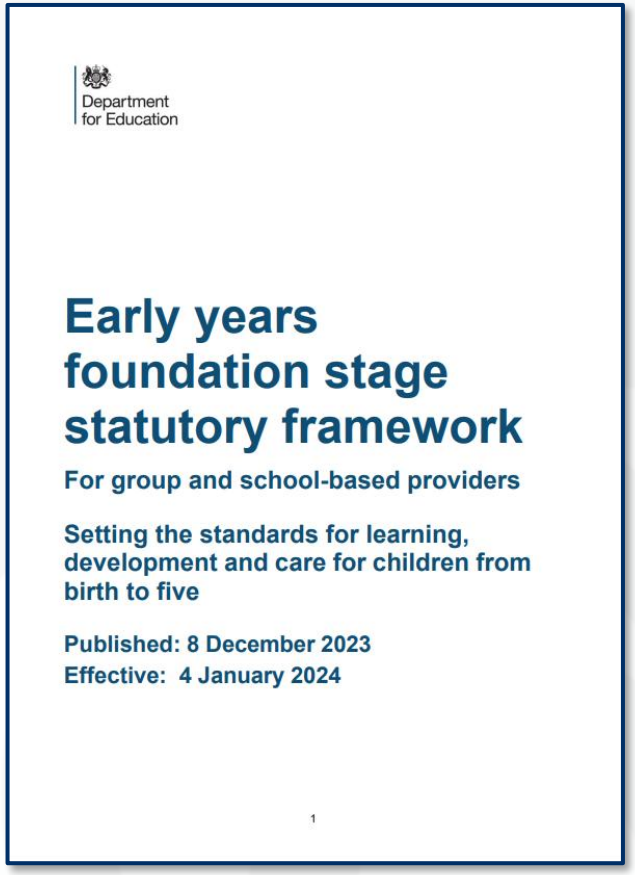
White Rose EDUCATION

Reception Maths Parent workshop

Name

The maths curriculum should allow children to …

- develop a strong grounding in number
- develop a deep understanding of the numbers to 10
- understand the relationships between numbers
- understand the patterns within numbers
- Develop spatial reasoning skills, including within shape, space and measures.



Department for Education

Early years foundation stage statutory framework

For group and school-based providers

Setting the standards for learning, development and care for children from birth to five

Published: 8 December 2023
Effective: 4 January 2024

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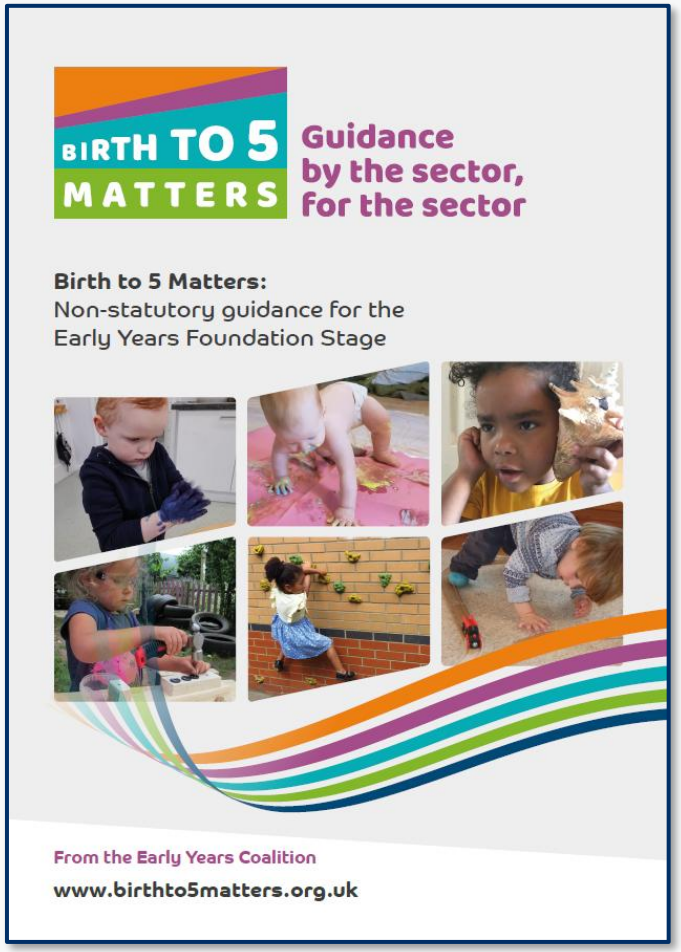
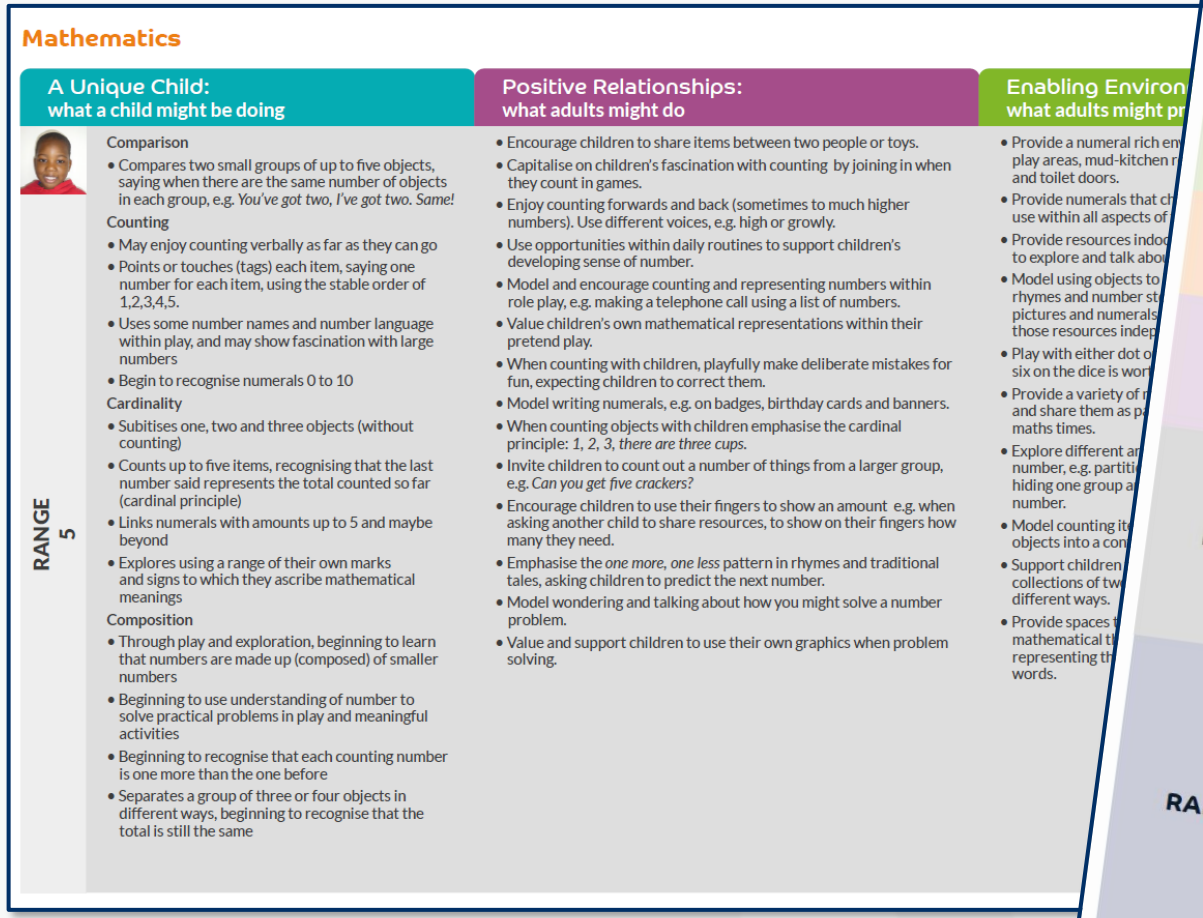
Birth to 5 matters





