



EYFS

Maths Parent Workshop

Thursday 18th January 2023

Maths Vision at Hazelwood



AT HAZELWOOD SCHOOLS, WE BELIEVE THAT MATHS IS AN ESSENTIAL PART OF EVERYDAY LIFE. LEARNING IS, THEREFORE, FOCUSED ON CHILDREN SECURING A STRONG CONCEPTUAL UNDERSTANDING OF MATHS AND DEVELOPING THE SKILLS AND SELF-CONFIDENCE REQUIRED TO APPLY THEIR MATHEMATICAL KNOWLEDGE TO CREATIVELY SOLVE PROBLEMS.

Nursery Curriculum



Autumn Term

Counting

- count to 5 by rote using actions and songs

Cardinality

- Sense of one and two items.
- Noticing Number (Birthday number, house number)
- Count on fingers

Pattern

- Daily routines
- Noticing patterns and arranging things in patterns
- Colour sorting

Shape

- Selecting appropriate shapes for building and stacking
- Matching shapes

Spatial Awareness

- Insert puzzles

Spring Term

Counting

- 1:1: counting up to 3 objects
- Saying numbers in correct order when counting object. (Stable order)

Cardinality (How many?)

- Matching some numbers to qualities
- Talk about number in environment (at school and home)
- Representing number to 5 on fingers

Comparison

- Recognising when quantity is the same
- Identifying which group has more, same, less

Pattern

- Simple sequence of events. (first next)
- Simple repeating patterns

Measures

- Comparisons between objects relating to length, size, weight, capacity

Shape

- Talk about and explore 2D and 3D shapes
- Spatial Awareness
- Positional language (linked to PE)
- Name some 2D shapes

Nursery Curriculum



Summer Term

Counting

- Count to 10 by rote using actions and songs
- 1:1: counting up to 5 objects
- count actions as well as objects up to 5

Cardinality (How many?)

- Subitise up to 3
- Match number 1-5 to quantities
- Knowing last number signify how many in a group

Comparison

- Using vocabulary more, less, fewer, the same

Pattern

- Correcting errors in simple patterns
- Recognising more complex patterns (AAB)

Measures

- Comparisons between objects rating to length, size, weight, capacity

Shape

- Using shapes appropriately in pictures
- Differences between shapes
- Name some 2D shapes



3 & 4-year-olds: Mathematics

- I can quickly recognise groups of up to 3 objects, without having to count them individually (*this is called 'subitising'*).
- I can say numbers in order past five.
- I can say one number for each item in order: 1,2,3,4,5.
- I know that the last number I reach when counting a small set of objects tells me how many there are in total (*this is called the 'cardinal principle'*).
- I can show 'finger numbers' up to 5.
- I can match the correct numeral (number symbol) to the right amount, up to 5, e.g. point to the number 3 when I count 3 snails.



DFE – “What to expect when” document
3&4 year old Maths Page 60-62

Reception Curriculum

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn term	Getting to know you		Match, sort and compare FREE TRIAL VIEW	Talk about measure and patterns VIEW	It's me 1, 2, 3 VIEW			Circles and triangles VIEW	1, 2, 3, 4, 5 VIEW		Shapes with 4 sides VIEW	
Spring term	Alive in 5 VIEW	Mass and capacity VIEW	Growing 6, 7, 8 VIEW	Length, height and time VIEW	Building 9 and 10 VIEW		Explore 3-D shapes VIEW					
Summer term	To 20 and beyond VIEW	How many now? VIEW	Manipulate, compose and decompose VIEW	Sharing and grouping VIEW	Visualise, build and map VIEW		Make connections VIEW	Consolidation				

Early Learning Goals

By the end of Reception, the children will be assessed on the following goals:

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.

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**.



Maths in Early Years

'Children must hold maths in their hands before they can hold it in their heads.'



