

# Reception Maths Workshop

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**Mrs Elliott**

**15<sup>th</sup> November 2023**



# Today's Overview



- Our Maths Rationale - *why*
- The Key Areas of Mathematics in the EYFS - *what and how*
  - Numbers
  - Number Patterns
- Teaching Overview - *when*
- How you can help at home



# Our Maths Rationale

*Why do we do it?*

# Our Maths Rationale

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We want all children to develop the necessary building blocks to excel mathematically. Children should be able to **count confidently, develop a deep understanding of the numbers to 10**, understanding the relationships between them and finding the patterns within those numbers.

In reception, we aim to provide children with a **secure base of knowledge and vocabulary** from which a mastery of mathematics can be built.

Our goal is for children to develop **positive attitudes and interests in mathematics**, encourage all children to **'have a go'**, talk to adults and peers about **what they notice**, and most importantly, **not be afraid to make mistakes! (especially girls!)**

**EVERYONE CAN DO MATHS:**

**EVERYONE CAN!**

# Our Maths Rationale

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- We adapt the White Rose mastery approach using their sequence and practical ideas alongside our own knowledge of the children's interests and understanding.
- This allows all children to develop a deep understanding of a mathematical concept before moving on. We feel it is important to 'over teach' key concepts to ensure progress is made.
- Throughout the Reception year, our daily maths lessons will include teaching subitising (recognising quantities without counting), recognising and representing numbers, patterns (including number patterns), exploring shape and an introduction to measure. Within these areas, the children are exposed to fluency and varied fluency (different representations), leading to application, problem solving and reasoning through class and group discussion.
- We often use a story, book or rhyme to hook the children's learning on, making it stick.



# The Key Areas of Mathematics in the EYFS

*What and how do we teach?*

# What are the key areas?

The teaching of Mathematics in the Early Years Foundation Stage (EYFS) is classed as a **specific** area of learning and development.

It is further split into two main areas:

- **Number**
- **Number Patterns**



# Numbers: Recognition of Numbers

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Children need to engage with numbers and to see how to use them in their everyday environment for labelling, quantifying and calculating. We want to help them to develop a better understanding of the world in which they live.





# Numbers: Counting

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The one-one principle. This involves children assigning one number name to each object that is being counted. Children need to ensure that they count each object only once ensuring they have counted every object.



1



2



3



4



5

# Numbers: Counting

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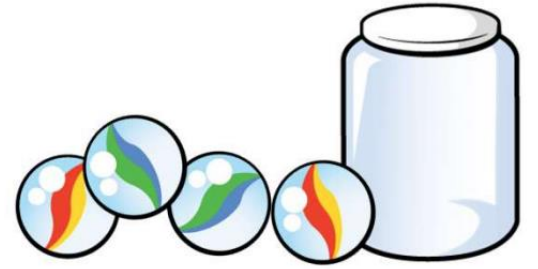
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The stable-order principle. Children understand when counting, the numbers have to be said in a certain order.

3

The cardinal principle. Children understand that the number name assigned to the final object in a group is the total number of objects in that group.

# Numbers: Counting



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The abstraction principle. This involves children understanding that anything can be counted including things that cannot be touched including sounds and movements e.g. jumps.