Mathematics

RANGE 5

A Unique Child: what a child might be doing

Comparison
- Compares two small groups of up to five objects, saying when there are the same number of objects in each group, e.g. *You've got two, I've got two. Same!*

Counting
- May enjoy counting verbally as far as they can go
- Points or touches (tags) each item, saying one number for each item, using the stable order of 1,2,3,4,5.
- Uses some number names and number language within play, and may show fascination with large numbers
- Begin to recognise numerals 0 to 10

Cardinality
- Subitises one, two and three objects (without counting)
- Counts up to five items, recognising that the last number said represents the total counted so far (cardinal principle)
- Links numerals with amounts up to 5 and maybe beyond
- Explores using a range of their own marks and signs to which they ascribe mathematical meanings

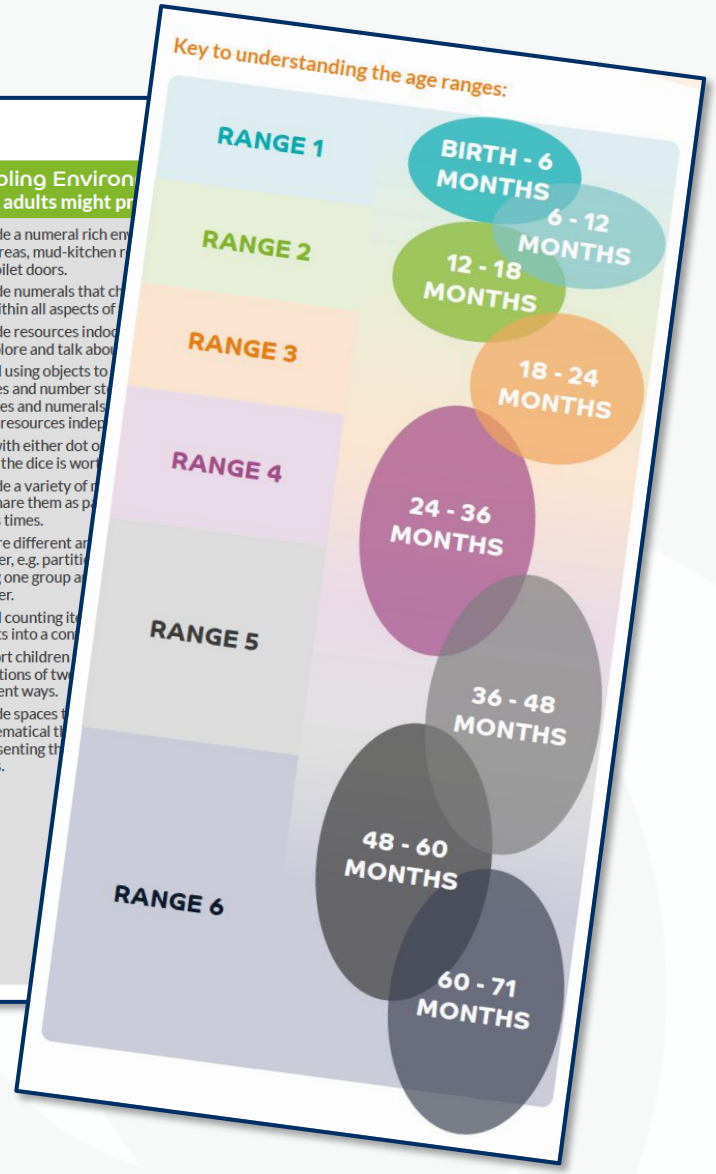
Composition
- Through play and exploration, beginning to learn that numbers are made up (composed) of smaller numbers
- Beginning to use understanding of number to solve practical problems in play and meaningful activities
- Beginning to recognise that each counting number is one more than the one before
- Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same

Positive Relationships: what adults might do

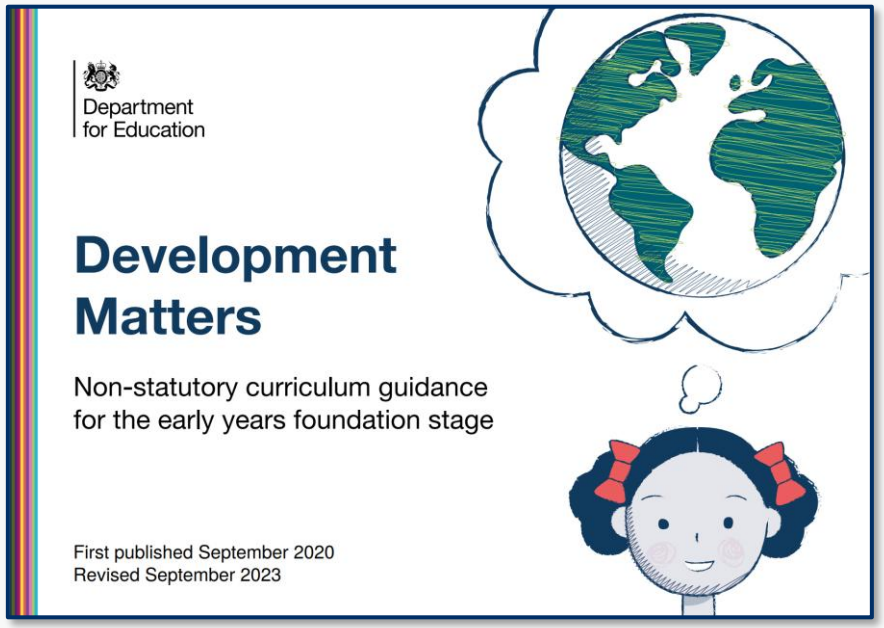
- Encourage children to share items between two people or toys.
- Capitalise on children's fascination with counting by joining in when they count in games.
- Enjoy counting forwards and back (sometimes to much higher numbers). Use different voices, e.g. high or growly.
- Use opportunities within daily routines to support children's developing sense of number.
- Model and encourage counting and representing numbers within role play, e.g. making a telephone call using a list of numbers.
- Value children's own mathematical representations within their pretend play.
- When counting with children, playfully make deliberate mistakes for fun, expecting children to correct them.
- Model writing numerals, e.g. on badges, birthday cards and banners.
- When counting objects with children emphasise the cardinal principle: *1, 2, 3, there are three cups.*
- Invite children to count out a number of things from a larger group, e.g. *Can you get five crackers?*
- Encourage children to use their fingers to show an amount e.g. when asking another child to share resources, to show on their fingers how many they need.
- Emphasise the *one more, one less* pattern in rhymes and traditional tales, asking children to predict the next number.
- Model wondering and talking about how you might solve a number problem.
- Value and support children to use their own graphics when problem solving.