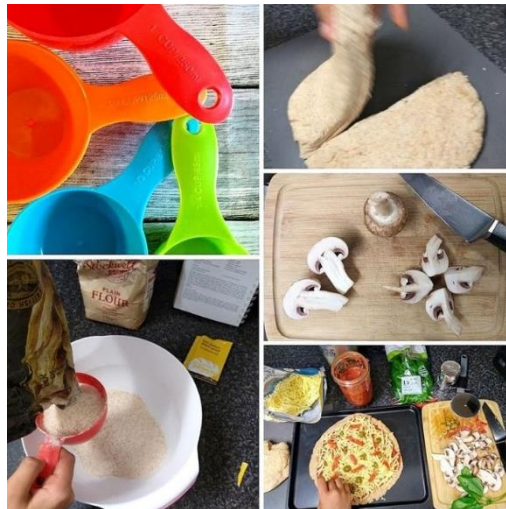
Maths is everywhere!



Shopping



Cooking



Mealtimes



Everyday activities and routines are rich in mathematical opportunities-it's about making these explicit for children and helping them to see where the maths is in real life!

Numbers



Numbers need to be real and meaningful to young children, so it's important to show them numbers in context.

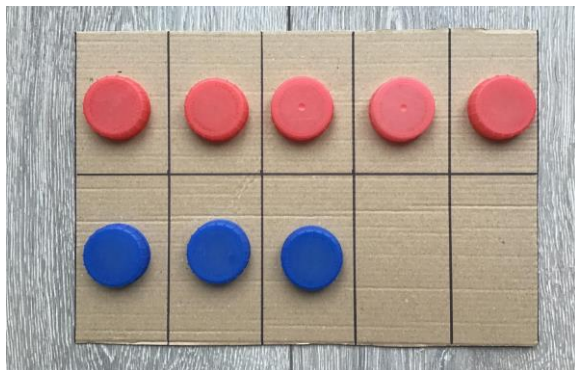
Children need real-life maths experiences and the chance to repeat them often. This is how they remember them.



Number sense



The cardinal value of a number refers to the quantity of things it represents: the 'how-many-ness', or 'three-ness' of three. When children understand the cardinality of numbers, they know what the numbers mean in terms of knowing how many things they refer to.



Early Maths Problems...



Pay close attention to Hazel counting this pile of pennies.
Can you note down what you see Hazel actually doing?

5 Counting Principles

1. One-to-One Correspondence Principle

Understanding that each object being counted must be given one count and only one count.

It is useful in the early stages for children to actually tag or move each item as it is counted.





5 Counting Principles

2. Stable Order Principle

Understanding that the counting sequence stays consistent. It is always 1, 2, 3, 4, 5, 6, 7, 8 etc., not 1, 2, 4, 5, 8.



5 Counting Principles

3. Cardinality Principle

Understanding that the last count of a group of objects represents how many are in the group.



5 Counting Principles

4. Abstract Principle

Understanding that it doesn't matter what you count, how we count stays the same.

For example, any set of objects can be counted as a set, regardless of whether they are the same colour, shape, size, etc.