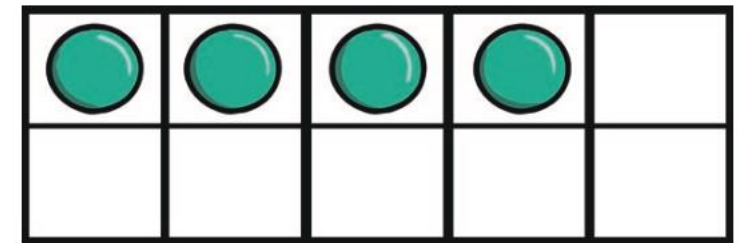
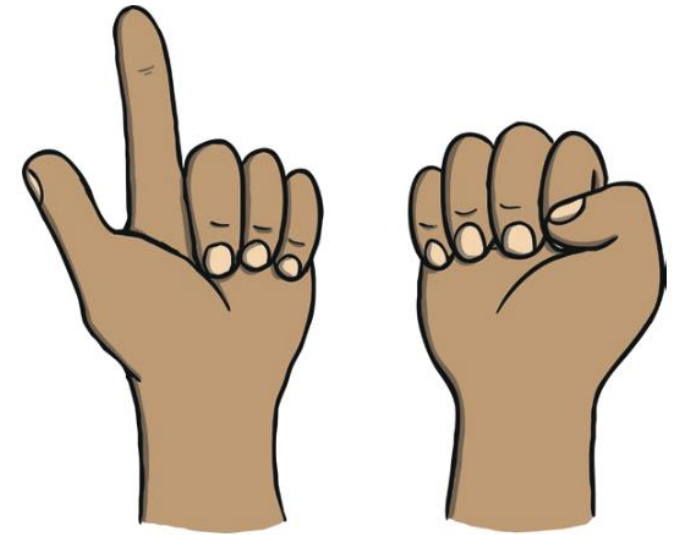
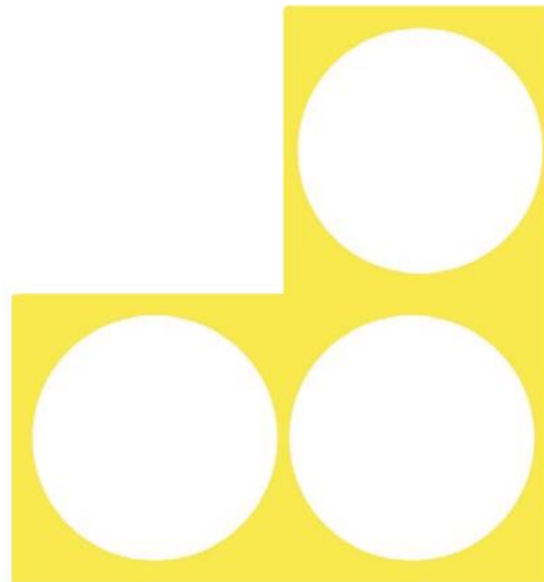
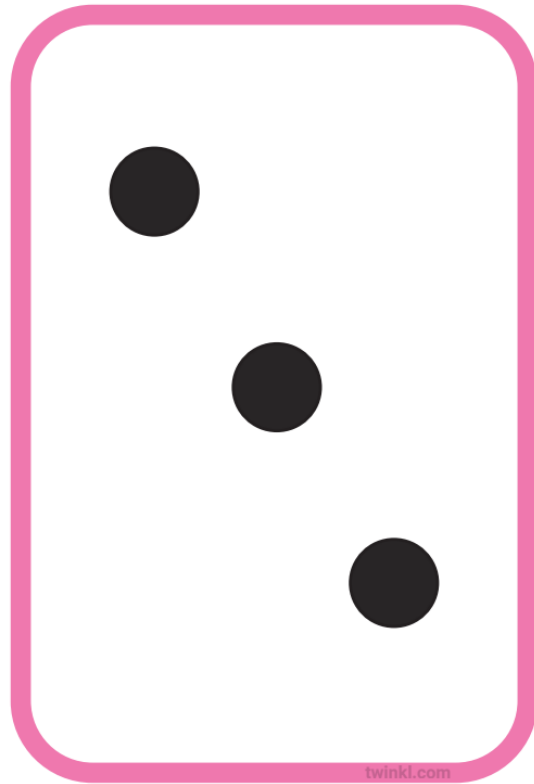
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The order-irrelevance principle. This involves children understanding that the order we count a group of objects is irrelevant. There will still be the same number.

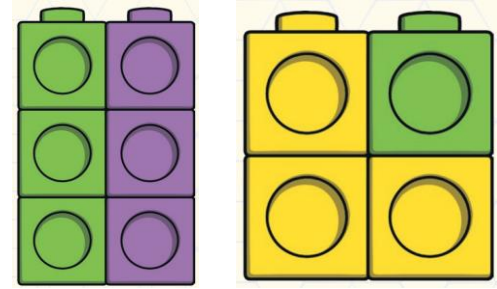
# Numbers: Subitising

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Instantly recognise a quantity, without having to count how many there are.



