Glasgow Counts in our Playrooms

THE SCOTTISH ATTAINMENT CHALLENGE
LITERACY NUMERACY
HEALTH & WELLBEING

Glasgow's Improvement Challenge
Unlocking Learning

Professional Learning gtc SCOTLAND 2018 EXCELLENCE AWARD

Awareness of Number Part 2:

Mathematical Storytelling

2022/2023

Aims

To explore subitising and the five principles of counting in more depth.

To explore the remaining aspects of Awareness of Number

To familiarise ourselves with the Glasgow Outdoors resource.

To identify mathematical stories and rhymes (including Digital Enhancements) and engage in collaborative planning.

To familiarise ourselves with mathematical mark making

Moving forward

What resources do you have? (audit)

Consider staff capacity

Own confidence

Children's/Staff's needs

Inspirational Moment

Audit/Evaluation Tool

Early Years Numeracy Rich Learning Environment Toolkit

Numeracy Rich Environments

Children's numeracy and mathematical learning can thrive when surrounded by attuned adults and enabling environments that are rich and diverse in opportunities for developing understanding of number, numeral recognition, counting, sorting, patterning, measuring and problem solving. A numeracy rich environment emphasises the importance of using **interactions, experiences** and **spaces** effectively to facilitate high quality numeracy and mathematical opportunities.

Practitioners in high quality provision:

- *highly value and promote child-initiated experiences and provide spaces to capitalise on children's interests and motivation.*
- *tune in to child-initiated activity and sensitively intervene to extend children's inquiry, problem solving and thinking skills.*
- *extend learning based on an understanding of developmental stage and interests, rather than providing adult directed activities that have little meaning for children.*
- *enable children to lead their own learning, including planning projects and solving their own problems.*

Realising the Ambition (2020), p.83

Using the Toolkit

- This Numeracy Rich Environment Toolkit can be used to help you and/or your team evaluate the experiences, interactions and spaces within your establishment.
- Use your evaluation to plan for identified areas of development.
- This toolkit is not intended to be used in its entirety at the one time, rather to focus on one or more concepts of numeracy and mathematics. This may be linked to an improvement plan outcome or development need you have identified. For example, if you are focusing on developing counting skills, you may first use the awareness of number pages to identify where you are and how you know, then plan next steps or actions in order to improve the interactions, experiences and/or spaces for counting within your establishment.

1

Five Principles of counting

Re-cap Five Principles of counting

Stable Order

When counting objects understands the order in which we say the numbers is always the same

1 – to –1 correspondence

Touch counts one item when each number word is said

Cardinal

When counting objects understands that the number name of the last object counted is the name given to the total number of objects in a set

Order Irrelevance

When counting objects understands that the number of objects is not affected by position

Abstract

Counts anything e.g. objects at a distance/in a book/sounds/claps within 0-10

Counting Organiser-
5 Principles of Counting

Stable Order

Numbers are recited
in the right order.
(Can be forward or backwards.

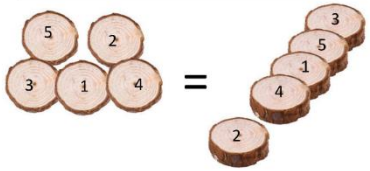
1:1 Correspondence

Each object is counted only once.

Cardinality

The last number you say is the amount.

Order Irrelevance



The order you count the objects in does not matter.
(As long as you only count each object once!)

Abstraction

You can count anything: sounds,
jumps, children....

Stable Order

Watch

One to One Principle

Watch

Cardinal Principle

Watch

Order Irrelevance Principle

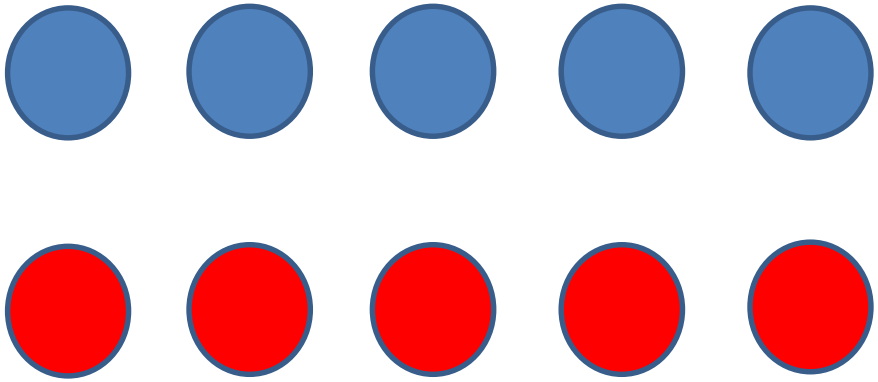
Watch

Abstraction Principle

Watch

Conservation

Counts objects in a set recognising that the appearance of the objects has no effect on the overall total within 0-10 (conservation)



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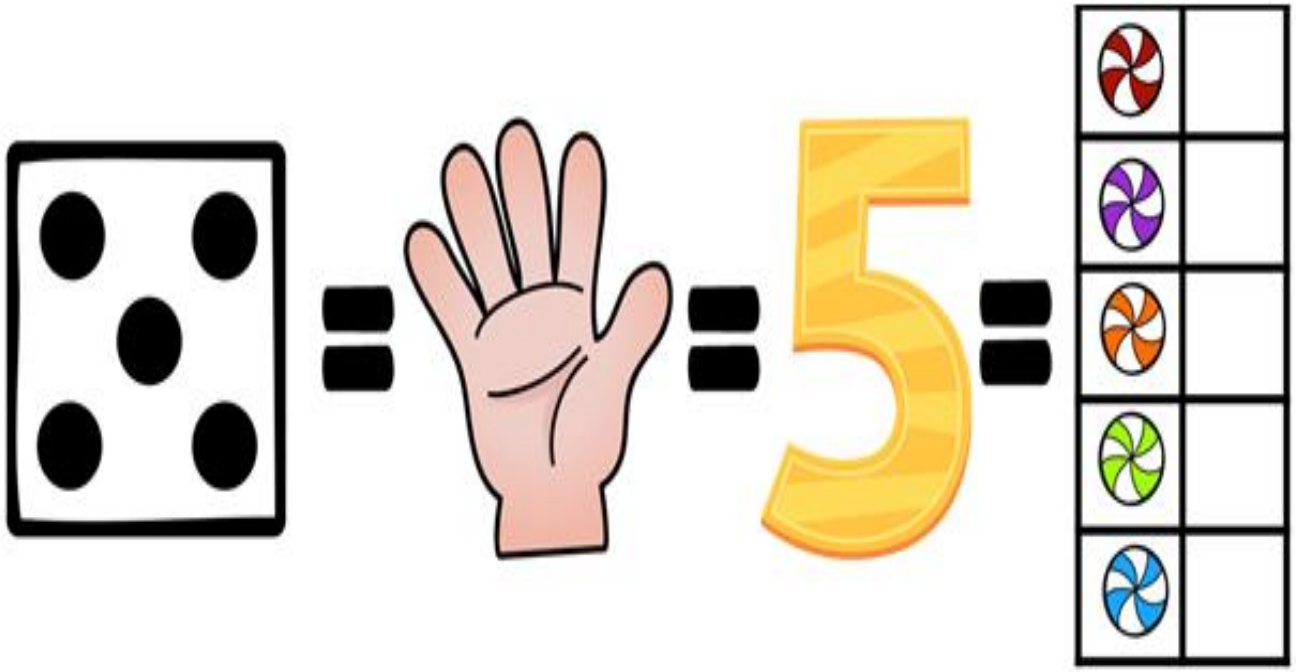
Subitising



The ability to see how many without counting

Comes from the Latin word meaning ‘suddenly’

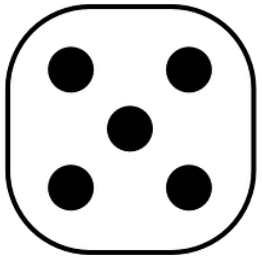
Very young babies can tell the difference between groups of dots

What is subitising?

