

Maths in Early Years

September 2026

Mrs Emma Goodfellow

The EYFS curriculum.

- There are 7 areas of learning, 1 of them being **Mathematics** which is split into 2 parts:
- **Number and Numerical patterns**
- Everything we teach during the Early Years is building up to reaching the Early Learning Goals in both of these areas at the end of **Reception**.
- The Early Learning Goals are what every child is aiming for by the time they finish **Reception**.

Characteristics Of Effective Learning

There are also three aims laid out under the heading of Characteristics of Effective Learning and '*creating and thinking critically*' is the area which most often applies to mathematics and contains elements such as making links, finding new ways to do things, solving problems, changing strategies as needed, making predictions, developing ideas of grouping, sequencing, cause and effect.

The EYFS curriculum.

Early Learning Goal – number

- 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.

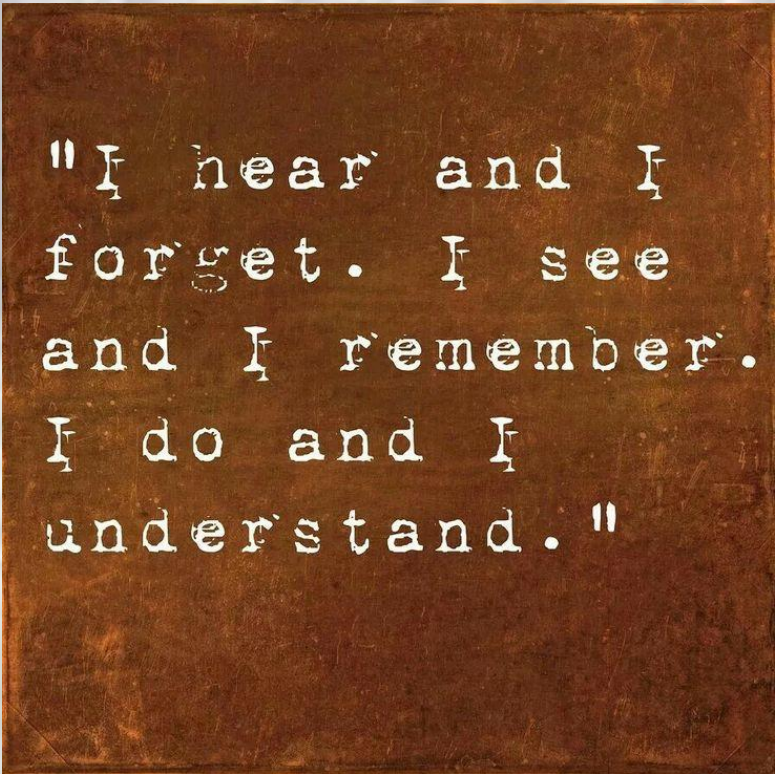
The EYFS curriculum.

Early Learning Goal – numerical patterns

- 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.

How we learn

Carpet session linked to Maths
Cross-curricular table top activities
Continuous provision activities
Lots of talking
Thinking
Self-discovery
Problem solving
Using songs
Using stories
Activities inside and out
Asking questions
Real-life learning
Practical and engaging lessons
Outdoor learning – whole class
Practical problem solving with peers
Mathematical opportunities available in all areas of provision

A rectangular box with a dark brown, textured background, resembling leather or parchment. Inside the box, a quote is written in a white, typewriter-style font.

"I hear and I
forget. I see
and I remember.
I do and I
understand."



Through role play- money - addition and subtraction
 Time – using calendars etc
 Number recognition - telephones



**Maths area - describe shapes
create patterns
position/ direction
measuring
Numicon activities
counting, ordering numbers
Number Blocks number recognition**

Very Early Mathematics skills

Early Mathematic skills begin by allowing children to start learning about maths by **playing** with real objects, blocks or cut out pictures. They will **explore** shapes, count objects, sort and match.

They **build confidence** with the basic ideas of **adding and taking away**. They will begin to draw pictures and represent their objects and later they will add numbers to represent their workings.

Children begin to learn **one to one correspondence** which simply means that children not yet able to use this will not co-ordinate saying the number names with taking/touching objects one by one. Some will say more than one number per objects others will touch more than one object per number. Children will soon learn that anything can be counted.

Cardinality (or the cardinal number) indicates the number of elements in the set being counted i.e. if I have four toy elephants and I count them correctly the last number I say will be four and that tells me how many I have. Four is the cardinal number in that example.