# Numbers: Composition



## What Is Composition?

Understanding that one number can be made up from (composed from) two or more smaller numbers.

Knowing numbers are made up of two or more other smaller numbers involves 'part-whole' understanding.

Learning to 'see' a whole number and its parts at the same time is a key development in children's number understanding, and helps them to go on to subitise larger amounts.

Partitioning numbers into other numbers and putting them back together again underpins understanding of addition and subtraction as inverse operations.

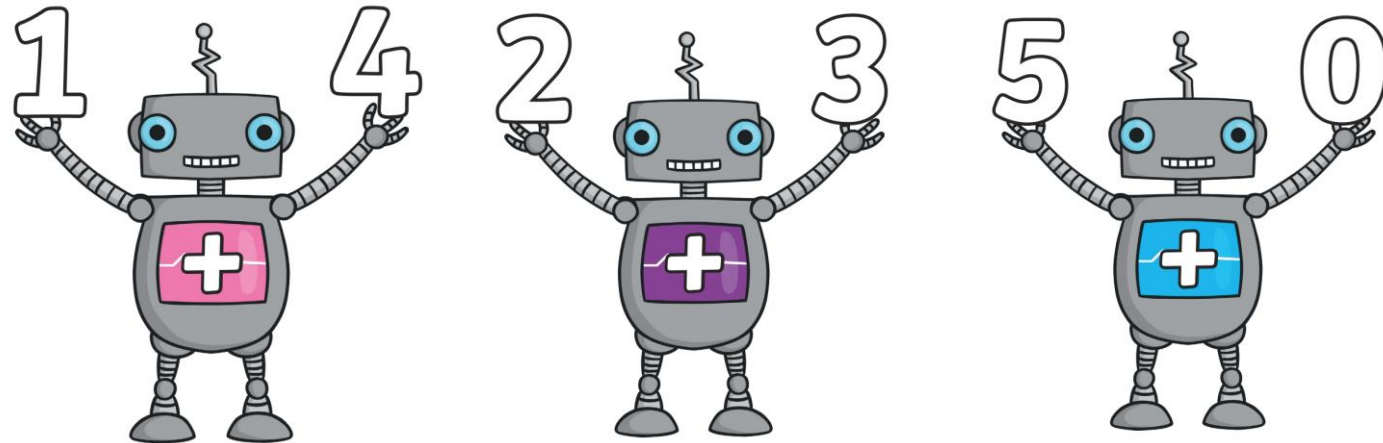


# Numbers: Number Bonds

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Number bonds let children split numbers in useful ways. They show how numbers join together, and how they break down into component parts.

During the children's time in Reception, we will be focusing on number bonds up to 5 (including subtraction facts) and other number bonds within 10, including doubling facts.



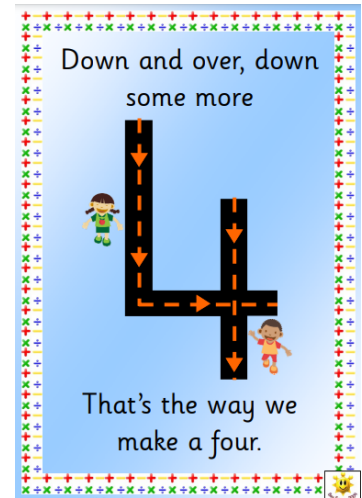
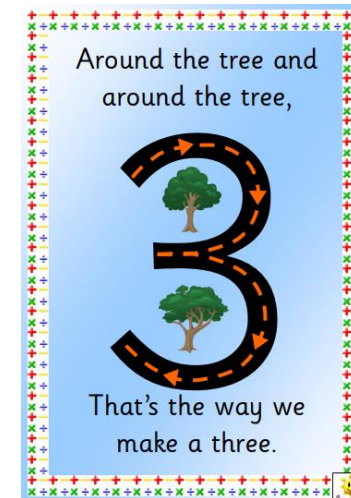
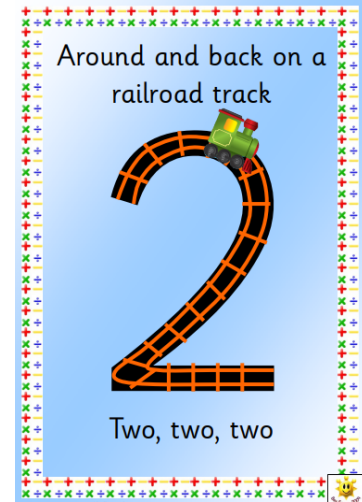
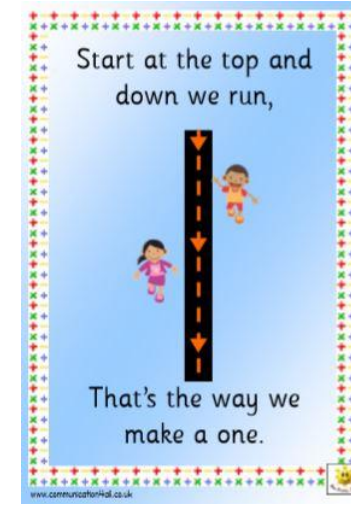
# Numbers: Early Learning Goal (ELG)