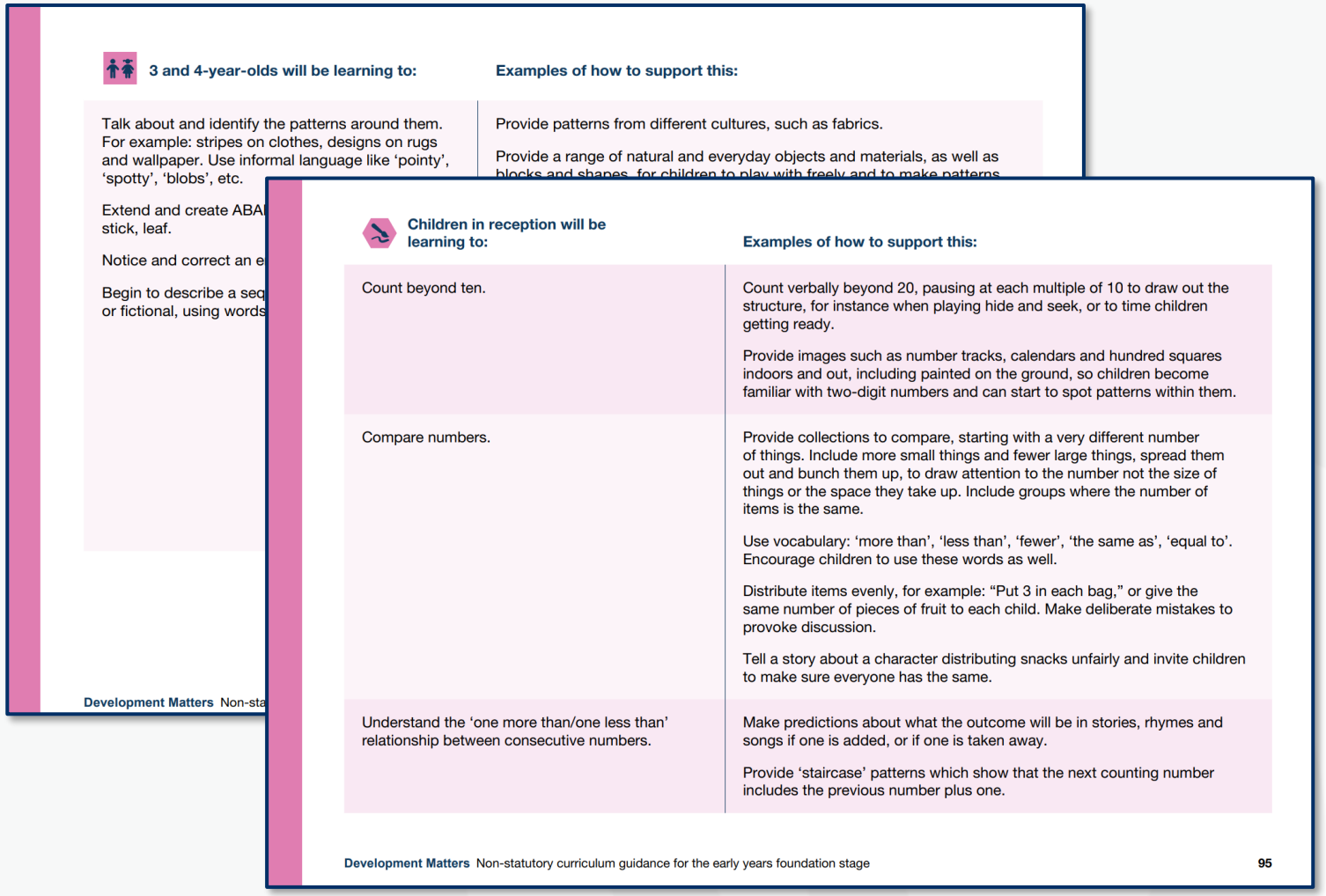
Enabling Environ... what adults might pr...

- Provide a numeral rich en... play areas, mud-kitchen r... and toilet doors.
- Provide numerals that ch... use within all aspects of ...
- Provide resources indoo... to explore and talk abou...
- Model using objects to ... rhymes and number st... pictures and numerals ... those resources indep...
- Play with either dot o... six on the dice is wort...
- Provide a variety of r... and share them as p... maths times.
- Explore different ar... number, e.g. partiti... hiding one group a... number.
- Model counting it... objects into a con...
- Support children ... collections of tw... different ways.
- Provide spaces t... mathematical th... representing th... words.



Development matters





3 and 4-year-olds will be learning to:	Examples of how to support this:
Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.	Provide patterns from different cultures, such as fabrics. Provide a range of natural and everyday objects and materials, as well as blocks and shapes, for children to play with freely and to make patterns
Extend and create ABA… stick, leaf.	
Notice and correct an e…	
Begin to describe a seq… or fictional, using words…	

Development Matters Non-sta…

Children in reception will be learning to:	Examples of how to support this:
Count beyond ten.	Count verbally beyond 20, pausing at each multiple of 10 to draw out the structure, for instance when playing hide and seek, or to time children getting ready. Provide images such as number tracks, calendars and hundred squares indoors and out, including painted on the ground, so children become familiar with two-digit numbers and can start to spot patterns within them.
Compare numbers.	Provide collections to compare, starting with a very different number of things. Include more small things and fewer large things, spread them out and bunch them up, to draw attention to the number not the size of things or the space they take up. Include groups where the number of items is the same. Use vocabulary: 'more than', 'less than', 'fewer', 'the same as', 'equal to'. Encourage children to use these words as well. Distribute items evenly, for example: "Put 3 in each bag," or give the same number of pieces of fruit to each child. Make deliberate mistakes to provoke discussion. Tell a story about a character distributing snacks unfairly and invite children to make sure everyone has the same.
Understand the 'one more than/one less than' relationship between consecutive numbers.	Make predictions about what the outcome will be in stories, rhymes and songs if one is added, or if one is taken away. Provide 'staircase' patterns which show that the next counting number includes the previous number plus one.

Finding how many

Subitising

Subitising is "instantly seeing how many", taken from a Latin word meaning suddenly.

Clements (1999)

Counting

"Counting is a precise, step-by-step procedure governed by rules…children have to coordinate all of these rules at the same time into one set of actions."