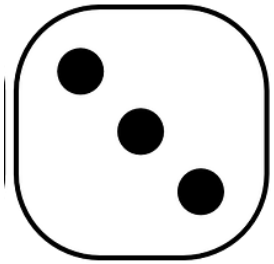
Young children have powerful visual memories

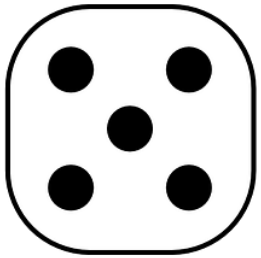
Subitising helps children build images for numbers, to visualise and to learn number facts

Essential part of developing number sense

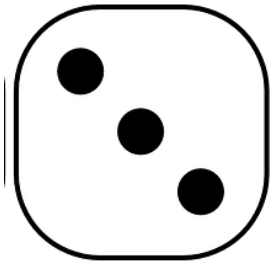


Perceptual subitising

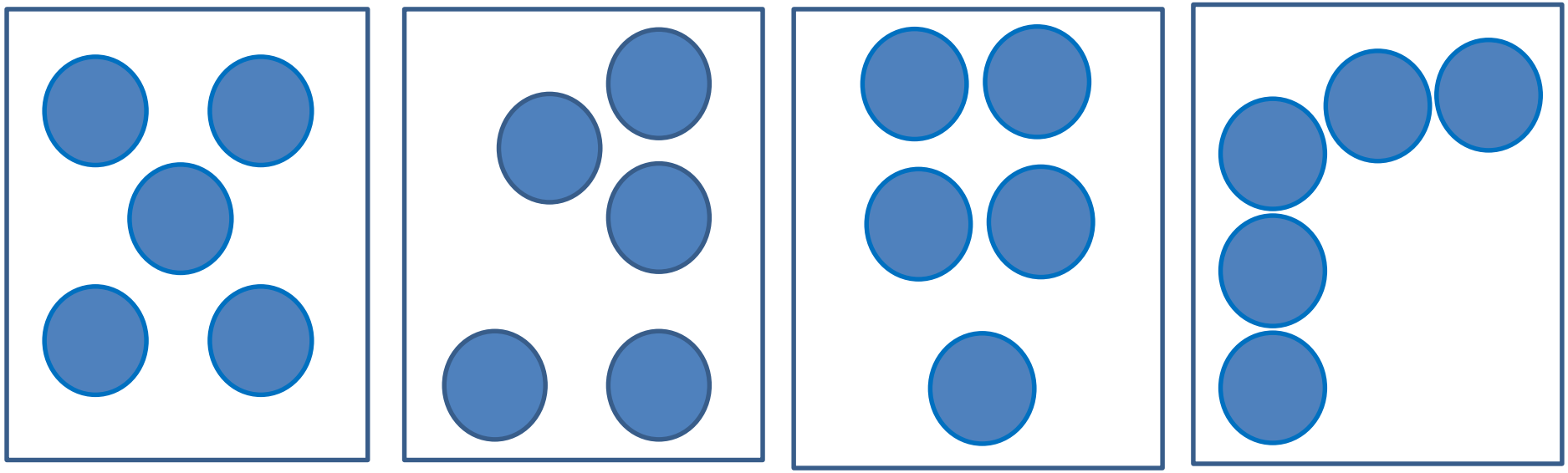




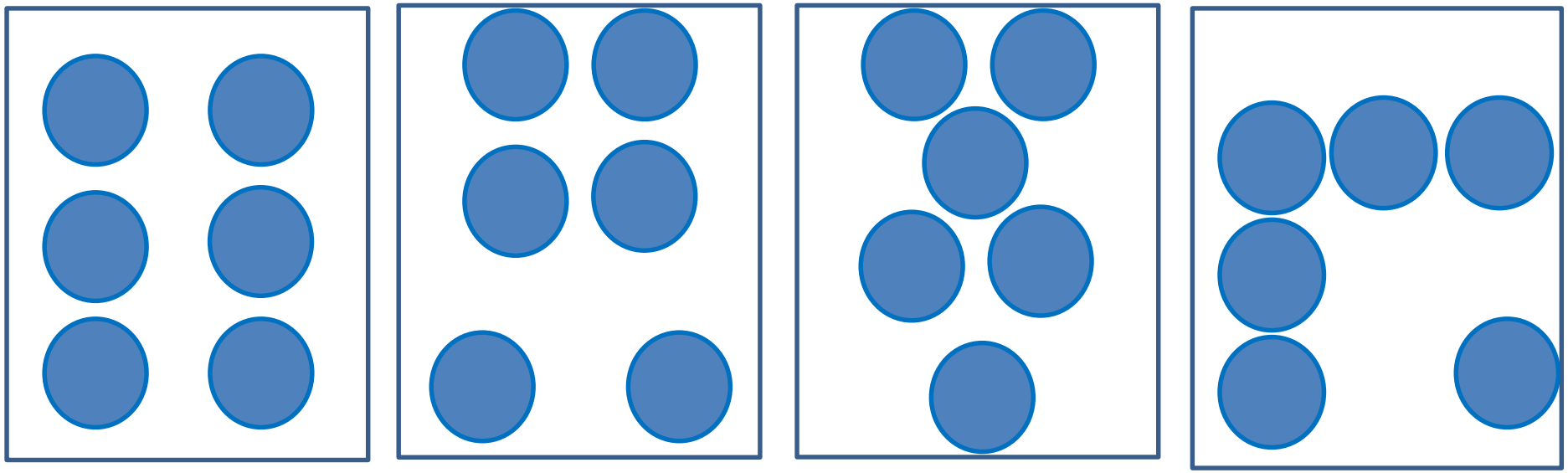
Conceptual subitising



Conceptual Subitising

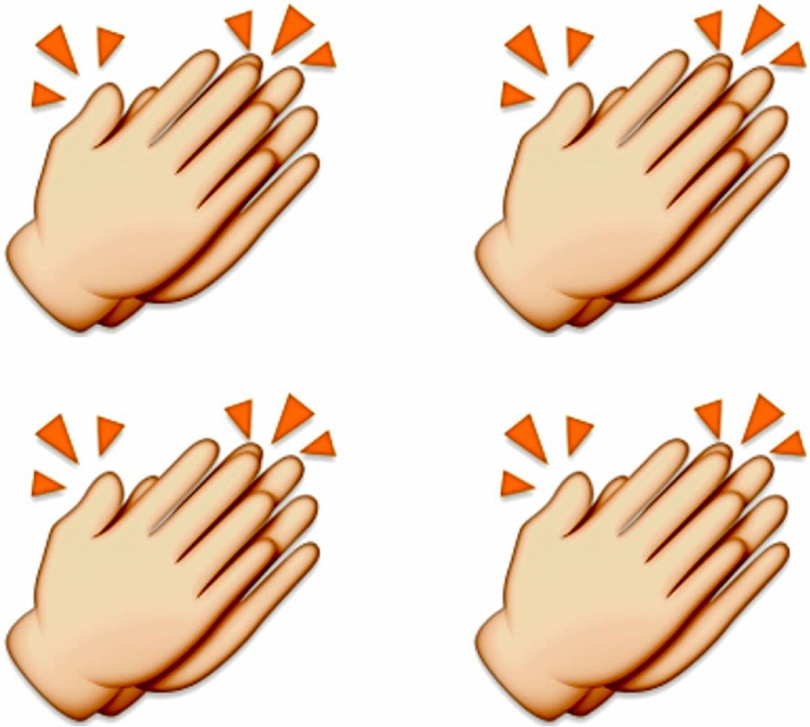


Conceptual Subitising



Making Auditory patterns

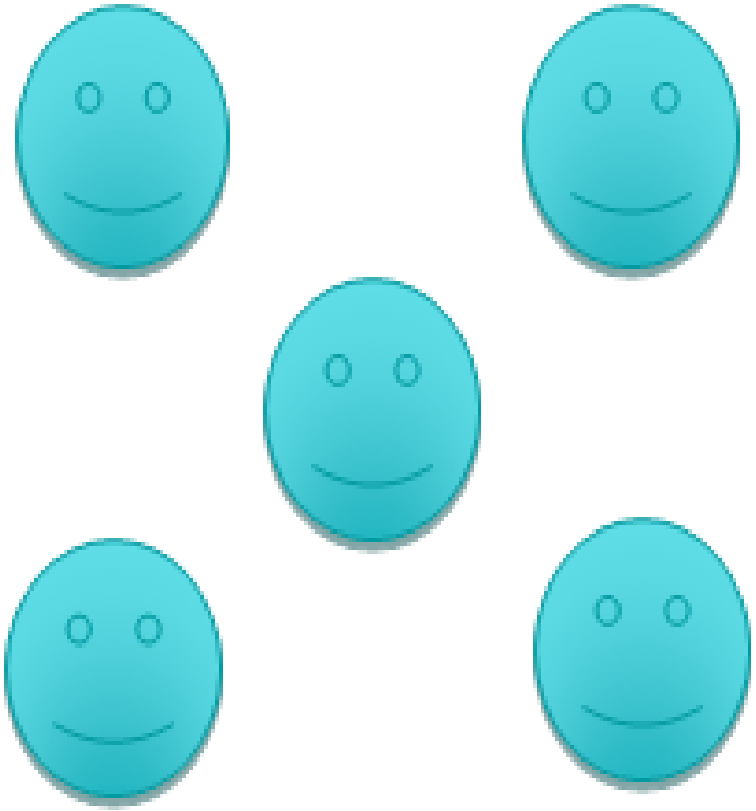
Sound to represent the number... Clap out the five pattern in the air with your hands.