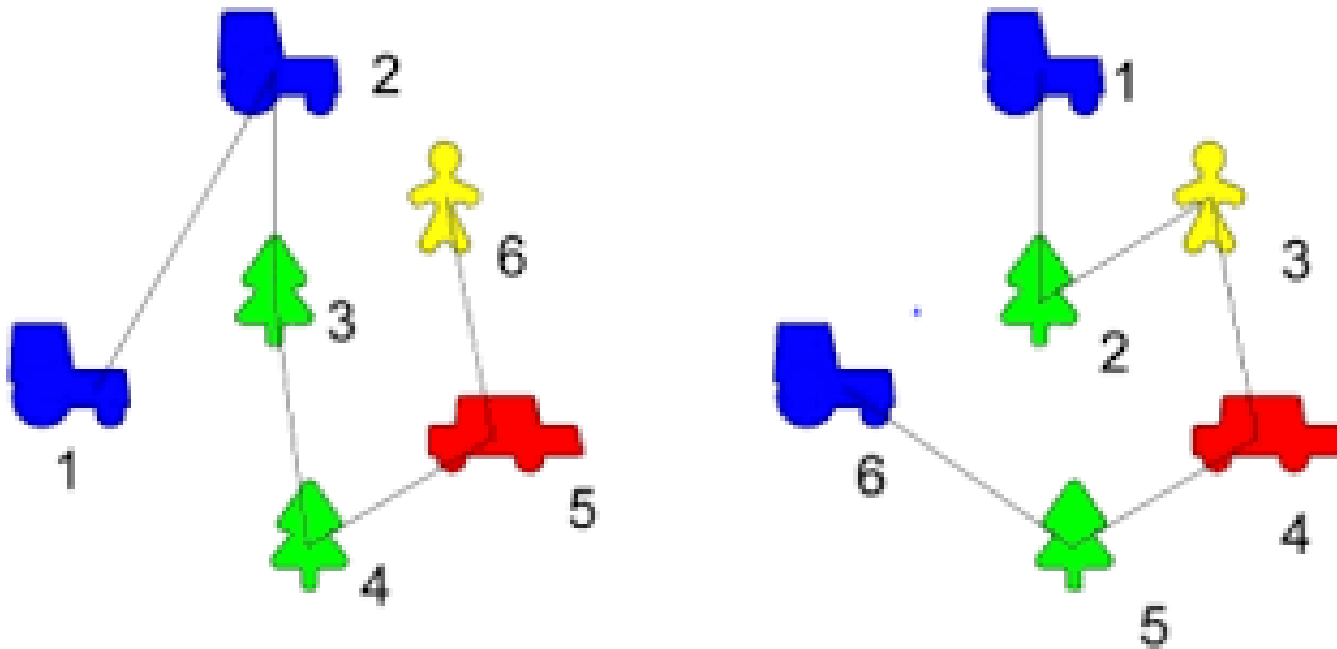
This can also include non-physical things such as sounds, imaginary objects, etc.



5 Counting Principles

5. Order Irrelevance

Knowledge that the order of items are counted in is irrelevant as long as every object in the set is given one count and only one count.



Counting accurately

When counting objects, encourage children to:

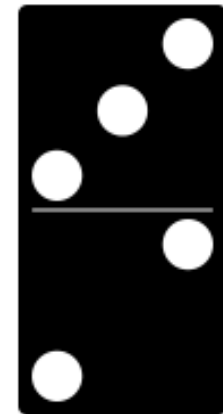
- point to and touch the objects,
- move them into lines,
- say one number for each object,
- check again to make sure!



Counting with playdough blobs is a great way to practise these skills.

Subitising

Looking at an amount and 'just knowing' how many there are without actually counting.

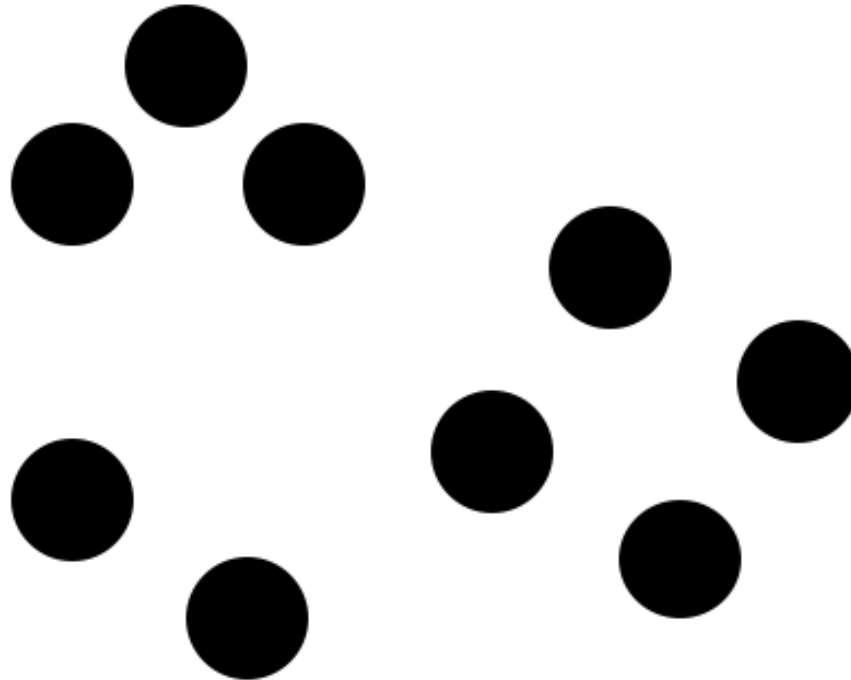


Subitising can also help children learn addition and subtraction facts.