Erikson (2024)

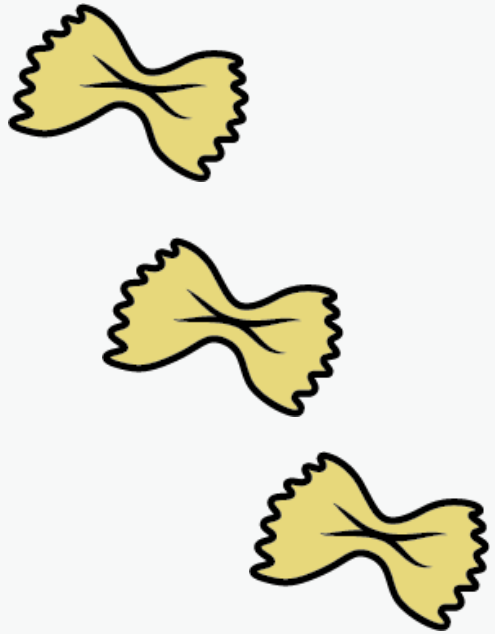
1. One-to-one principle

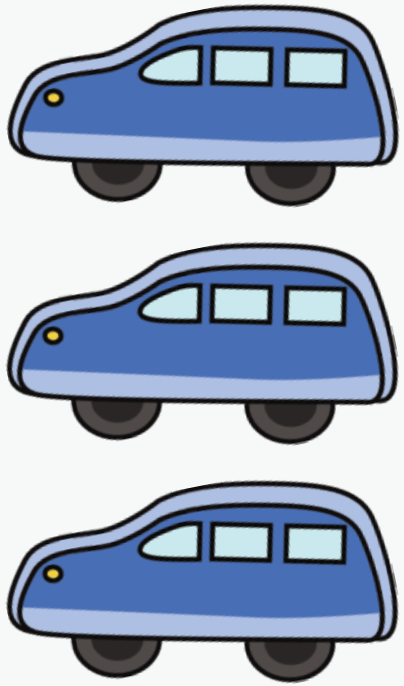
2. Stable order principle

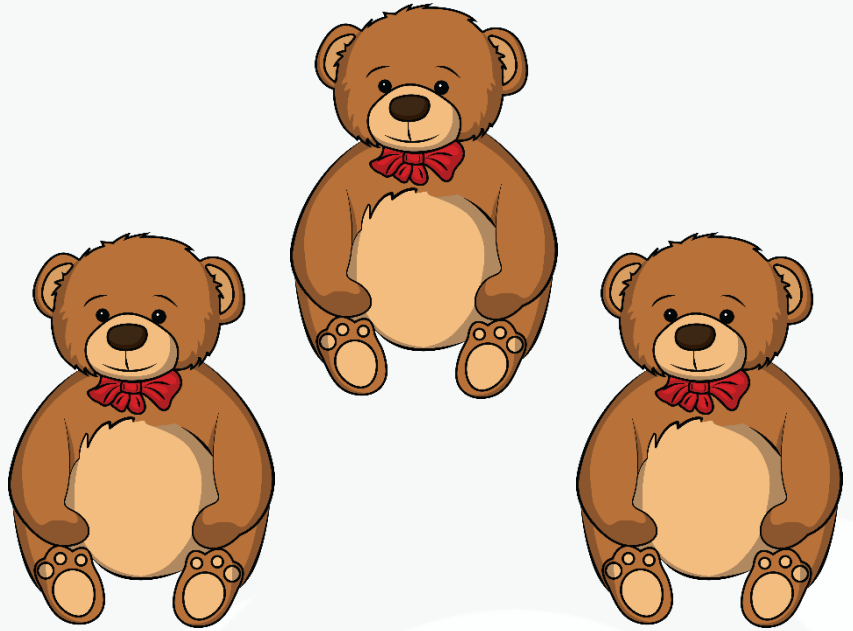
3. Cardinal principle

Gelman & Gallistel (1978)