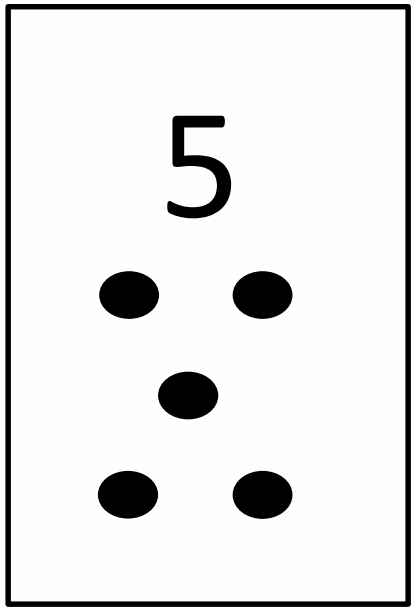
Making Auditory patterns

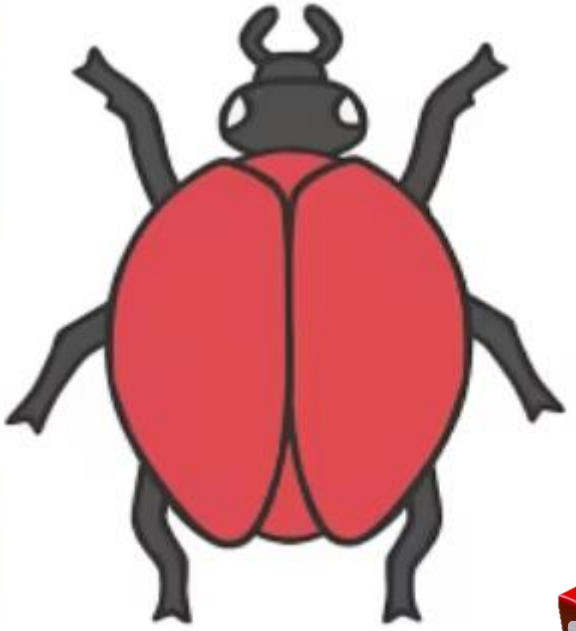
Making Spatio-motor Patterns

Actions to represent the number... Point out the five pattern in the air with your finger.