Subitising

What do you see?

Subitising allows us to see small groups of objects without having to count them. This helps with calculations.



Estimating



Children often enjoy guessing, "How many are in the jar?" and then counting to see who is right. They get excited by big numbers!



How many objects in a jar?



How many sweets?



How many segments inside an orange?

One more, one less

‘Can I have one more?’ ‘Two more?’
‘Can you take one away?’ ‘Two away?’

Number rhymes are a great way to reinforce the concept of one less
and one more.

5 currant buns:
Taking one away

1 elephant went out to play:
Adding 1 more



One elephant

1 elephant went out to play
On a spider's web one day
He had such enormous fun
He asked another elephant to come.



2 elephants went out to play
On a spider's web one day
He had such enormous fun
He asked another elephant to come.



3 elephants went out to play
On a spider's web one day
He had such enormous fun
He asked another elephant to come.



4 elephants went out to play
On a spider's web one day
He had such enormous fun
He asked another elephant to come.



5 elephants went out to play
On a spider's web one day
He had such enormous fun
He asked another elephant to come.



Ways to represent a number

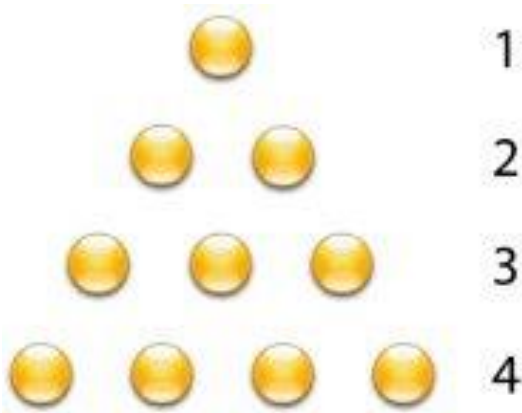
Numbers can be represented with:

- a set of objects,
- pictures,
- words,
- tally marks,
- written numerals,
- a ten frame,
- fingers,
- Numicon.



Patterns

Learning about patterns and connections will help children to make their own predictions and form logical connections. It's an important foundation for later mathematical thinking and reasoning.



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



Space, shapes and measures

capacity



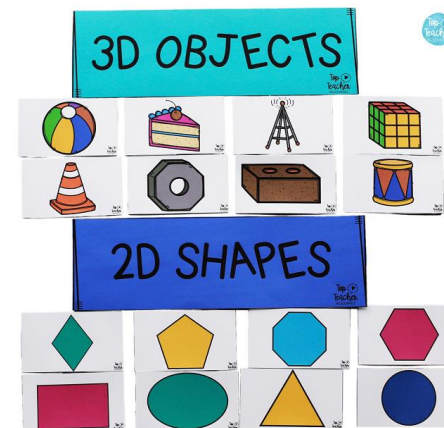
length



time



2D and 3D shapes

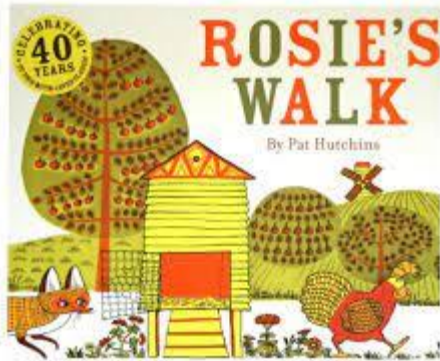


height



Positional language

Includes language such as: on top of, next to, behind, under, over, behind, beside between. It also can describe position in a line such as first, second, last etc.



Stories can reinforce positional language.