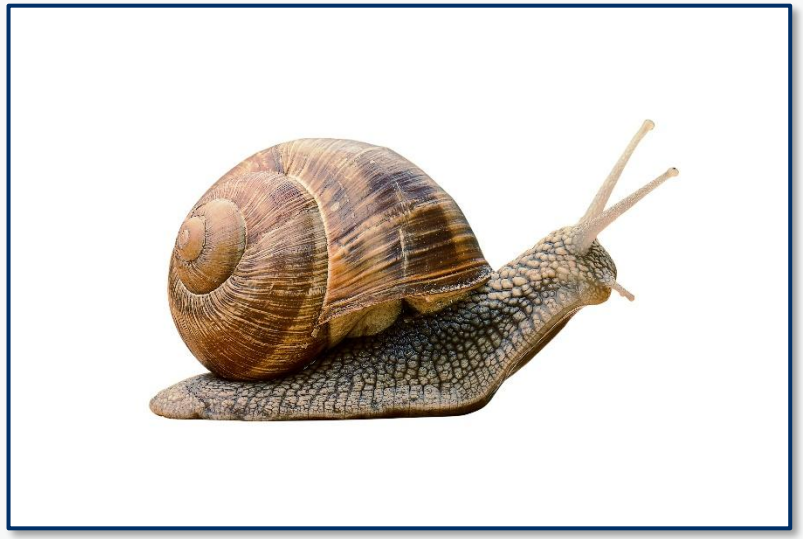
Subitising



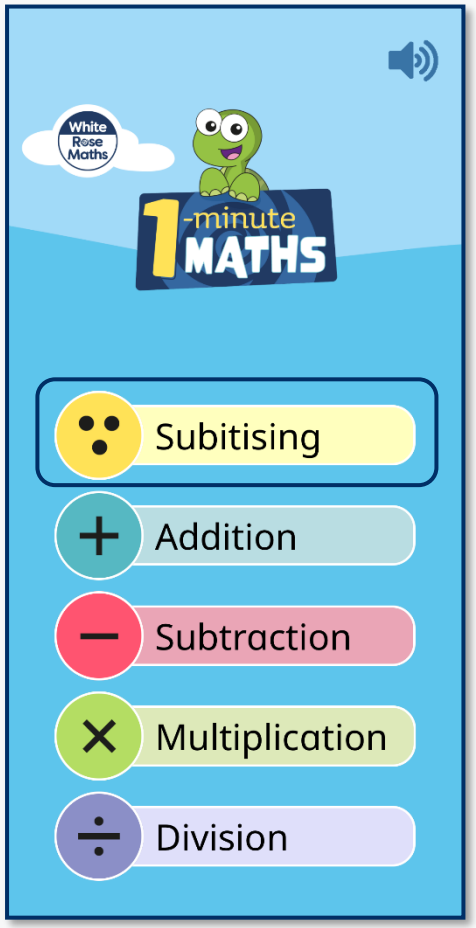


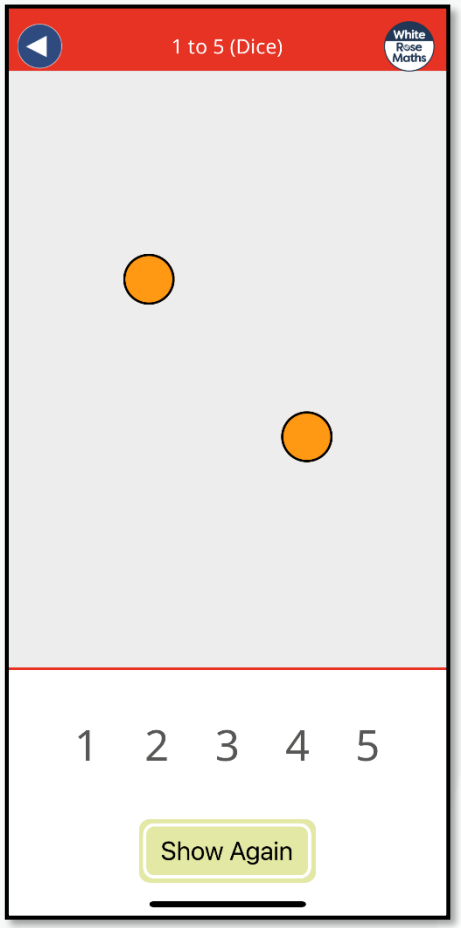


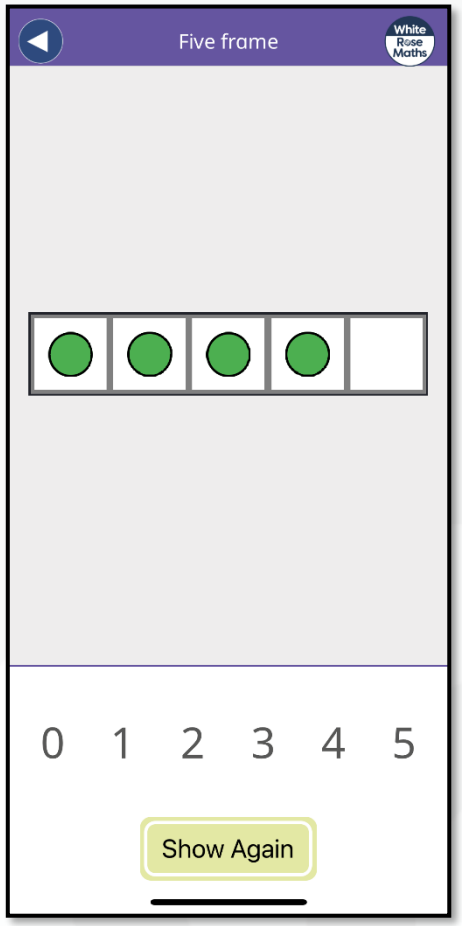
Subitising



White Rose 1-minute maths







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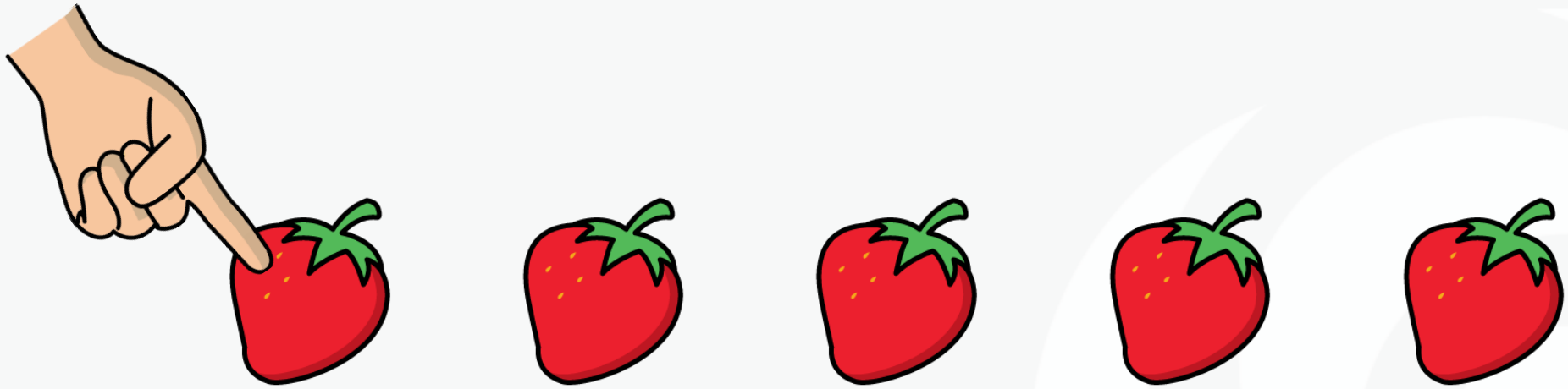
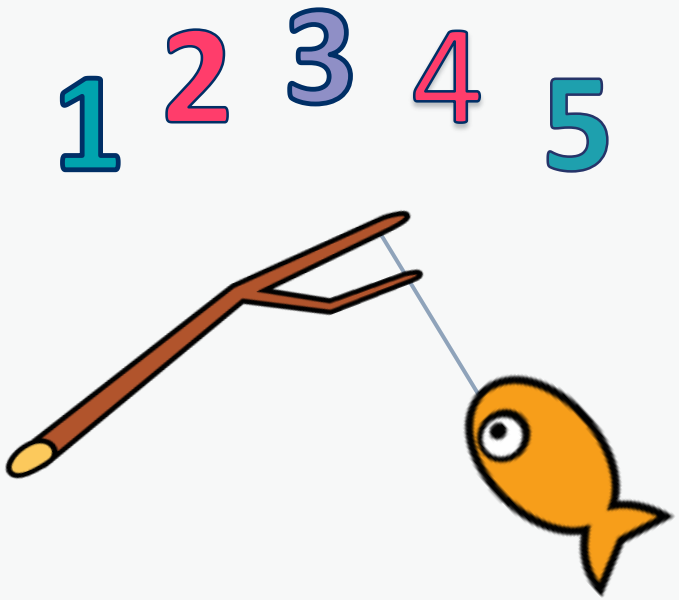
The one to one principle