Counting and Subitising

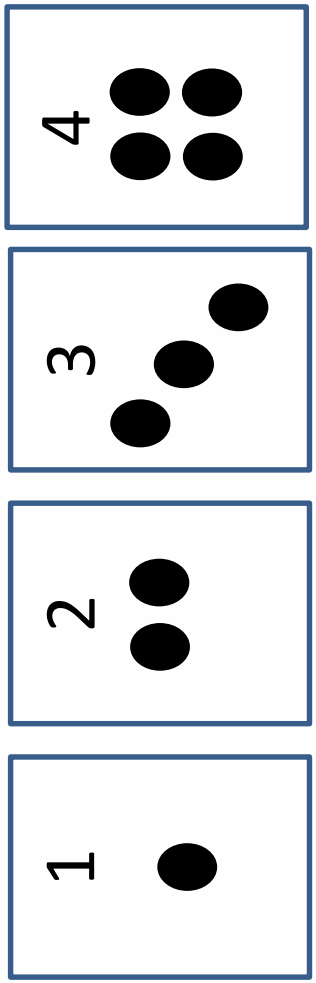




Counting and Subitising

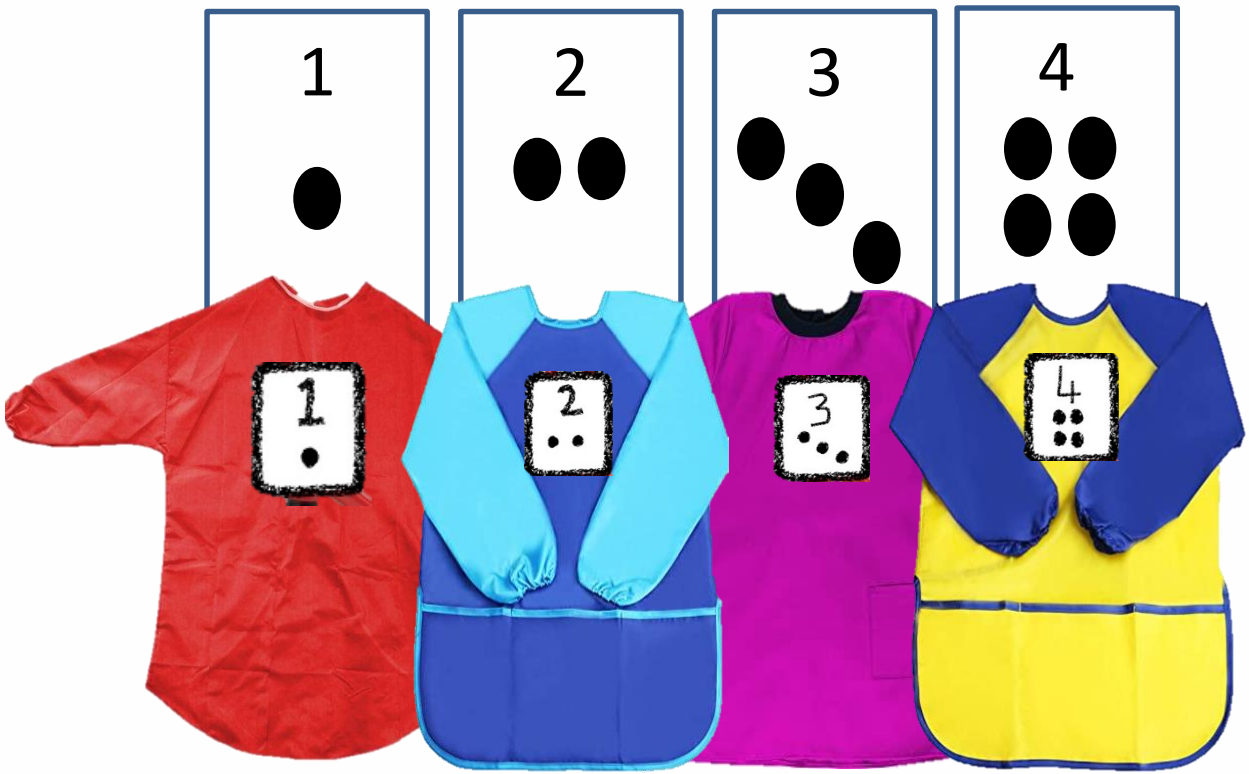
Counting and Subitising

Bike parking

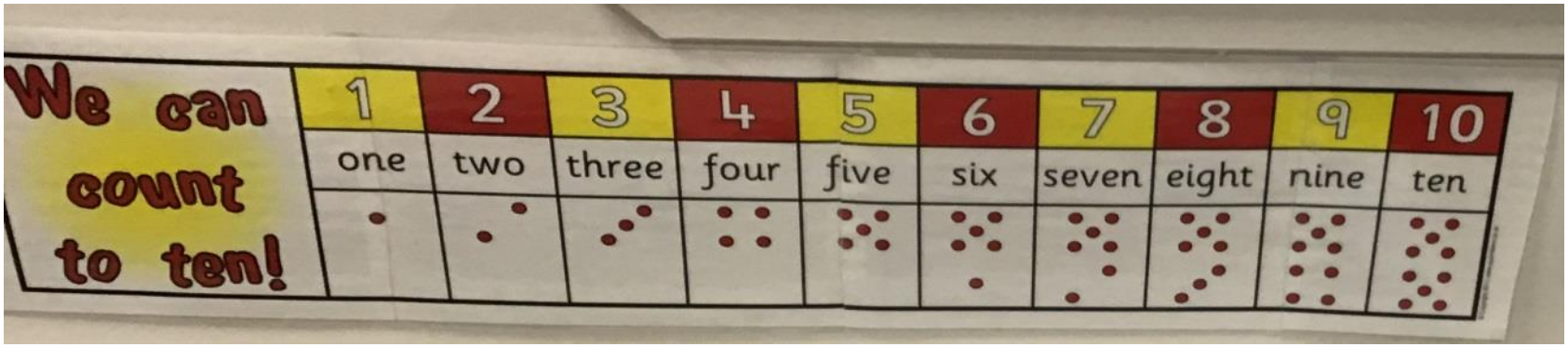


Counting and Subitising

Aprons

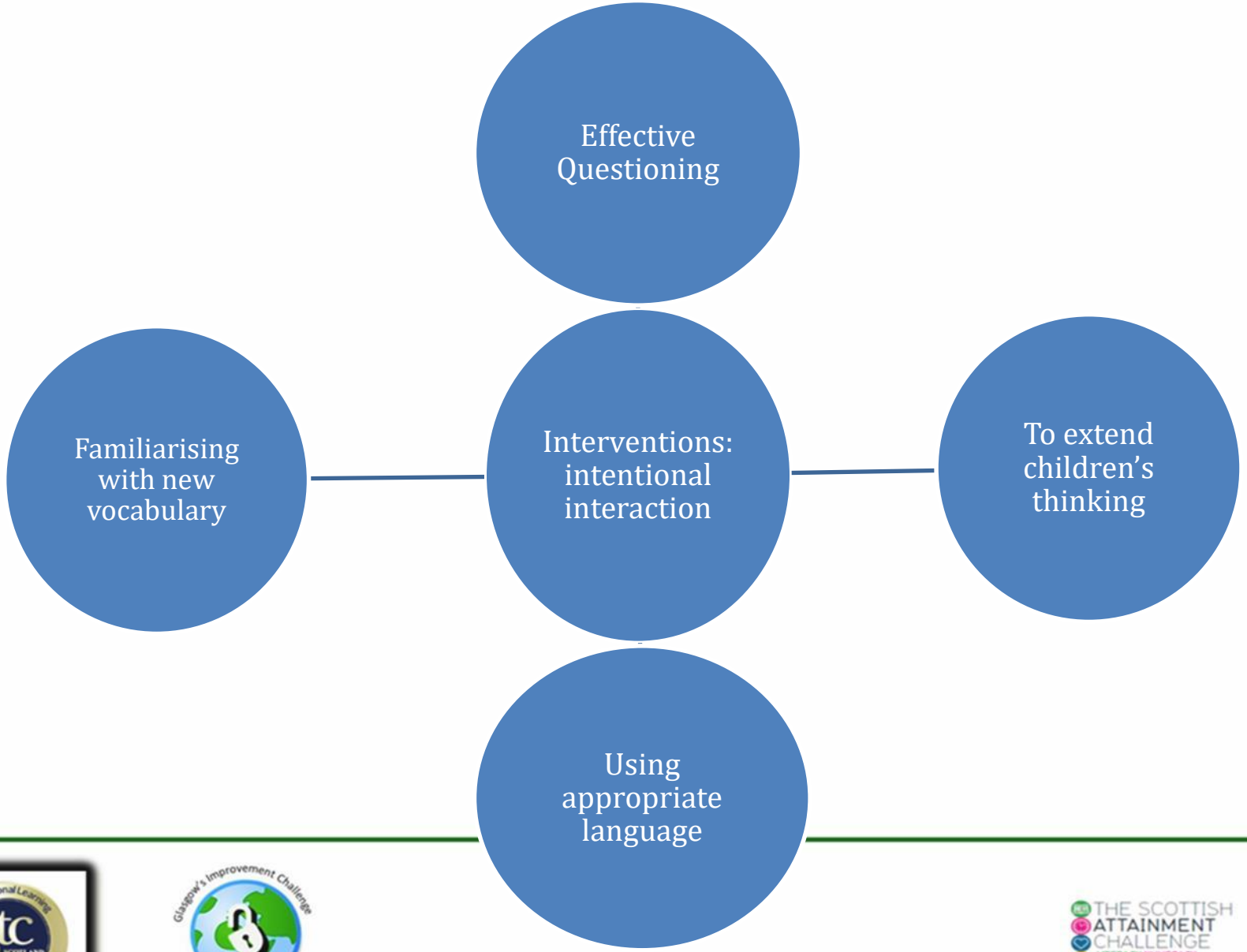


Counting and Subitising



'Adults must learn to recognise whether it is appropriate to intervene in children's play, taking account of what children are doing and why.'

Mathematics in Early Years Education
Smith and Price, 2012. p42


Effective Questioning
Familiarising with new vocabulary
Interventions: intentional interaction
To extend children's thinking
Using appropriate language

TEA BREAK…

Counting and Subitising

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S1.1-3

Subitising Fun

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: *To identify how many dots there are by looking at regular dot patterns on dice using perceptual subitising.*

Suggested Experiences and Interactions:

- Subitise Race - The aim of the game is to be the first to reach the target. Create a start and finish line using chalk, sticks, stones etc. Alternatively, invite the children to draw one. Using a large dice, encourage each child to take a turn to roll the die. The group of children use their subitising skills to identify the amount shown.

  "***How many dots can you see?"*** ***"Let's count together and check."***

  Each child then jumps the quantity they rolled towards the finish line. The first to the finish line is the winner.
- What's the time Mr Wolf? - This game is based on the traditional version of 'What's the time Mr Wolf?' with the difference being the 'wolf' shows a dice instead of shouting out a number. The group of children identify the steps to be taken by using their subitising skills, reading the amount from the dot arrangement on the dice.

  "Tell me what you see" ***"Could you show me that number using your fingers?"***

  The children proceed to take the amount of steps until the wolf announces, 'dinner time'**.**
- Subitising Scavenger Hunt Race - Using a selection of outdoor materials e.g. stones, sticks, leaves etc. demonstrate rolling the die and gathering objects as an example. Children take turns to pick an object e.g. a leaf, and rolls the dice:

  "What did you roll?" ***"How many have we to find?"***

  Once the child identifies the number all the children race to find the required amount of the item. On return children can lay out their items or even place them on the dots of the dice to check they have the correct amount. The winner is the first to return with the correct total.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- A large dice
- A range of natural materials e.g. stones, sticks, leaves etc.
- Chalk

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S1.2-3

Jumping Track with Subitising Spinners

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: *To create regular dot patterns and identify quantities using perceptual subitising skills*

Suggested Experience and Interactions:

- This game requires children to make, with support, their own subitising spinners which can be attached to a lanyard (or stick). Seek opportunities to discuss the sequence of numbers as the children stick numerals on the spinner:
  "***Which number comes first, next?"*** etc.
- Once the numerals are attached invite the children to draw dots or use dot stickers to match the corresponding numbers.
  "How will you arrange the dots to show number 2?
  "Look at how they are set out on the dice, do you want to copy the dice pattern?"
  "Where else do we see this same dot pattern?" "Let's find 2 on the dominoes...is it the same?
  "We call this a regular dot pattern because we see it a lot and that is why it's easier for us to recognise?"
  "Can you show me 2 with your fingers?"
- Continue this exploration of dot/finger patterns. Once the spinners are complete, they can be used to play the game.
- Use chalk to draw a track on the ground. Invite a child to spin their spinner and jump the corresponding jumps along the track. This game gives children repeated opportunities to interpret the dot images. Encourage the children to 'see the dots' and not count them individually with their counting finger (hide your counting finger behind your back).
- To extend the experience, spin the spinner and the number it shows is the number of leaves the children must run and collect and place on the spinner etc.

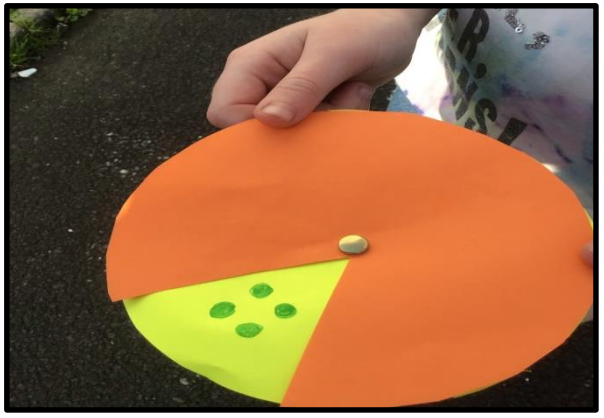
Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Card circles
- Sticky dots or felt tip pens
- Sticky numbers,
- Cardboard spinner and fastener
- Lanyard
- Large dot dice,
- Dominoes
- Chalk

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle



Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S1.3-3

Locks and Keys

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: To identify how many dots there are using perceptual subitising by looking at regular *dot patterns and know its value by matching it to a numeral.*

Suggested Experience and Interactions:

- Secure padlocks to something suitable in the outdoor space e.g. fence, gate, wood block.
- Encourage children to subitise the arrays on the keyrings, the children must match to the padlock with the corresponding numeral in order to open it. Encourage children to:

  "Count with your eyes."

  "How many dots can you see?"
- Draw attention to the array on the dice, ask children to show amounts using their fingers. Perhaps having a number line with dot patterns and numerals within your outdoor space could offer support to individuals if required. Encourage the children to check their subitising by counting.
- This type of experience helps children develop visual number memory.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Wooden block/ fence/ gate to attach padlocks
- Keyrings with arrays,
- Padlocks of varying sizes,
- Dice
- Number line with numeral and dot patterns

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle
- Identifying numerals

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S2.1-2

Subitising Fun

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Aim: *To use conceptual subitising skills to identify irregular dot patterns.*

Suggested Experience and Interactions:

- Once children can subitise in regular dot patterns, progress on to irregular dot patterns. Invite children to match the quantities shown by the dots on one half of the domino to the same quantity on another domino, which is arranged in an irregular dot pattern. This will encourage subitising of quantities rather than memorising dot patterns.