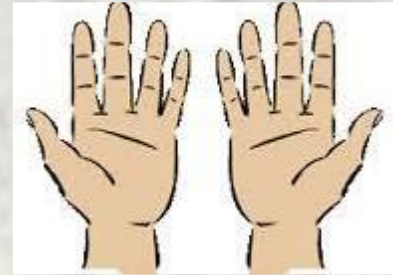
Helping children to **understand quantity** - the larger the number the bigger the quantity

Conservation of numbers

- When we say a child “knows her numbers” what we often mean is that she can recite the names of numbers in ascending order. This is quite useful to be able to do, but it means very little in itself.
- Children need to come to know what the number system really means. They can be helped to do this through play.
- One of the first things they have to learn is about conservation – that 3 is always 3 no matter how it is arranged or presented, whether it is the number 3, 3 on Numicon, 3 Numicon ones, 3 counters on a tens frame, the letters for three, 3 bricks, 3 buttons on a coat or 3 Billy Goats Gruff.

What this looks like

10



Counting:

1. Use number songs to familiarise your child with the numbers repeated in order.
2. Count for fun during a spare minute of the day – don't always start at zero or one. Can they start from a higher number?
3. Count candles on a cake- "How many do we need if you are 5?"

Things to count...



Counting for a purpose:

1. Begin with small sets of 2 or 3 and ask your child how many there are.
2. Get your child to touch each object as they count. Move and recount – conservation of number.
3. Increase the number of objects to count as your child becomes confident - when he/she is ready, they will begin to count without touching each object.
4. Easter egg hunt- how many can you find?
5. Count coins- how many have you got?

Recognising and writing Numbers:

- 1. Match cards with numerals written on them.**
- 2. Match numerals to number words (1 to one, 2 to two)**
- 3. Match numerals to the same number of cars etc.**
- 4. Play number Bingo.**
- 5. Create simple dot-to dot pictures for your child.**
- 6. Look for numerals in the outdoor environment e.g. out shopping, driving**
- 7. Put sugar/ flour/shaving foam/sand/cornflour in a tray to practise forming numerals correctly.**
- 8. Use a hanger and pegs**
- 9. Dice games, cards games**

Looking for numbers...



Adding and Subtracting:

1. Practical contexts daily e.g.

“ Pass your two forks and add them to my 3 – let’s see if we’ve enough for teatime.”

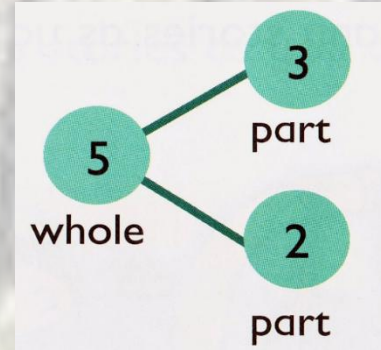
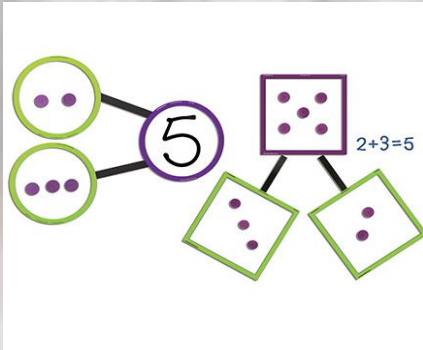
2. Use word problems to add and subtract - make them up yourself. e.g.

“ I have 10 apples and I am going to eat 1, How many will be left?”

3. Use a number line to help calculate number problems- play indoors and out!

Part part whole

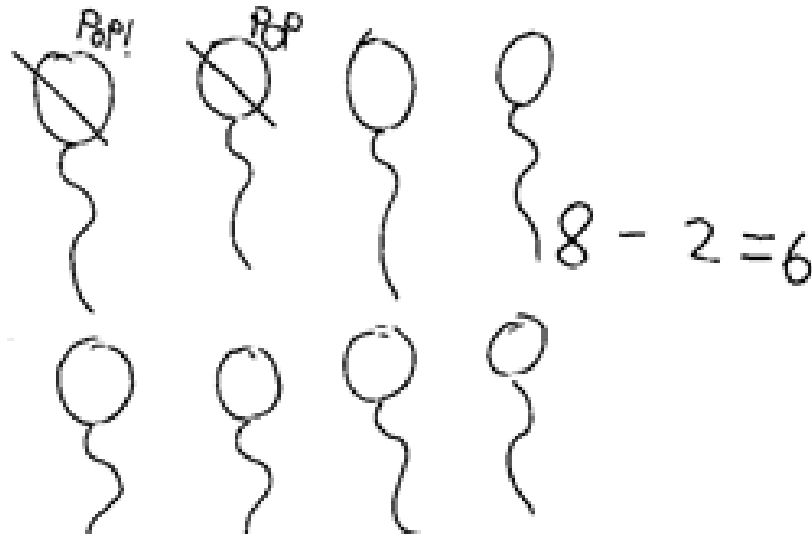
- This concept is introduced when adding single digit numbers so that the children can begin to see bonds for the numbers 1-5 in Reception, before doing number bonds to ten in Year 1
- This deeper understanding of how numbers are made is vital to the mental strategies taught in Y2 and upwards.