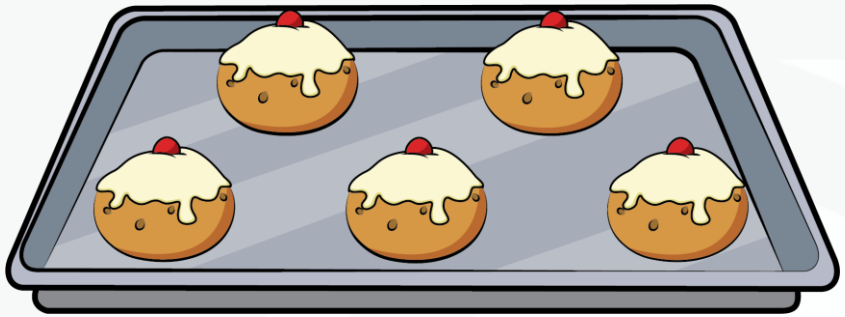
Counting each item once and only once



The stable order principle

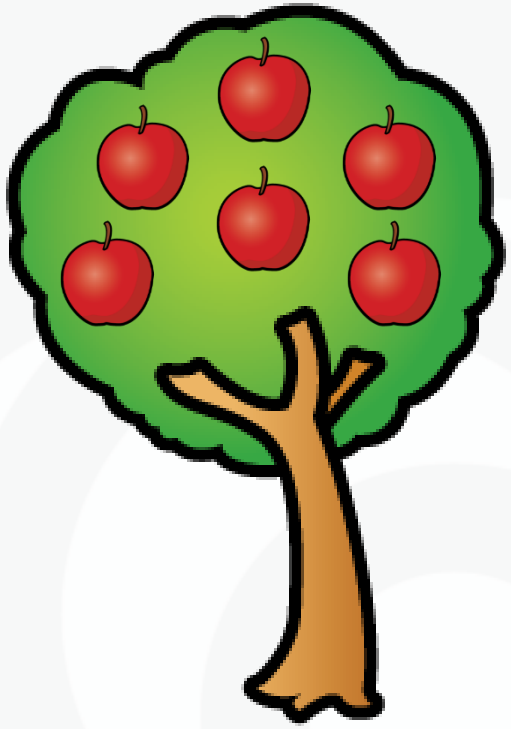
Learning the sequence of number names





The cardinal principle

The last object counted gives the total quantity



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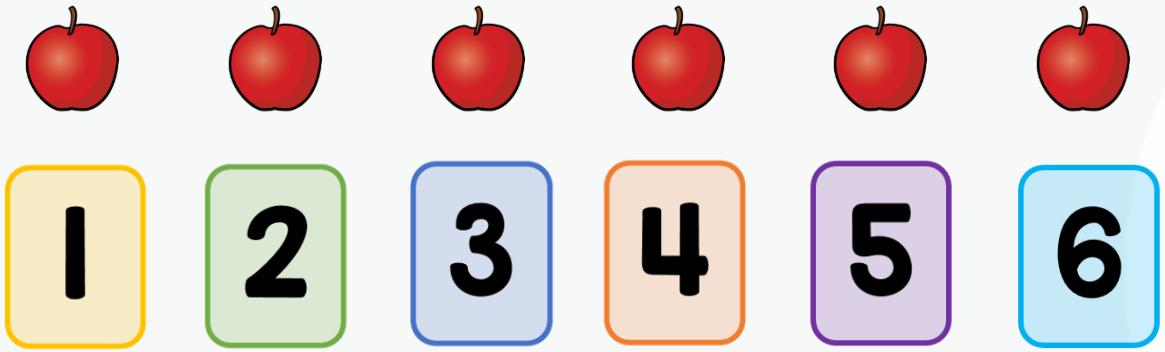
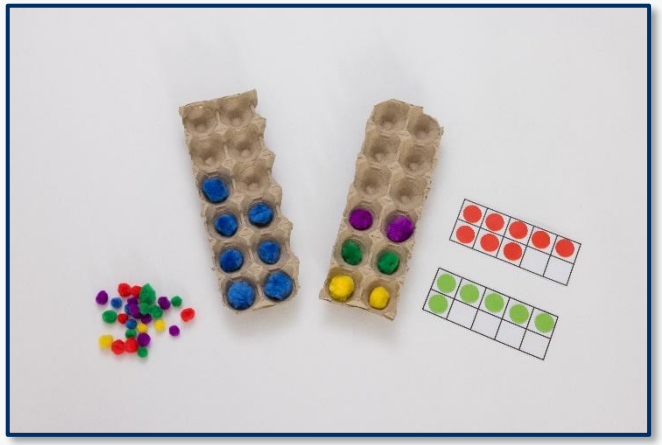