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- Have a deep **understanding of numbers 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 **doubling facts**.

# Writing Numbers

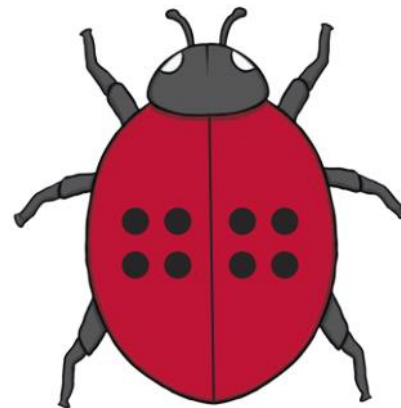
- Within the statutory Early Years framework, there is no expectation for children to write numerals until they are working beyond the end of Reception.
- As a school, we have decided that we will teach children how to write numerals as part of our teaching around representing numbers in different ways. This enables them to record their understanding more easily and ensures they are ready to access the maths curriculum in Year 1.





# Number Patterns

- Counting forwards and backwards
- Comparing quantities and sharing
- Even and odd numbers
- Doubling



# Number Patterns: 2D and 3D Shapes

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- We focus on the development of children's knowledge and use of 2D and 3D shapes.
- Children learn the difference between flat and solid shapes and the correct names as well as learning simple properties.

Triangle has 3 sides and 3 corners. It is a flat / 2D shape.

A cube is a 3D shape. It has 6 square faces.



# Number Patterns: Length, Weight and Capacity

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- Another focus is the ability to make comparisons between objects relating to size, length, weight and capacity.



# Number Patterns: Early Learning Goal

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- 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**, **doubling facts** and how quantities can be **distributed equally**.

# Teaching Overview

*When do we teach it?*

# Teaching Overview

<b>Autumn</b>	Getting to Know You (2 weeks)	Match, Sort & Compare (2 weeks)	Talk About Measure & Patterns (2 weeks)	It's Me 1, 2, 3! (2 weeks)	Circles & Triangles (1 week)	1,2,3,4,5 (2 weeks)	Shapes With 4 Sides (1 week)	Consolidation (3 weeks)
<b>Spring</b>	Alive in 5 (2 weeks)	Mass & Capacity (1 week)	Growing 6, 7, 8 (2 weeks)	Length, Height & Time (2 weeks)	Building 9 and 10 (3 weeks)	Explore 3D Shapes (2 weeks)	Consolidation (1 week)	
<b>Summer</b>	To 20 and Beyond (2 weeks)	How Many Now? (1 week)	Manipulate, Compose & Decompose (2 weeks)	Sharing & Grouping (2 weeks)	Visualise, Build & Map (3 weeks)	Make Connections (1 week)	Consolidation (1 week)	