Recording of work

- We use the Concrete, pictorial, abstract approach to teaching Maths (CPA).
- This builds from the concrete (practical) into the pictorial and then into the abstract (more formal recording).
- Lots of concrete practical activities in Reception until we begin to record in both pictorial and later abstract forms.

There were 8 balloons. Two popped. How many are left?



CPA approach(cont)

Jane had 3 bears. She was given 2 more. How many does she have now?



3

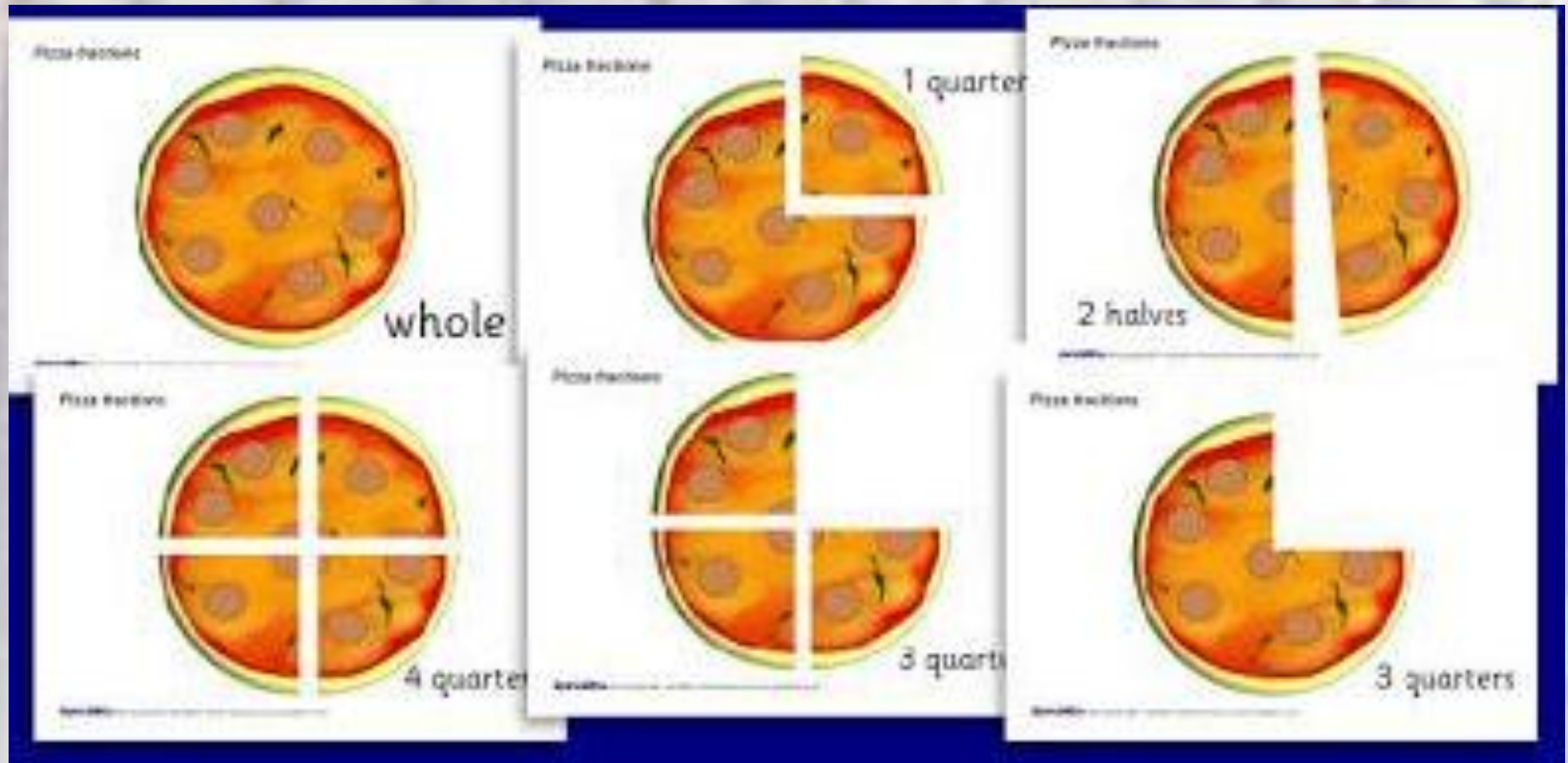
$3 + 2 = 5$

2

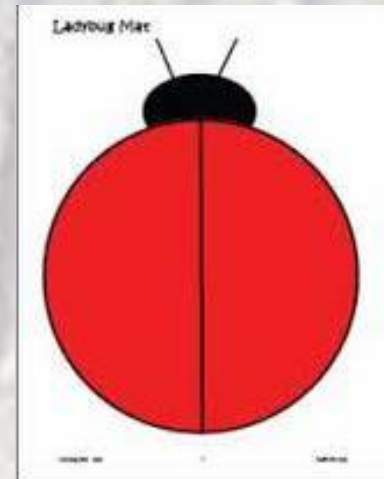
Doubling and Sharing:

- 1. Again in practical contexts so children can see and explain what they are doing.**
- 2. Set the table- e.g. 1 cup for me, 1 for you**
- 3. Pairing socks- “I have 2 pairs but we need double. How can we do that?”**
- 4. Sharing sweets between themselves and their sibling/s. Is it fair? Have you both got the same amount?**
- 5. Again use a number line if needed!**

Sharing pizza, introducing fractions



Sharing cakes at teatime etc



Shape, space and Measure is still in the curriculum:

Creating patterns and Sequences:

- 1. Buy a set of stringing beads to use and create a repeating sequence for your child to copy (red-green-blue, red-green-blue) or use sweets!**
- 2. Draw repeated patterns.**
- 3. Look for patterns in magazines, on wallpaper, in the environment. Can they recreate them?**
- 5. Glue objects to paper in a pattern.**
- 6. Make patterns with socks...**

The steps to developing mathematical understanding:

- Beginning to use mathematical vocabulary in everyday situations.
- Some of these words are: **big** and small, **tall** and short, **wide** and narrow, empty and **full**, **near** and far, **first** and last, **high** and low, **in** and out, few and many, light and **heavy**, **all** and none, **hot** and cold, **same** and different, **more** and less.
