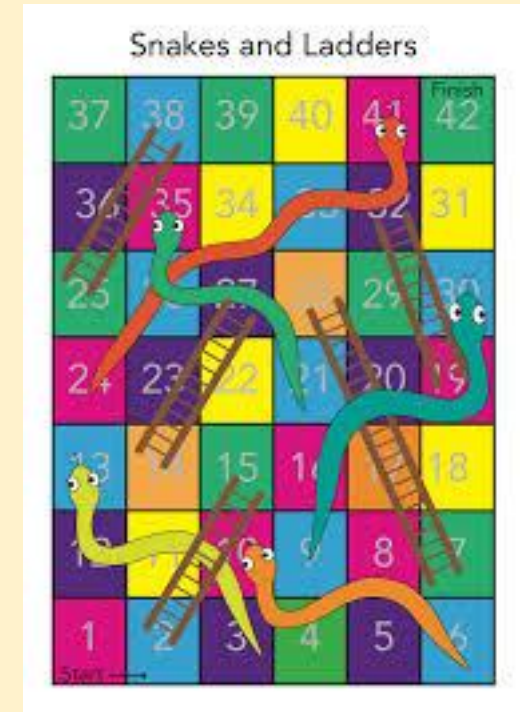
- Play board and dice games, snap, pairs, dominoes, hopscotch, skittles. Jigsaw puzzles are great for spatial awareness and fine motor skills.

### Sharing books:

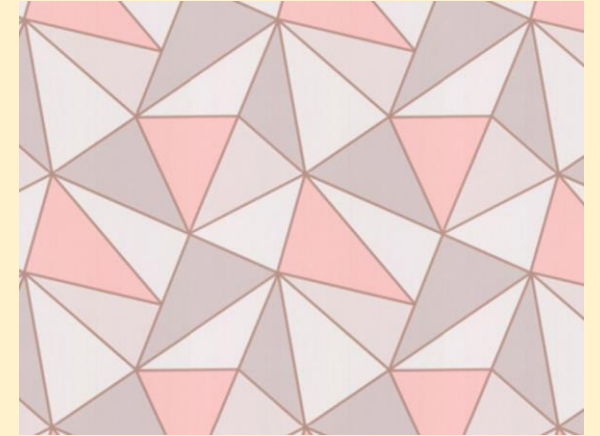
- Talk about the number, position and shape of things in the pictures.

### Money:

- Begin to recognise and sort coins, practise counting it in the shops or as part of role-play with real coins at home.



# How Can You Help at Home?



- Point out **patterns** in everyday situations e.g. tablecloth, wallpaper, books. Create your own with objects, paint, stickers or Lego.
- Demonstrate the **language** for shape, position and measures e.g. sphere, inside, under, shortest, heavy.
- Use **mathematical names** for shapes and encourage children to talk about the shapes that they see.
- Encourage your child to use the **correct language** - tall, short, long narrow, wide, thick, thin etc...
- **Time**: look at clocks, point out the time throughout the day, think about calendars and dates, days of the week and months of the year.
- **Cooking**: encourage children to help in the kitchen by weighing, comparing ingredients using heavier and lighter, measuring liquids.
- **Sharing**: Help children to understand that one thing can be shared by a number of pieces e.g. pizza, cake. They are usually quick to tell you if it is the same size!



- Continue going over KIRFS facts little and often
- Play Numbots regularly (certificates handed out at school)



# Key Instant Recall Facts

## EYFS Spring 1



**I can name, count and order (forwards and backwards)  
numbers to 10**

Counting is essential in developing an understanding of the number system and cardinality. The cardinal value of a number refers to the quantity of things it represents (the 'howmanyness' of a number) and knowing that the last number stands for the whole set.

In order:

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

And back again:

10, 9, 8, 7, 6, 5, 4, 3, 2, 1, 0





# Key Instant Recall Facts

## EYFS Spring 2

### I can recall number doubles within 10

When two equal parts combine to make a whole, we call this a number double. Children will have had previous experience of noticing when two sets are equal and not equal, subitising within 5 and noticing when a number can be made up of '2 equal parts'.

By the end of this half term, children should know the following facts. The aim is for them to recall these facts instantly.

1 and 1 makes 2

$$1 + 1 = 2$$

2 and 2 makes 4

$$2 + 2 = 4$$

3 and 3 makes 6

$$3 + 3 = 6$$

4 and 4 makes 8

$$4 + 4 = 8$$

5 and 5 makes 10

$$5 + 5 = 10$$

#### Key Vocabulary

equal  
not equal  
double  
part  
whole