Number

Assessment / Revision

Measurement

Geometry

Statistics

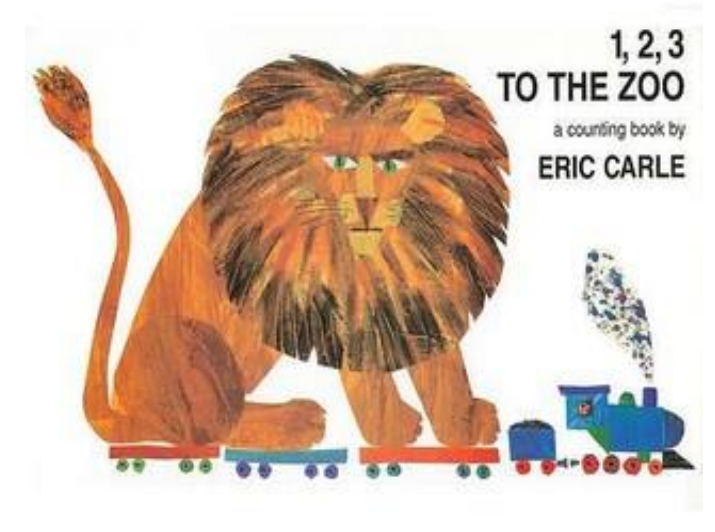
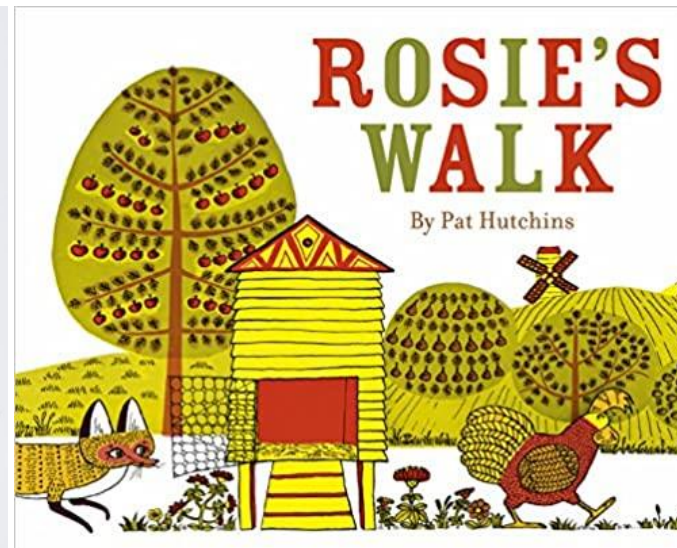
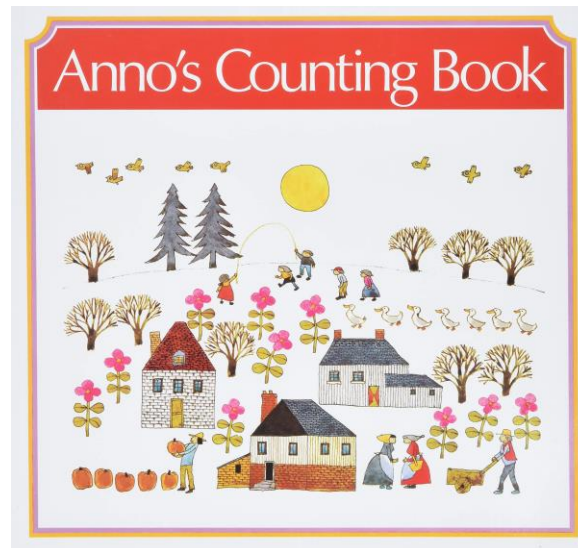
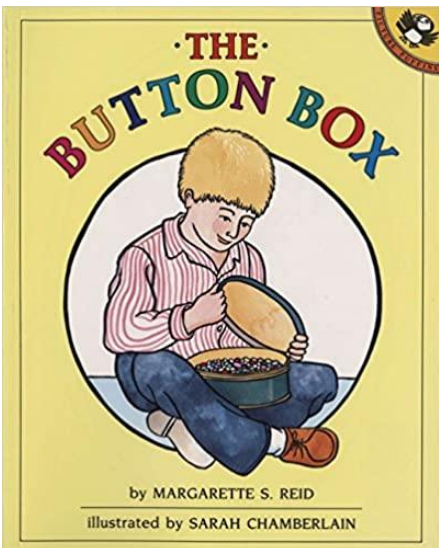
How can you help  
at home?