- Use real measures – time, baking cakes, cooking, measuring etc.
- Use and model as much mathematical vocabulary as possible!

Estimating and Predicting:

- 1.Fill a jar with fewer than 20 objects. Can you estimate how many are in the jar?**
- 2.Cookies on a plate. How many do you think are on it?**
- 3.Show the cover of a book with an exciting picture and let your child predict what will happen in the story.**
- 4.Predict the weather for tomorrow.**

Measurements:

- 1. Begin ordering by size using blocks, books, pencils, etc.**
- 2. Talk about size and lengths and compare them. E.g. “Can you find a long piece of material?”**
- 3. Order by weight, length, capacity.**
- 4. Explore capacity- “Fill the cup”**
- 5. Order 3 pencils from tallest to shortest.**
- 6. Sort the washing e.g. big/small t-shirts**
- 7. Show them rulers, scales etc**

Describing shapes:

- 1. Children need to be able to talk about shapes, not just names them- common that children lack the vocabulary to describe shapes. e.g. curved, straight, round, sides, faces**
- 2. Look for shapes in the environment- get your child to take photographs.**
- 3. Building models- “what shapes have you used?” “Tell me about your shapes.”**
- 4. Tins/ food items for baking- weigh them. Are they the same shape?**
- 5. Compare 2D and 3D shapes with everyday objects**

Questioning-

- Vital that we ask children a variety of questions during play as it encourages independent thinking and they are more likely to achieve the standards that we strive for in mathematics.
- Extends their play.
- Allows children to use and apply skills taught.
- Informs us of their understanding of concepts.
- Open- ended questions, avoid closed questions.

“How many teddies are there?”