  "How many different arrays can you see for 2?" ***"How are they different?"***

  "Is one of them easier to count?" ***"Why do you think that is?"***

  "Which one is your favourite?" ***"Why is that?"***

  "Can you see any hidden numbers inside 2?"

  "I wonder how many different ways you can make 2 with your fingers?"
- Playing this game outdoors will give the children increased floor space they may not be able to achieve inside.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Irregular array domino cards

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S2.2-2

Hide and Reveal

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: *To provide opportunities to use and develop their subitising skills.*

Suggested Experience and Interactions:

- Ask children to cover their eyes while the game is set up.
- Place 1 object on the ground and cover it with a bowl then place 2 objects on the ground and cover them with another bowl and finally place 3 objects on the ground and cover with a bowl in an irregular dot pattern.
- Ask the children to open their eyes and explain you have hidden jewels under each bowl and you are going to show /reveal to them what is under each bowl.
- Quickly lift and replace one bowl;

  "Can you tell me how many jewels were under the bowl?"

  "How did you know there were 3?"

  "I am going to mix the bowls up, let's see if you can still find 3"
- Encourage the children to create the dice dot patterns themselves with the jewels, using the dice as a visual to support.
- Extend this game by using 4, 5 and 6 jewels.
- Use two colours of jewels and see if children can say how many there are of each colour.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- A range of natural materials e.g. stones, sticks, leaves etc.
- Several matching bowls
- A dice

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S3.1-4

Show Me

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: T*o create regular dot patterns and identify the quantities using subitising skills.*

Suggested Experience and Interactions:

- Offer children a selection of resources and challenge them to represent an amount using as many different resources as they can. Invite a child to roll a dice and establish the amount to be represented (having several dice will avoid waiting time). Hold up a dotted dice (showing 5) and 5 fingers and discuss how your fingers and the dice both show 5 but look different.
  " I wonder if we could make another 5 with the pinecones…."
  "Does that look the same as my fingers or the dice?"
  "It looks different, but it is the same amount...5"
- Children roll the dice and use a selection of resources to make several representations of an amount. Discuss the different arrangements made with the children.;
  "How does this 4 look different to that 4?" "Tell me what you see"
  "Do you think putting the 4 stones in a line makes it look more or less than the dice 4"?"
  "I wonder why…"
  "How do you know they are both 4?"
- Composition of numbers : ***"***
  "Can you show me 4 fingers in a different way/using two hands, can you make a different pattern with the 4 stones?"
  "Can you see any numbers hidden inside this pattern of 4?"
  Children can use chalk/paint to record their favourite pattern(s) and to show the numbers hidden inside eg. 4.- 3 and 1, 2 and 2, 1 and 3
  "The same number (quantity) can be shown in lots of different ways"
  "The same amount can look different – more/less but is the same quantity"
  "Numbers are made up of other numbers (hiding inside them)"
- Extend this experience by exploring larger numbers when the children are secure within 6. Larger numbers require to be broken down for us to subitise beyond 6.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Large dice
- Large number cards
- Irregular subitising cards
- Stones, pinecones, leaves, sticks,
- Chalk,
- Dominoes,
- Number line, 5/10 frames, outdoor abacus, subitising stones

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle, conservation
- Addition

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S3.2-4

Dominoes

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: *To create regular dot patterns and identify the quantities using subitising skills.*

Suggested Experience and Interactions:

- Discuss the game of dominoes, looking closely at the dominoes;
  "Look each domino has two halves. Each half has its own number shown by dots (arrays)"
  "I can see 4 on this side, what can you see on that side?"
  Reinforce that we '*count with our eyes*' to subitise. Using dominoes invite children to match the dot patterns.
- Encourage and support children to chalk their own dominoes in an outdoor space. Then invite children to match real dominoes to the chalked dominoes. Encourage children to subitise the number of dots in one half of the domino and hold that number in their head, then 'count on' using the dots on the other half of the domino to find the total. Use fingers to support subitising and explore other ways to show a number.
- This experience could be extended by using two dice. Roll the dice and find the total e.g. 5. Encourage children to look for the corresponding domino pattern and establish that this equals the same total. The children can then search for dominoes with different arrays that add up to 5. This may offer an opportunity to explore and talk about the number stories for 5, addition and subtraction and the link between them.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Dominoes
- Chalk
- Dice

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle
- Fractions
- Addition

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S3.3-4

Hopscotch

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: *To identify different arrangements and match them by amounts to numerals.*

Suggested Experience and Interactions:

- Chalk out a hopscotch grid using numbers. Encourage children to say the numbers out loud as they hop on each square, counting forward and back. Using wooden discs with arrays, invite a child to choose a disc and encourage them to 'count with your eyes';

  "How many dots can you see on your disk?"

  "What can you see? I can see one dot there and 2 dots there so I can see 3 all together"

  Invite the child to place the disk on the corresponding number. Use fingers to show the array and explore other ways to make the total.
- Alternatively, children could find natural objects e.g. stones, leaves etc. and place the correct quantities in each square of the hopscotch grid.

  "Can you show me on your fingers how many leaves we need for this box?"
- Arrays could be chalked on the hopscotch grid instead of the numbers.
- To extend this experience use irregular arrays for children who are confident with regular array patterns.
- Further learning opportunities include:
  - inviting children to find the number before/after/between or a missing number which has been covered up.
  - encouraging children to jump on the number which is one more than/one less than.
  - inviting children to design their own hopscotch grid.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Chalk,
- Wooden discs with arrays
- A range of natural items for children to access e.g. leaves, stones, sticks

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle
- Numeral recognition and identification
- Addition and subtraction

Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6	Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6

S3.4-4

10 Frames

Subitising is an essential part of developing number sense. By looking at a group of items, children can start to develop an understanding of how a number is made up. There are two types of subitising, perceptual subitising, where you can instantly recognise the number of objects or items in front of you without counting, and conceptual subitising, which allows you to use recognisable patterns to help you get that same instant recognition without having to count.

Aim: *To identify different arrangements and match them by amounts to numerals.*

Suggested Experience and Interactions:

- Discuss what a ten frame is and how it gets its name;
  "Can you see it has two rows?"
  "How many boxes are in the top row?/bottom row?"
  "5 and 5 make 10 ." *etc.*
  Show numbers with your fingers at every opportunity. If children are not familiar with ten frames, use a five frame.
- Using sticks (or masking tape) make a large ten frame in your outdoor space. Invite children go on a treasure hunt to find a selection of natural objects. With the children explore different number patterns e.g. ***"Let's put 3 objects on the top row, one per box…let's count together."***
  "Now put 3 objects on the bottom row."
  "Using your subitising skills, how many do we have all together?"
  "If we space out the objects what happens?"
  "**Do we still have 3 in each row, still have the same total?"**
- Exploring ways to make 3 - 2+1, 1+2, 1+1+1. With the children model and explore different ways to arrange these 6 objects on the 10 frame – 5+1, 4+2, 3+3, 2+4, 1+5. Observe if they can spot a pattern in the numbers? As one row decreases the other row increases.
- Invite children to make their own ten frame with sticks and natural objects. Encourage them to place and subitise objects. With practice children will become familiar with the patterns e.g. 4 can be; almost all of the top row filled, two top and two bottom, three top and one bottom etc.
  "If 4 almost fills the top row, how many more to make 5?"
  " So 4 add 1 more makes 5 and 5 take away 1 makes 4" etc.

Language: How many, dots, patterns, objects, dice, domino, five frame, ten frame, array, tell me what you see

Resources:

- Chalk,
- wooden discs with arrays
- A range of natural items for children to access e.g. leaves, stones , sticks

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle, abstraction principle, conservation
- Addition and subtraction