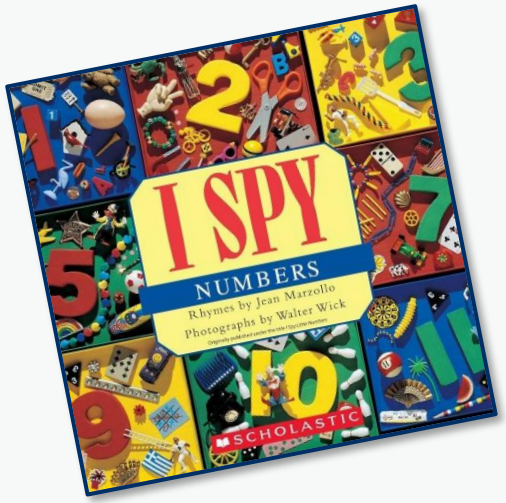
What maths looks like in EYFS

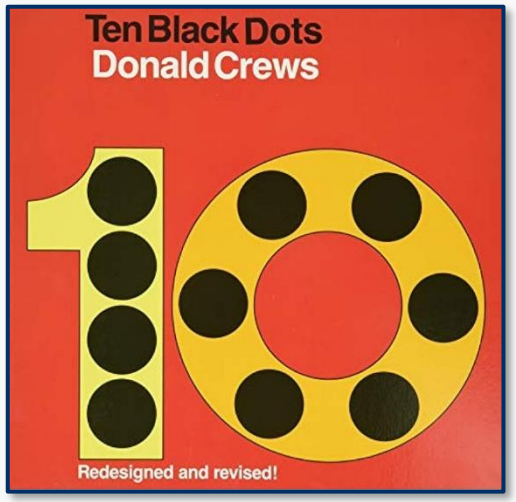
Concrete resources

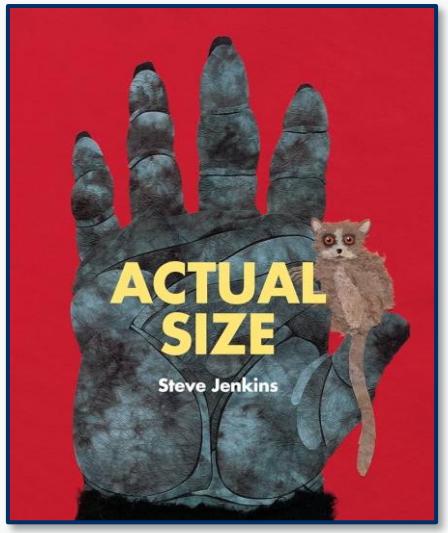


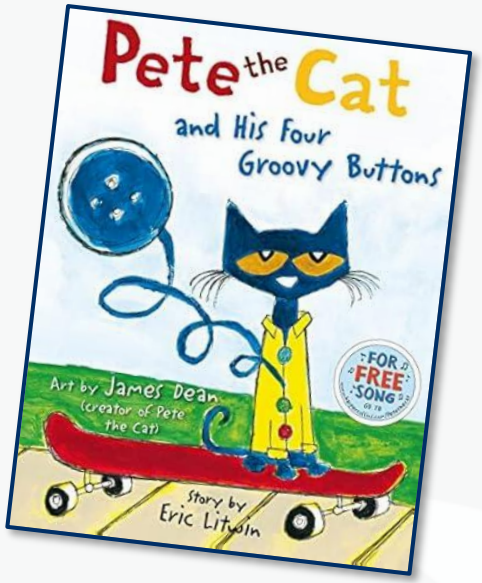
Maths through stories

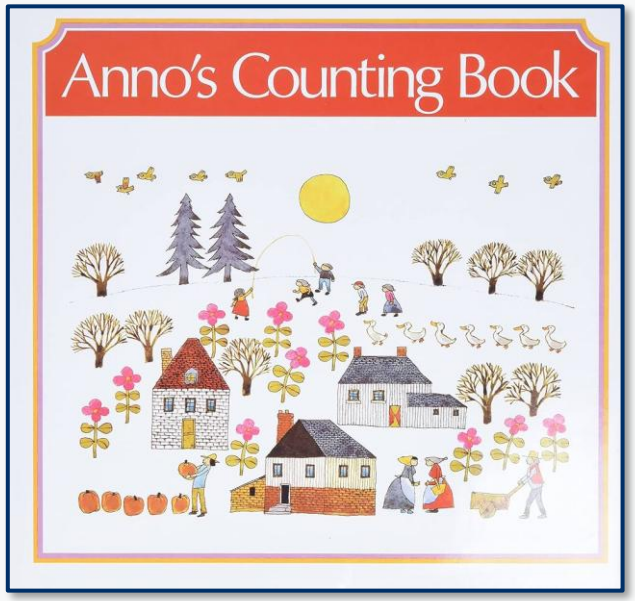
White Rose EDUCATION

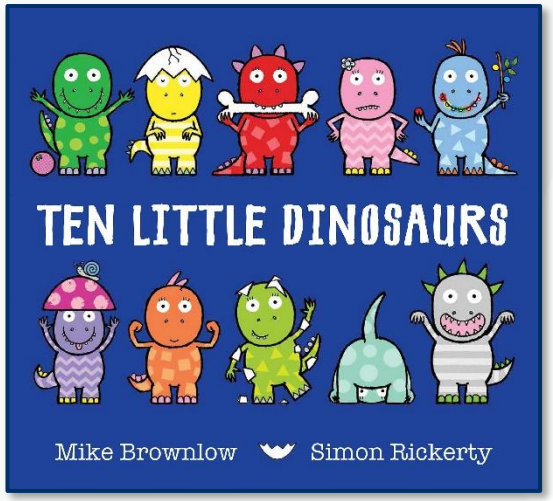


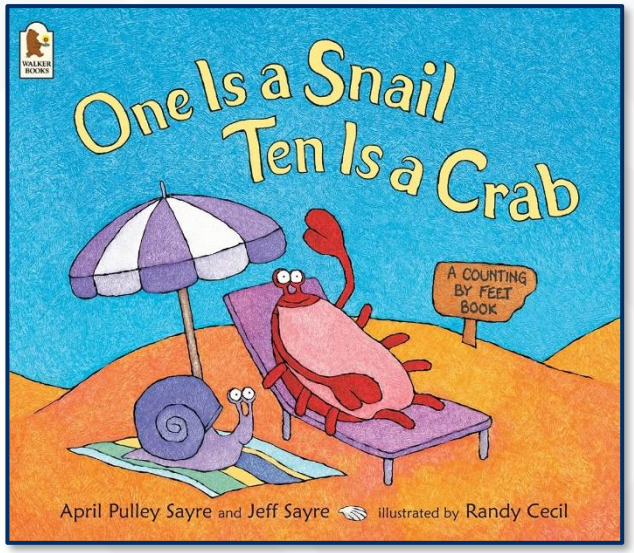




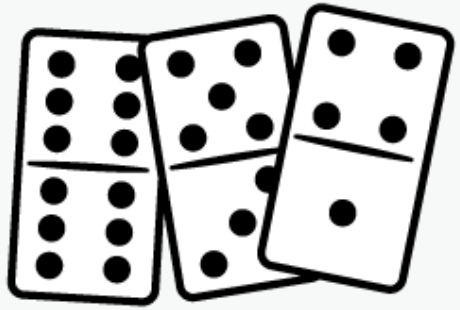


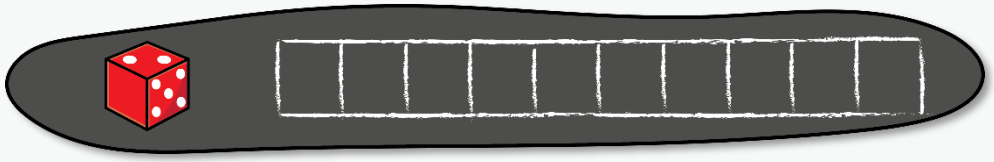


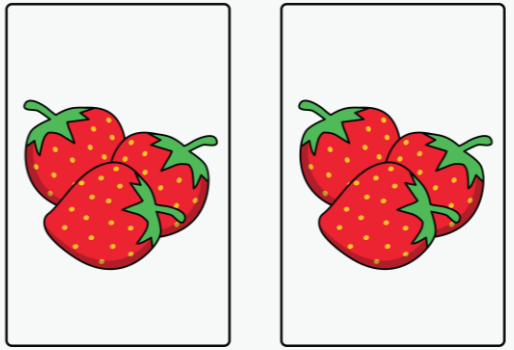


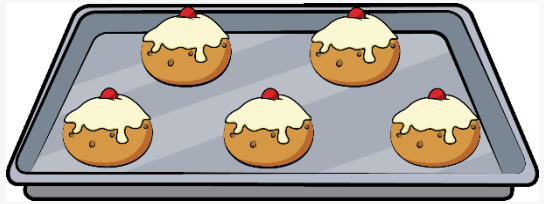


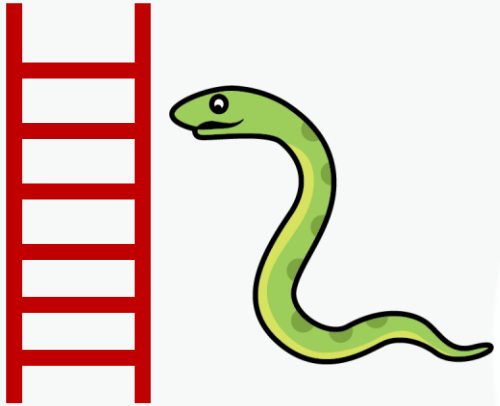
Games

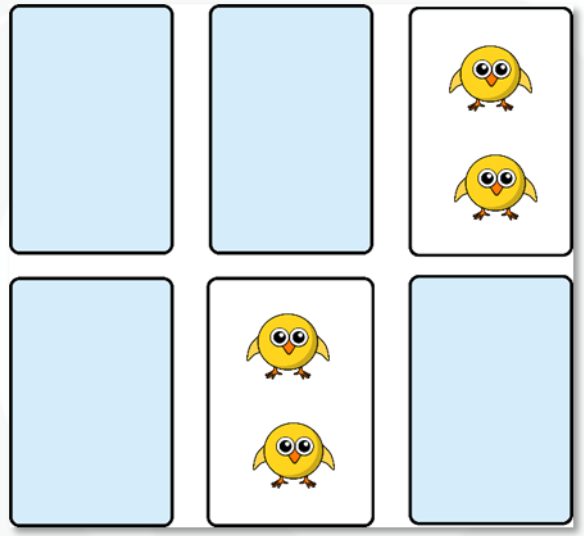






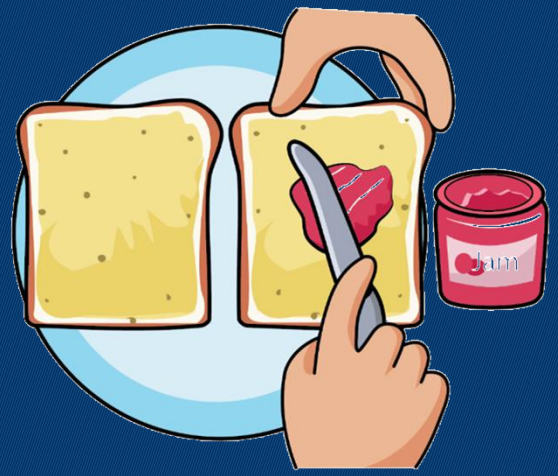






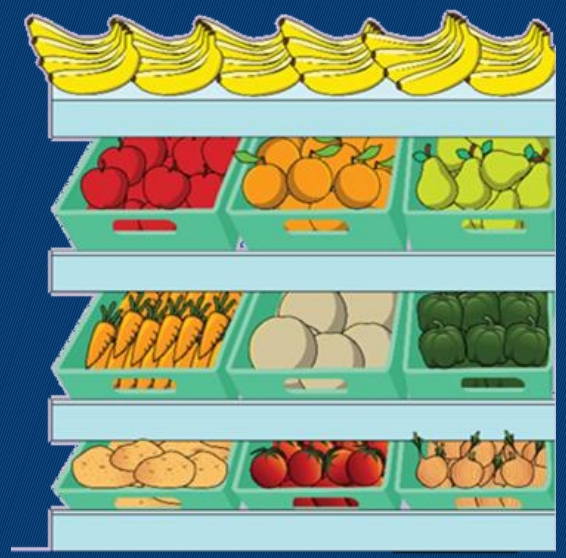
How can you help at home?