We're Going on a Bear Hunt
Michael Rosen Helen Oxenbury



When describing where something is in your home, use specific language e.g. 'It's next to the chair,' or 'It's between the sofa and the shelf.'

What Maths Looks Like in EYFS

Maths is everywhere!

In Nursery, children practise and develop their skills through daily routines such as counting their fruit at snack time and changing the calendar alongside biweekly adult led focuses.

Reception have a daily adult led carpet session. During these sessions, the children will complete activities which will lead to an adult led focus and optional Home Learning linked to that topic.

Our provision is changed daily to promote awe and wonder and enable to children to explore and learn through a variety of play and resources. You will find the children developing their maths skills independently within the provision. For example:

Role play

- Using 'real' items as part of play e.g. balance scales, clocks, egg timers.
- Recognising numerals in context e.g. on a telephone or a calendar.
- Use money in play.



What Maths Looks Like in EYFS

Play Dough

- Using language associated with shape as they manipulate dough.
- Talking about numbers and using in context e.g. adding candles to a birthday cake.
- Comparing shapes and sizes and making patterns.
- Comparing length and weight e.g. making a longer snake than the rolling pin.

Small World

- Using maths story books alongside supporting resources e.g. the very hungry caterpillar.
- Using a range of creature sets and sorting by species, size, markings/patterns, numbers in a set etc.
- Using numbers and numerals in context e.g. numbering vehicles and parking areas, creating tracks and road signs, making maps of zoo and numbering pens etc.



What Maths Looks Like in EYFS

Creative Area

- Making patterns by weaving, printing etc.
- Making their own 3D structures and showing understanding of shape e.g. using straws to create a pyramid shape.
- Using standard and non standard measures e.g. rulers, tape measures, pieces of string etc to measure the size of paper they need.

Water

- Sorting, counting and comparing objects e.g. finding items that float or sink.
- Exploring capacity e.g. counting how many pebbles were added to a small bucket of water before it spills out.
- Pouring water into a funnel to fill various containers.

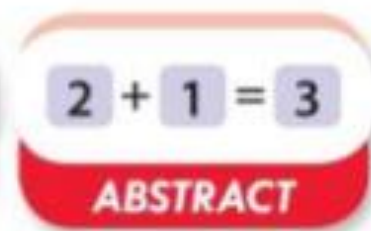
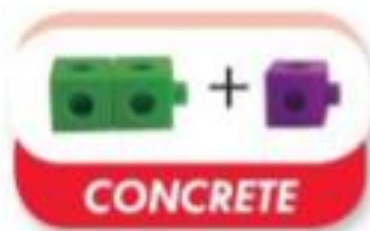


Maths at Hazelwood

Concrete - Use of manipulatives to understand the concept.

Pictorial - A visual representation which cements understanding from the concrete phase.

Abstract - Written understanding of concepts.



Concrete, Abstract and Pictorial

Although we've presented CPA as three distinct stages, it is important to go back and forth between each stage to reinforce concepts.



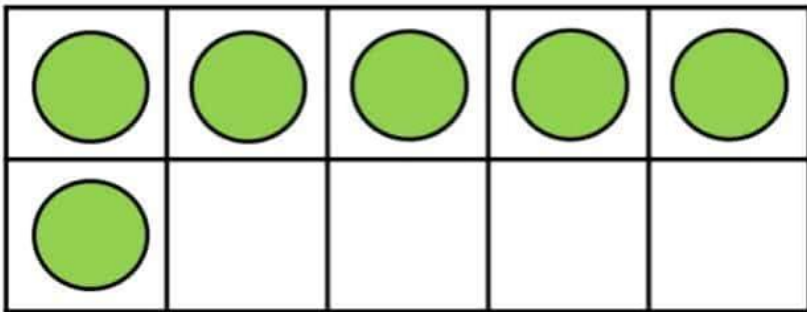
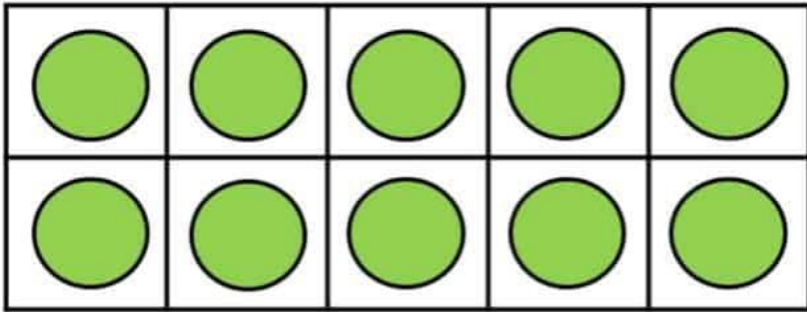
Metacognition