Awareness of Number

- Number Word Sequences
- Numerals
- Place Value

Early Level Tracker 1

Estimation & Rounding		Knows they can check estimates by counting within 0-10		Can apply subitising skills to estimate the number of items in a set			Uses the language of estimation, including more than, less than, fewer than and the same	
Awareness of Number – Counting, Quantities & Number Structure	No. word sequences	Say short forward and backward number word sequences within 0-10		Uses ordinal numbers in real life contexts e.g. I am first/second/third in the line'			Recalls the number sequence forwards and backwards within 0-10	
	Numerals	Recognise numerals e.g. points to the number from 0-10	Identify (name) numerals e.g. can respond to question 'what is that number?' from 0-10	Explains zero is represented as 0	Orders numerals forwards and backwards within 0-10		Identifies number before, after and missing numbers in a sequence within 0-10; beginning to use the language before, after and in-between	
	Subitising	Identifies 'how many?' in regular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6		Identifies 'how many?' in irregular dot patterns e.g. dot arrangement/on fingers/five frames/10 frames/dice without counting up to 6			Represents amounts in different arrangements e.g.dot arrangement/on fingers/five frames/ 10 frames/dice without counting up to 6	
	Counting	When counting objects understands the order in which we say the numbers is always the same (stable order)	Touch counts one item when each number word is said (1-to-1 correspondence)	When counting objects understands that the number name of the last object counted is the name given to the total number of objects in a set (cardinal principle)	When counting objects understands that the number of objects is not affected by position (order irrelevance)		Counts objects in a set recognising that the appearance of the objects has no effect on the overall total within 0-10 (conservation)	Counts anything e.g. objects at a distance/in a book/sounds/claps within 0-10 (abstract principle)
	Place Value	Explains that zero means there is none of a particular quantity			Partitions quantities to 10 into 2 or more parts and recognises that this does not affect the total e.g. 6 as 3 and 3/2 and 2 and 2			
Addition and Subtraction		Sorts & classifies objects using quantity as an attribute e.g. sets of 1, 2 within 0-10	Compares 2 sets to decide which has the fewest/most within 0-10	Finds the total when 1,2 or 3 is added to an existing amount e.g. a number line or height chart (augmentation)	Finds the total when 2 sets are added together within 0-10 (aggregation)	Finds out how many are left when 1 or 2 are taken away within 0-10	Compares to find the difference between sets as a quantity within 0-10	Beginning to count on and back in ones to add and subtract with objects or number line within 0-10
Multiplication and Division		Shares out a group of items into 2 equal sets within 0-10. Groups objects into matching or natural sets of 2 e.g. shoes within 0-10			Begin to identify halves and doubles using concrete materials within 0-10			
Fractions, Decimals and %		Identifies wholes and halves in a social context and uses appropriate language e.g. 'I have eaten half of my banana'		Splits a whole into smaller parts and explains that equal parts are the same size			Understands that a whole can be shared equally and unequally	

Early Level Tracker 1

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Fractions, Decimals and %		Identifies wholes and halves in a social context and uses appropriate language e.g. 'I have eaten half of my banana'		Splits a whole into smaller parts and explains that equal parts are the same size		Understands that a whole can be shared equally and unequally		

No. word sequences	Say short forward and backward number word sequences within 0-10	Uses ordinal numbers in real life contexts e.g. I am first/second/third in the line'	Recalls the number sequence forwards and backwards within 0-10

No1.1-1

Beat The Magic Number

Number sequences are sets of numbers that follow a pattern or a rule in a list e.g. 0,1,2,3,4. The ability to count forwards and backwards between 0-10 is a necessary skill for addition and subtraction.

There are lots of spontaneous opportunities to develop children's knowledge of number sequences throughout the day.

Aim: *To join in reciting forward and backward number sequences between 0-10.*

Suggested Experience and Interactions:

- In a large outdoor space, make a circle with a group of children. Explain they are going to practice their counting skills, counting forwards or backwards.
- Ask a child to choose a number up to 10. This can be called the 'magic number'. The children then pass the ball around the circle and all children join in reciting the number sequence 0 to the 'magic number'. When the children reach the 'magic number', the child who has the ball passes it to the next person and runs around the circle and back to their place. Meanwhile, the rest of the children repeat the number sequence all together and continue to pass the ball around the circle.
- In order to beat the 'magic number' the child must get back to their place before the ball reaches them again.
- Repeat a few times with each number sequence before selecting another 'magic number'.
- Children should be given opportunities to play this game using both forward and backward number sequences.

Language: number, forwards, up, on, to, backwards, down, back, zero, one, two, three... ten, order, alternate, every other, take turns, next, after, before, first, second, third

Resources:

- A ball

Other concepts explored:

- Stable order principle

No. word sequences	Say short forward and backward number word sequences within 0-10	Uses ordinal numbers in real life contexts e.g. I am first/second/third in the line'	Recalls the number sequence forwards and backwards within 0-10

No2.1-2

Ordinal Numbers

An ordinal number is a ***number that indicates position or order in relation to other numbers:*** *first, second, third, and so on. Due to ordinal numbers being relational, they are an abstract concept which can be difficult for young children to understand. There are lots of opportunities for including incidental teaching of ordinal numbers in everyday practice.*

Aim*: To use ordinal numbers to describe position in an ordered set.*

Suggested Experiences and Interactions:

- Routines - By simply talking about consistent, sequential daily activities, you are teaching ordinal numbers. When getting ready to go outdoors, use ordinal numbers.
  "What is the first thing we need to do when we are going outside?"
  "Putting our jackets on is the first thing, what is the second thing we do?"
  "We change our shoes."
  "What is the third thing we need to do before we can go outside?"
  "Line up at the door"
- When children are getting ready to go outdoors, draw attention to their position.
  "***Stacey, you are first in the line. Simon, you are second in the line. Brian you are third in the line"***
  Encourage the children to tell you what ordinal number they are by their position in the line.
- When making a "potion" with children in the outdoor space, as you add twigs, leaves etc. model the language of ordinal numbers.
  "The first thing we added was the shells, then the second thing we added was the stones. Can anyone remember the third thing we added?"

- Ten Little ducks by Eric Carle is a good story book to support teaching of ordinal numbers.

Language: First, second, third, fourth

'Literacy, numeracy and mathematical thinking are woven within the fabric of all conversations, interactions and experiences. They are everywhere in the environment. They are part of a child's everyday life and are fundamental to all other learning.'

Realising the Ambition :Being Me p.70

Other concepts explored:

No. word sequences	Say short forward and backward number word sequences within 0-10	Uses ordinal numbers in real life contexts e.g. I am first/second/third in the line'	Recalls the number sequence forwards and backwards within 0-10

No3.2-2

Sharks and Islands

Number sequences are sets of numbers that follow a pattern or a rule in a list e.g. 0,1,2,3,4. The ability to count forwards and backwards between 0-10 is a necessary skill for addition and subtraction.

There are lots of spontaneous opportunities to develop children's knowledge of number sequences throughout the day.

Aim: *To recall forward and backward number sequences between 0-10 (*when a child can state the number sequence independently)

Suggested Experience and Interactions:

- Draw 11 shapes on the ground with chalk and write one number between 0-10 in a random pattern. Be mindful of size and location of the numbers on the islands so that it is possible for children to follow number sequences, making sure they are not too far apart from each other.
- Explain to children that the shapes are safe islands and the surrounding water is full of sharks. Challenge children to recall the number sequence from 0-10.
- Children must jump between the islands calling out the number as they land on each island following the correct forward number sequence starting from 0. They must aim to avoid falling into the water with the sharks.
- Once they have safely reached 10, challenge them to get safely back to 0 using the same pathway, saying the backward number sequence as they jump on each island.
- Try starting from a number other than zero.

"Can you get from island number 4 to island number 7? "

Notes- Children will need to be confident in numeral recognition to play this game. If they are not, ask them to say the next number in the sequence and support them to find the numeral that represents that number.

Language: number, forwards, up, on, to, backwards, down, back, zero, one, two, three… ten, order, alternate, every other, take turns, next, after, before, first, second, third

Resources:

- Chalk

Other concepts explored

- Numeral recognition

Early Level Tracker 1

Estimation & Rounding		Knows they can check estimates by counting within 0-10		Can apply subitising skills to estimate the number of items in a set			Uses the language of estimation, including more than, less than, fewer than and the same	
Awareness of Number – Counting, Quantities & Number Structure	No. word sequences	Say short forward and backward number word sequences within 0-10		Uses ordinal numbers in real life contexts e.g. I am first/second/third in the line'			Recalls the number sequence forwards and backwards within 0-10	
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	Place Value	Explains that zero means there is none of a particular quantity			Partitions quantities to 10 into 2 or more parts and recognises that this does not affect the total e.g. 6 as 3 and 3/2 and 2 and 2			
Addition and Subtraction		Sorts & classifies objects using quantity as an attribute e.g. sets of 1, 2 within 0-10	Compares 2 sets to decide which has the fewest/most within 0-10	Finds the total when 1,2 or 3 is added to an existing amount e.g. a number line or height chart (augmentation)	Finds the total when 2 sets are added together within 0-10 (aggregation)	Finds out how many are left when 1 or 2 are taken away within 0-10	Compares to find the difference between sets as a quantity within 0-10	Beginning to count on and back in ones to add and subtract with objects or number line within 0-10
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Fractions, Decimals and %		Identifies wholes and halves in a social context and uses appropriate language e.g. 'I have eaten half of my banana'		Splits a whole into smaller parts and explains that equal parts are the same size			Understands that a whole can be shared equally and unequally	

Numerals

Numerals	Recognise numerals e.g. points to the number from 0-10	Identify (name) numerals e.g. can respond to question 'what is that number?' from 0-10	Explains zero is represented as 0	Orders numerals forwards and backwards within 0-10	Identifies number before, after and missing numbers in a sequence within 0-10; beginning to use the language before, after and in-between

N2.3-5

Ten-ness of Ten

A numeral is a symbol or name that stands for a number, e.g. 3, 49 and 352 are all numerals. A digit is a single symbol used to make numerals. 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9 are the ten digits we use in everyday numerals.