# Nursery Rhymes and Stories

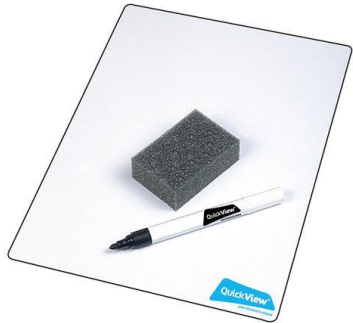
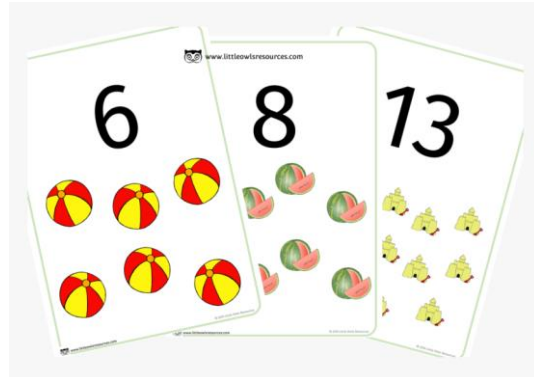


Five little monkeys  
jumping on the bed





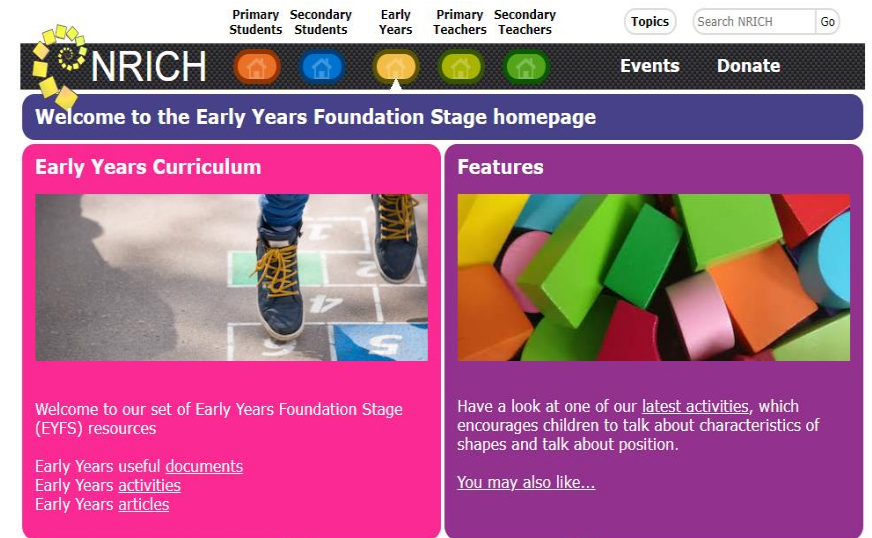
# Physical Resources



# Online Guidance

**NRICH** <https://nrich.maths.org/early-years>

- The NRICH Early Years resources aim to further develop young children's natural problem-solving abilities in the context of mathematics.
- This website gives you some ideas for activities to engage in with your child, in order to consolidate their understanding in maths.