Examples of questions to promote metacognitive thinking include:

- How did you find out?
- Why do you think that?
- How do you know this?
- Can you show me?
- How do you prove this?
- Is there another way to solve this problem?



Parent Activities



Counting On

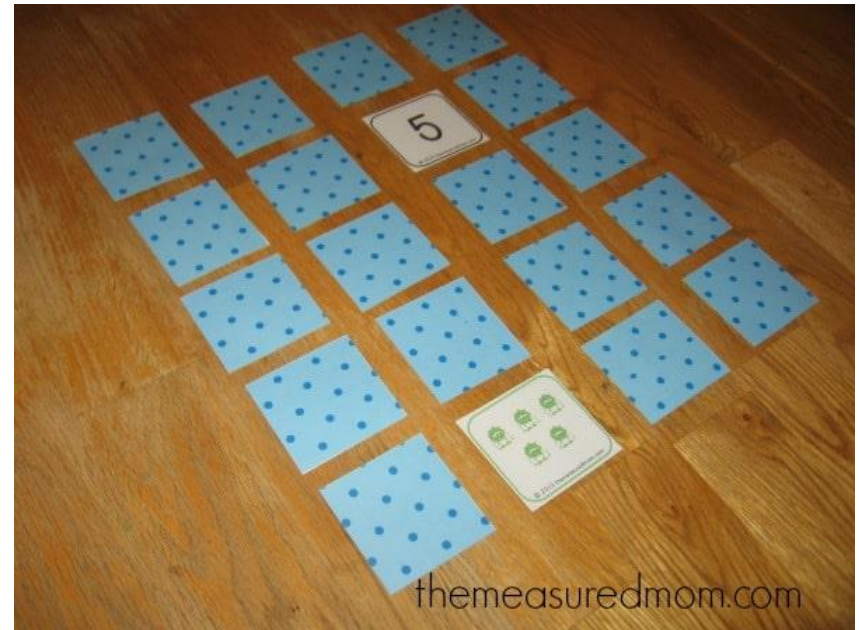
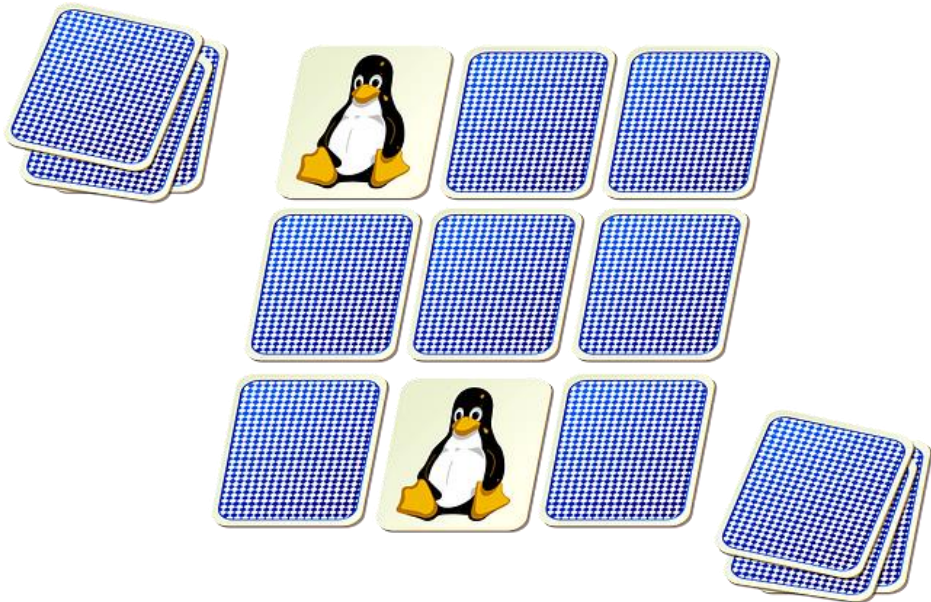
Using a dice and two tens frames, take it in turns to roll and place that many counters in your tens frame. The first to fill up their tens frame wins.