Preparing and eating food and drink



- Set the table, does each person have a knife, fork, spoon, plate and cup?
- Follow basic recipes, how many cups of flour do we need?
- Use the terms ‘more than’, ‘fewer than’ and ‘same as’ when comparing different amounts of ingredients and food.
- Is the jug full/half full/empty? How many cups can you fill? Do we have enough for everyone?

Going to the shop

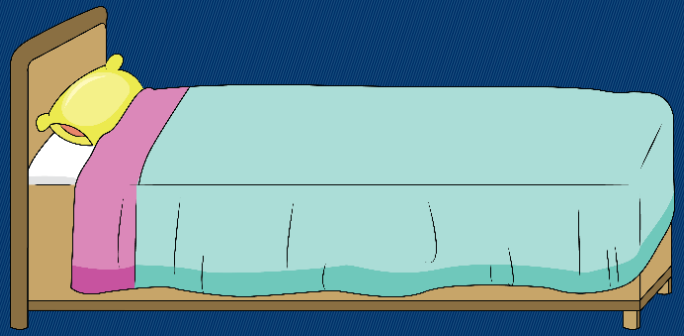


- How many of each item do we need to buy?
- Which item weighs the most/least?
- Sort and categorise the shopping into different bags.
- How can we fit the bags in the car? Why should we put the heaviest on the bottom?
- Encourage children to spot numerals when walking around the shops.

Daily routines

- Talk about key events that are happening during the day, week and month.
- Count down how many days/sleeps until a key event, such as a birthday.
- Notice and talk about the changes that occur during the different seasons.
- While getting dressed, talk about the order in which we put on our clothes.

Bedtime routine



- Count the steps as children go upstairs.
- Measure the bubble bath into the water – how many spoons/squeezes do we need?
- Find matching pyjamas – choose the correct top and bottoms to make a set.
- Talk through the order of brushing our teeth – wet toothbrush, add toothpaste etc.
- Time how long it takes to brush our teeth.

At the park

- Look for and talk about different shapes and patterns in the natural environment.
- Subitise or count the flowers and plants children can see.
- Count the times you go down the slide or turn on the roundabout.
- Who is swinging the highest on the swing?

White Rose and EEF Reception Maths Jigsaw Trial

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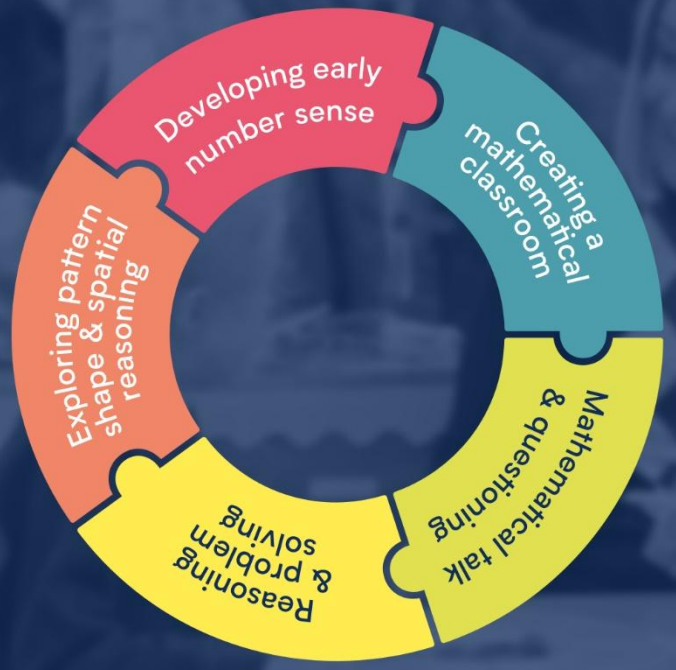

Education Endowment Foundation

White Rose MATHS

NFER National Foundation for Educational Research

White Rose EDUCATION

What does the trial include?

The trial aims to improve the quality of mathematics teaching and outcomes in Reception classes. By taking part you will receive:

- **Five in-depth CPD sessions** looking at early maths pedagogy
- **Five half-day visits** to support teachers in their own setting
- **Gap tasks** to support teachers to trial and develop new practice
- **Exclusive White Rose Maths resources** to use in the classroom
- **Journal to record reflections** and progress over the year

Implementation cost £ £ £ £ £

Evidence strength

Impact (months) +1 months

"The only programme focused on reception maths teaching that has shown a positive impact." EEF

School will be giving out copies of the ‘Parents and carers privacy notice’.

This gives you all the information about the trial and how your child’s data will be used.

Education Endowment Foundation

NFER National Foundation for Educational Research

White Rose MATHS

White Rose Maths Reception Jigsaw Trial 2025-2026

Parents and carers’ information letter and withdrawal form

Dear Parent / Carer,

We are writing to you because the school your child will be joining in September has chosen to take part in a research study - the **White Rose Maths (WRM) Reception Jigsaw trial (2025/26)**.

This letter is being sent to parents and carers of children that will be in Reception from September 2025 (academic year 2025/26), in all schools that have signed up to participate. It provides more information about the trial and what it will involve for your child. The school is sending you this letter on our behalf.

What is the White Rose Maths Reception Jigsaw programme?

The WRM Reception Jigsaw is a teacher training programme with a focus on improving the teaching of maths within Early Years. The programme aims to improve Reception teachers' understanding and subject knowledge so that they can better support children's early mathematical development. Previous research has found this programme can help improve children's progress in maths.

The training programme will last for the whole of the Reception year. Teachers will take part in training sessions and be visited by an Early Years maths expert who will help them to apply what they have learned during their training. You can find more information about the WRM Reception Jigsaw programme here: https://whiteroseeducation.com/professional-development/early-years/reception-jigsaw

About the trial

The trial aims to measure the impact of the WRM Reception Jigsaw programme on pupils' early mathematical understanding. The results will be used to inform future guidance for school leaders. Your child's participation will help to strengthen the evidence on the impact the WRM Reception Jigsaw can have on pupils' attainment.

- White Rose Education (WRE) will run the training and provide support to the schools.
- The Education Endowment Foundation (EEF) is funding the trial.
- The National Foundation for Educational Research (NFER) is the independent evaluator which means that we will collect and analyse the information, including administrative and assessment data so that we can understand whether the training is making a difference.

Any questions?