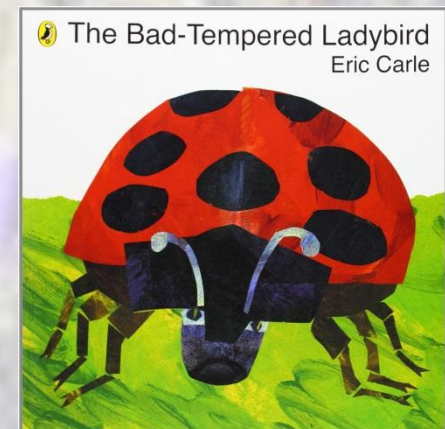
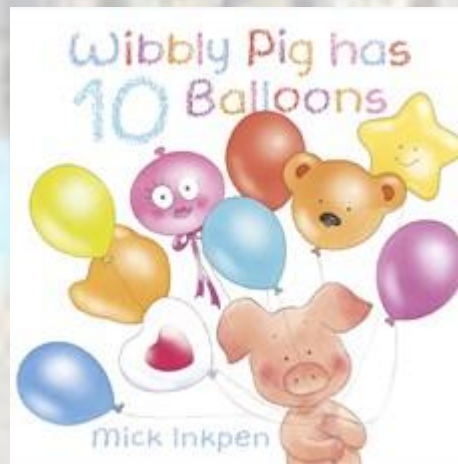
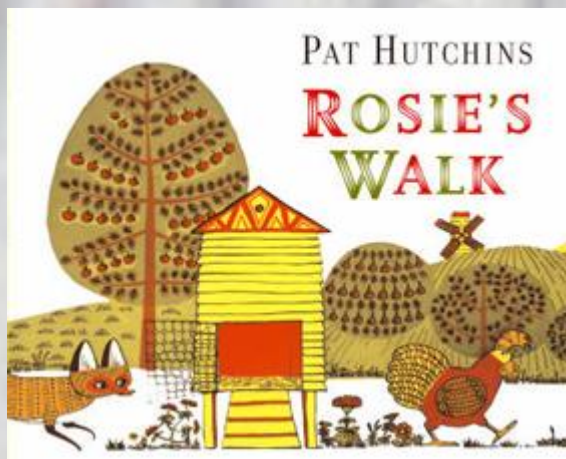
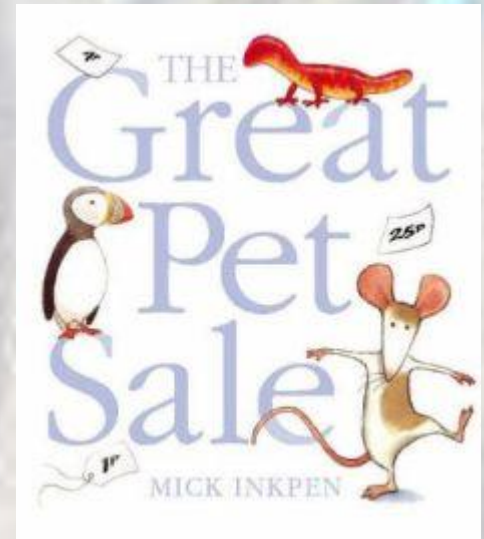
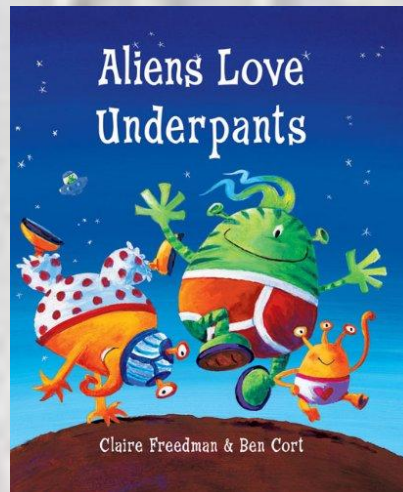
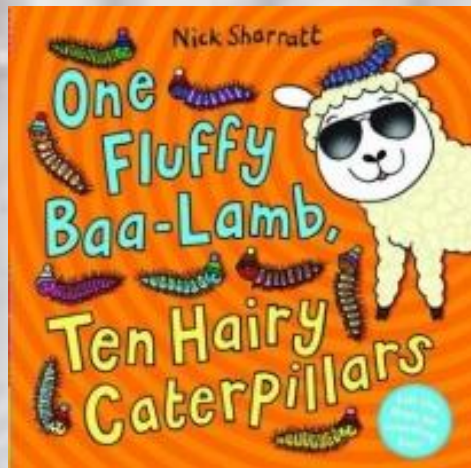
Replace with:

“We could give all the teddies a cushion. How can we make sure they all get one?”

Open ended questions:

- **What will you need... to make this necklace longer than that one?**
- **Explain to me why ... that bear won't fit into that box**
- **What did you notice about... that collection of dinosaurs?**
- **What can we buy... with these coins? With 10p?**
- **How do you know?**
- **Tell me how you worked out the answer.**

Maths through books:



The background of the slide features a light-colored, textured surface, possibly a wall or a board, with numerous colorful clothespins (in shades of pink, orange, yellow, green, blue, and purple) hanging from a thin, dark line. The clothespins are arranged in a somewhat random pattern, creating a vibrant and playful backdrop for the text.

Message to take away-
be creative to make Maths
fun!!!!