Parent Activities

Pairs

Place the cards face down. Each player takes it in turns to turn over two cards. If the cards match, that player keeps the cards. The player with the most cards at the end, wins.



Parent Activities



Making Repeating Patterns

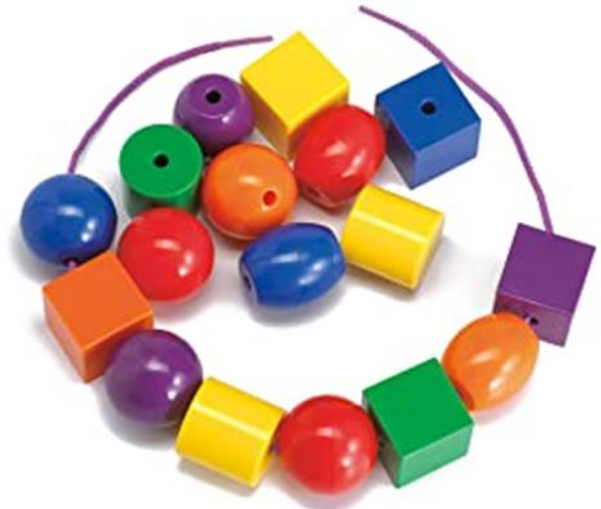
Can you make a repeating pattern using the shapes or beads?



Which colours have you used?

Which shapes have you used?

What do you think will come next in my pattern?



Parent Activities



Sorting

Sort these bears by colour,
then sort them by size.

As an extra challenge, see how
many bears each player can
move from one bowl to
another in 1 minute.



Parent Activities



Place one card down, the next player guesses if the next card will be higher or lower than the previous card.

Parent Activities



Teddy Bear Picnic

Give each toy a number of biscuits. Discuss with your child who has more or less.

Do they have the same?

How can you tell?



Parent Activities

Board Games

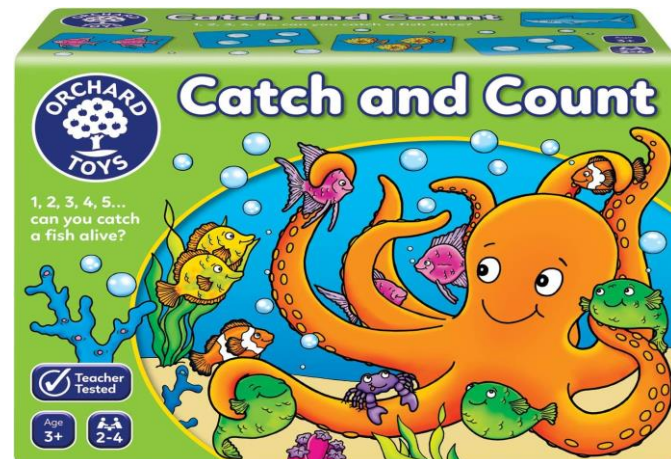
Snakes and Ladders -

Players take it in turns to roll the dice and move their counters the matching number of places. The first player to reach the end wins.



Catch and Count -

Players take it in turns to spin the octopus spinner to see how many fish they can catch. The player at the end with the most fish wins.



Parent Activities

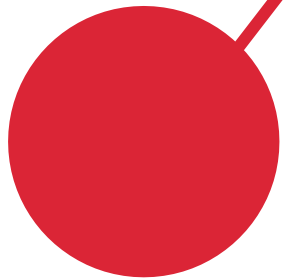


Whole



Part-Part-Whole

Take 6 coloured counters. Throw them on your table and create as many different number bond diagrams.