Aim: *To respond correctly when asked to identify (name) a numeral.*

Suggested Experiences and Interactions:

- Number buckets or tubs with 0 – 10.
- Children select a bucket. Encourage them to recognise and identify the numeral on it. The children should then find items to fill up the bucket with the identified numeral e.g. 3 leaves in the tub numbered 3, 8 stones in the tub numbered 8.
  "Can you read me the number on this bucket?"
  "I wonder if you can point to the bucket that has 5 leaves in it?"
- Children should then 'check' that the number of objects matches with the numeral on their bucket using 1-1 correspondence.
  "I wonder how many you have…"
  "Do you have 8 stones in your bucket?"
  "Can you point to the bucket with number 3 and count on to 8?
- Challenge children by asking,
  "What number comes after…."
  "What number comes before…"
  "I wonder what number is one more than 5?"
- Finally children could order the buckets 0-10.
- A digital camera / iPad can be used to capture photos that depict the X-ness of a number e.g. a house with 3 chimneys, 4 wheelie bins. Children then match the numeral cards to the pictures. (Adult should take the photos to prevent multiple people touching the equipment).

Language: - number, numeral, count (forwards/backwards, up/down, on/back, to/from), zero, one, two, three, …ten, order, increasing, decreasing.

Resources:

- Numbered buckets (or tubs)
- A variety of stones, sticks, shells etc. to fill the buckets
- iPad/ camera
- Numeral cards 0-10

Other concepts explored:

- Stable order principle, 1-1 correspondence, cardinal principle
- Number word sequences

Early Level Tracker 1

Estimation & Rounding		Knows they can check estimates by counting within 0-10		Can apply subitising skills to estimate the number of items in a set		Uses the language of estimation, including more than, less than, fewer than and the same		
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	Place Value	Explains that zero means there is none of a particular quantity			Partitions quantities to 10 into 2 or more parts and recognises that this does not affect the total e.g. 6 as 3 and 3/2 and 2 and 2			
Addition and Subtraction		Sorts & classifies objects using quantity as an attribute e.g. sets of 1, 2 within 0-10	Compares 2 sets to decide which has the fewest/most within 0-10	Finds the total when 1,2 or 3 is added to an existing amount e.g. a number line or height chart (augmentation)	Finds the total when 2 sets are added together within 0-10 (aggregation)	Finds out how many are left when 1 or 2 are taken away within 0-10	Compares to find the difference between sets as a quantity within 0-10	Beginning to count on and back in ones to add and subtract with objects or number line within 0-10
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/2.1-3

Everyday Partitioning

Place Value is the value of each digit in a number. It is important for children to develop a strong sense of ten by providing regular opportunities for children to partition numbers. This provides the foundations of later understanding of place value as well as addition and subtraction.

The day to day routine of the nursery offers multiple incidental opportunities for partitioning numbers by groups being split into subgroups. Practitioners should embed partitioning into everyday conversations such as, how many are in each subgroup and altogether. When doing this it is important to overemphasise counting aloud, modelling counting using fingers and encouraging the children to join in. If using concrete material, encourage the children to move objects into subgroups and count the groups and the total. Model recording numerals to reinforce numeral recognition at the same time.

Note- Children should have a solid foundation of the 'five-ness of five' before moving onto partitioning within ten.

m: *To become familiar with partitioning through practitioners embedding partitioning bservations, conversations or problems to solve into daily practise.*

uggested Interactions-

Going outside;

"There are 10 children playing in the outdoor space today. 6 children are at the playhouse and 4 children are at the mud kitchen. There are 10 children altogether."

When planting (large) seeds or bulbs;

"We have 5 sunflower seeds and 2 pots. How many seeds should we put in each pot?"

"If we put 3 seeds in the green pot, how many will we put in the blue pot?"

"So 3 here and 2 here, can we check that we still have 5?"

When eating lunch:

"There should be 10 children eating lunch today, 4 are having chicken and 6 are having fish. Can we check that there are 10 altogether?"

Try to include at least 1 partitioning observation, conversation or problem to solve every day.

Language: zero, none, nothing, one, two, three, four, five....ten, altogether, partition, total, combine, part, whole

Resources:

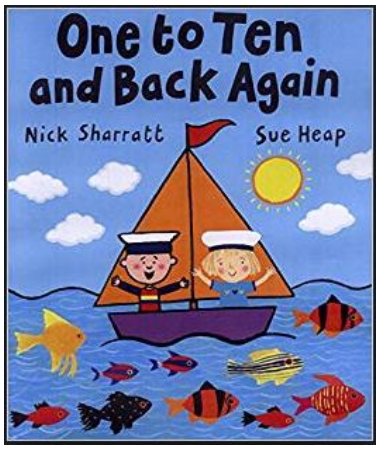
No specific resources required. Examp of interactions provide ways to incorporate partitioning into everyday conversations and play.

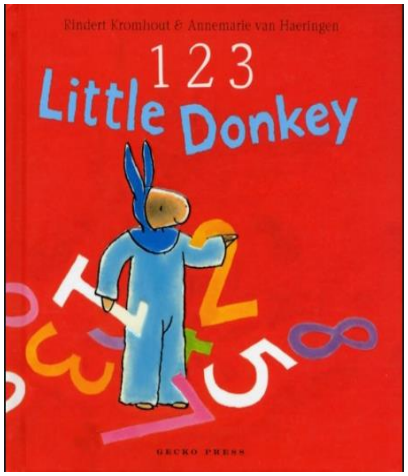
Other concepts explored:

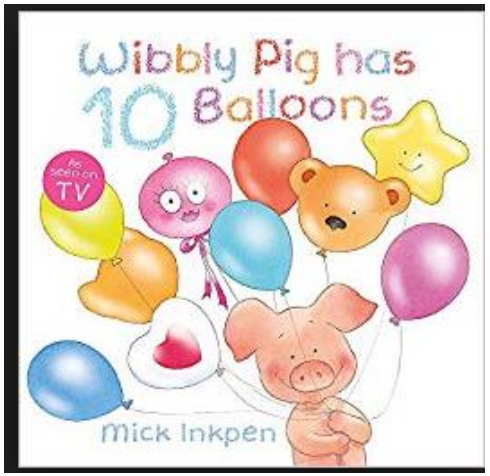
- Stable order principle, 1-1 correspondence, cardinal principle
- Recognising and identifying numera
- Number word sequences

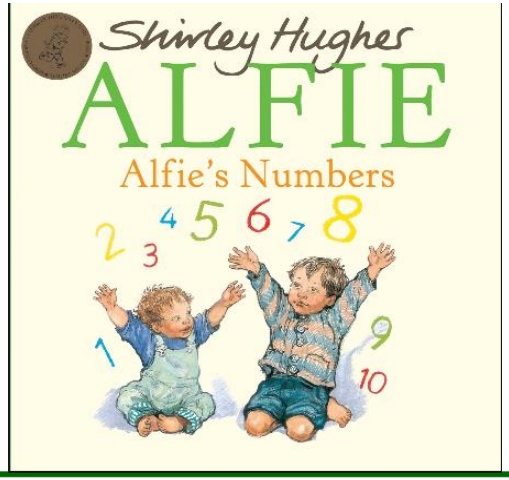
Mathematical stories and rhymes

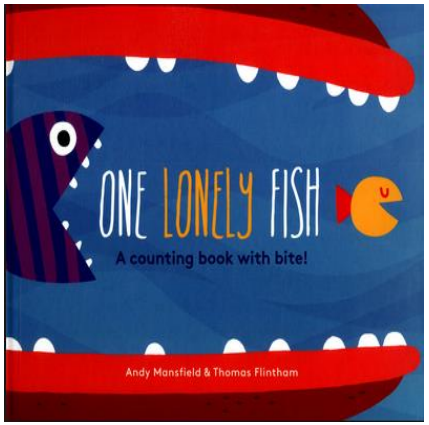
Mathematical Story Telling

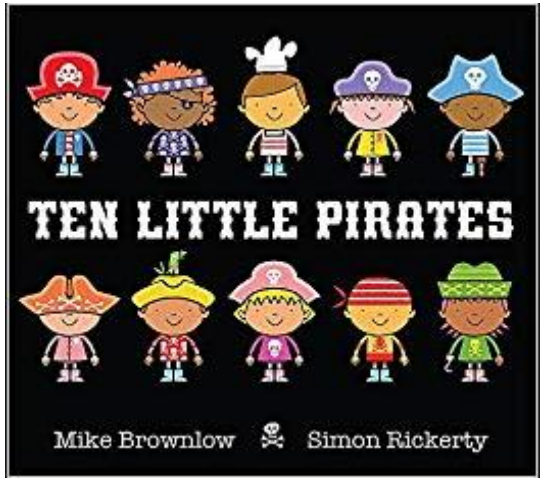












Mathematical Singing and Rhymes

Why?