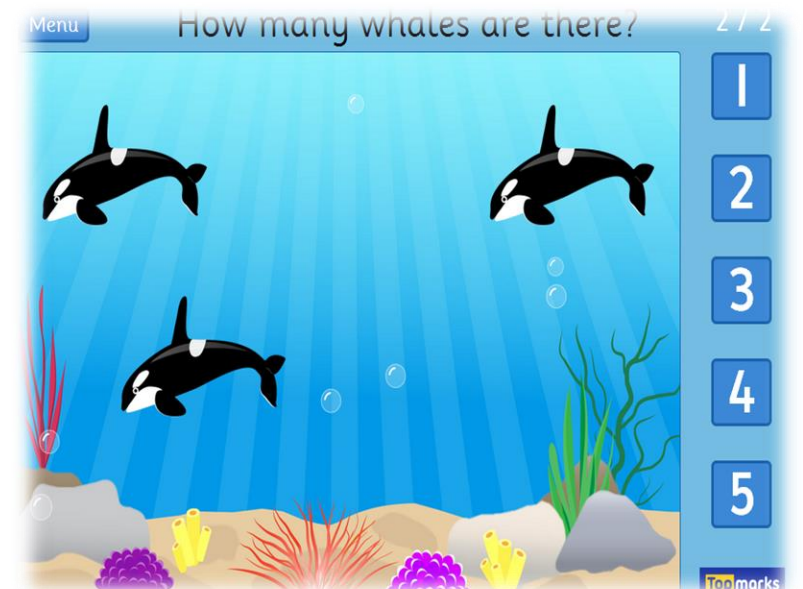
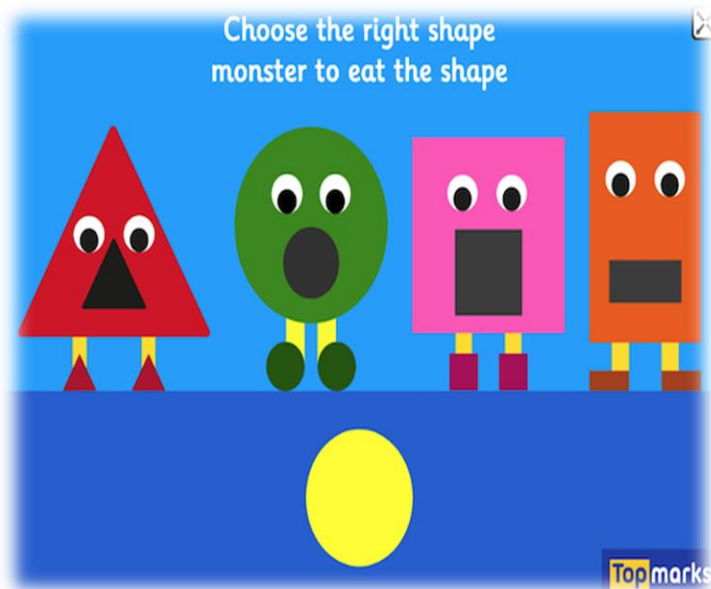
The screenshot shows the NRICH website interface for Early Years Foundation Stage. At the top, there are navigation links for 'Primary Students', 'Secondary Students', 'Early Years', 'Primary Teachers', and 'Secondary Teachers'. A search bar with 'Search NRICH' and a 'Go' button is on the right. Below the navigation is a dark blue header with the NRICH logo and the text 'Welcome to the Early Years Foundation Stage homepage'. The main content area is divided into two columns. The left column, titled 'Early Years Curriculum', features a photo of a child's feet on a hopscotch grid and lists links for 'Early Years useful documents', 'Early Years activities', and 'Early Years articles'. The right column, titled 'Features', features a photo of colorful geometric blocks and describes a 'latest activities' that encourages children to talk about shapes and position. It also includes a link for 'You may also like...'. The overall design is colorful and child-friendly.

# Online Games


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**Top Marks** - <https://www.topmarks.co.uk/maths-games/5-7-years/counting>

- A range of mathematical online games covering a range of maths topics.



# White Rose '1-Minute Maths' App



White Rose Maths

1-minute MATHS

- Subitising
- Addition
- Subtraction
- Multiplication
- Division

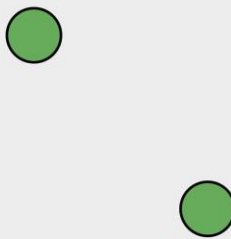

### Subitising



White Rose Maths

- 1 to 5 (Dice)
- 1 to 5 (Common)
- 1 to 5 (Random)
- 1 to 5 (Two colours)
- Five frame
- 1 to 5 (Objects)
- Ten frame
- 5 to 9 (Common)
- 1 to 9 (Common)

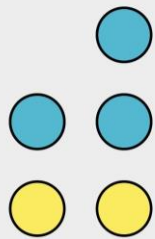

### 1 to 5 (Dice)



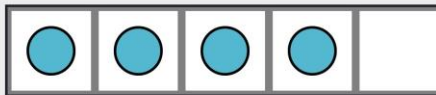

1 2 3 4 5

Show Again

### 1 to 5 (Two colours)



### Five frame





Thank you  
Any questions?

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