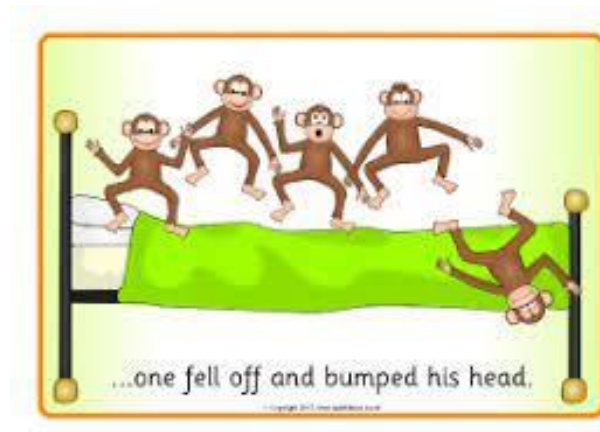
Part

Part

Parent Activities - Rhymes

As the children get a little older, introduce some rhymes that use numbers 1-3, or 1-5:

- Five Little Speckled Frogs
- Five Aliens in a Flying Saucer
- Five Little Monkeys Jumping on the Bed
- Five in a Bed (increase to 10 as children develop)



Parent Activities - Playdough

- Choose a number card or roll a dice
- Make that many balls
- Squash that many balls

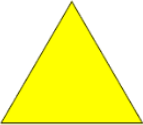
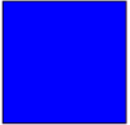
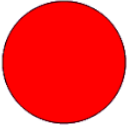
Or

- make 10 balls
- Squash the amount on the dice



Additional Maths Activities



- Number and Shape Hunt
- Missing Numbers 1_ 3_ _ 6
- Spot the Difference
- Comparing - More/Less, Bigger/Smaller
- True or False 1... is more that 3? Prove it!
- Odd One Out   
- Calendar and Days of the Week

How Can You Support at Home

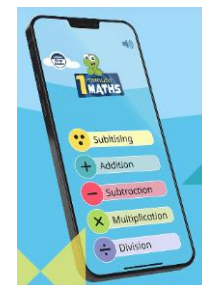
[Numberblocks](#)

Numberblocks is a pre-school BBC television series aimed at introducing children to early number and can really help support early mathematical learning.



[1-Minute White Rose App](#)

1-Minute Maths is a free app aimed at EYFS and KS1 children to help build greater confidence with their number and fluency skills. The app aims to support children in recognising a small number of items without counting them (subitising) and the four calculations of addition, subtraction, multiplication and division.



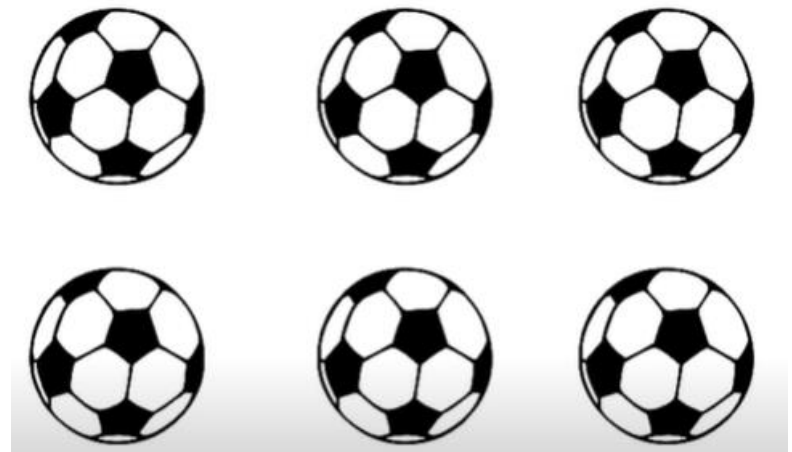
How Can You Support at Home

Subitising is when you are able to look at a group of objects and realise how many there are without counting.



Jack Hartman videos and songs to support understanding on Youtube.

Activities and videos to support fluency when subitising



Thank you very much for listening!