Our brains have become hardwired to respond to stories.
Children use stories to make sense of the world.

Mathematics in Early Years Education
(Whitlin and Wilde 1995).

Mathematical singing and rhymes

- How do you use songs and rhymes within your nursery?
- Are they planned for?
- Do you have mathematical concepts in mind when singing songs or rhymes?

Mathematical Singing and Rhymes

1, 2, 3, 4, 5 once I caught a fish alive

5 Little monkeys

5 Little Ducks

5 Little Speckled Frogs

5 Currant Buns

5 Little Ladybirds

1,2 Buckle my shoe

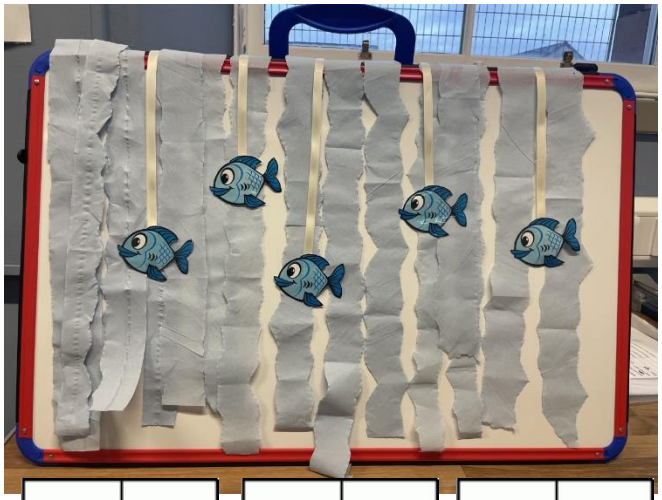
One to ten and back again

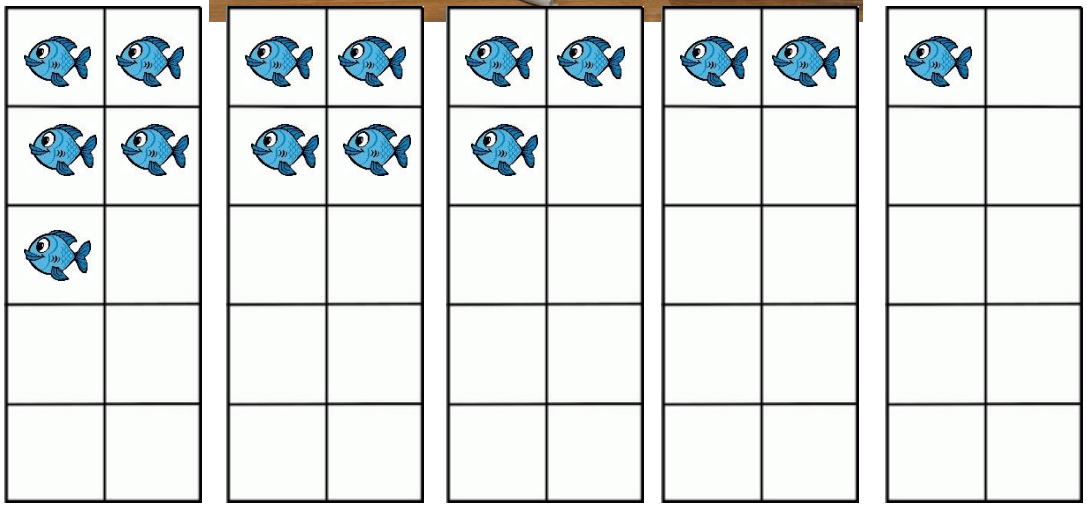
Using one of the stories/rhymes plan an experience to use in your establishment.

Outline the following:

- Key resources
- Mathematical concepts you will cover
- Assessment opportunities
- Think alouds/key questions

1, 2, 3, 4, 5 once I caught a fish alive





5 little monkeys

Five Little Monkeys

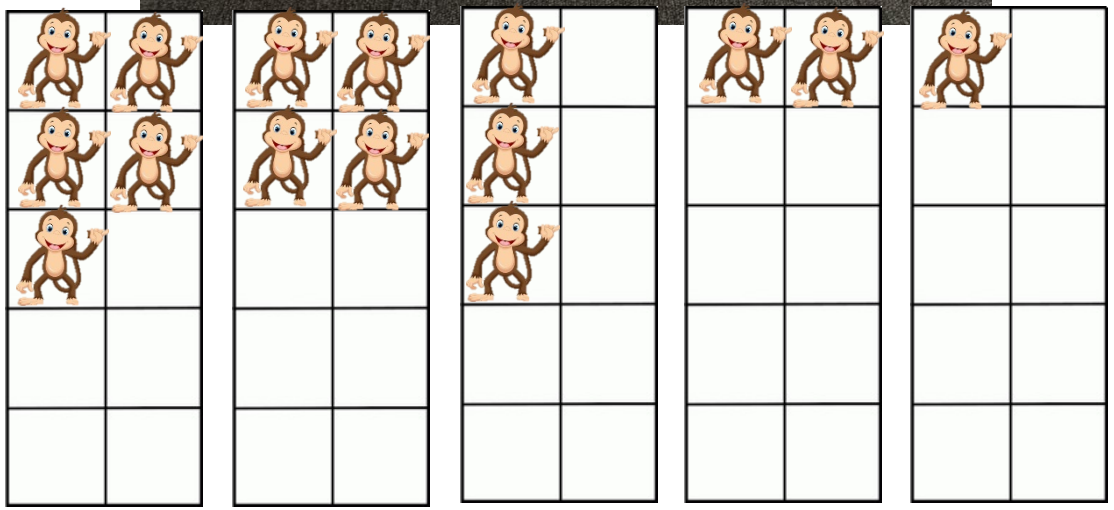
Five little monkeys jumping on the bed
One fell off and bumped his head
Mama called the doctor,
And the doctor said
No more monkeys jumping on the bed

Four little monkeys jumping on the bed
One fell off and bumped his head
Mama called the doctor
And the doctor said,
No more monkeys jumping on the bed

Three little monkeys jumping on the bed
One fell off and bumped his head
Mama called the doctor
And the doctor said,
No more monkeys jumping on the bed

Two little monkeys jumping on the bed
One fell off and bumped his head
Mama called the doctor
And the doctor said,
No more monkeys jumping on the bed

One little monkey jumping on the bed
One fell off and bumped his head
Mama called the doctor
And the doctor said,
Put those monkeys right to bed



5 little ducks

Five Little Ducks

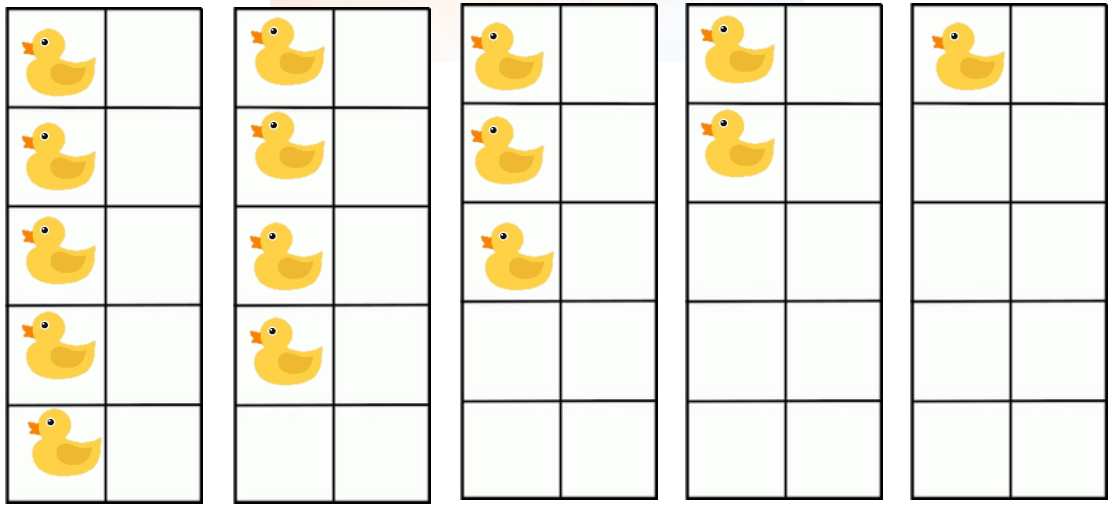
Five little ducks went swimming one day
Over the hill and far away
Mother duck said, "Quack quack quack quack"
And only four little ducks came back!

Four little ducks went swimming one day
Over the hill and far away
Mother duck said, "Quack quack quack quack"
And only three little ducks came back!

Three little ducks went swimming one day
Over the hill and far away
Mother duck said, "Quack quack quack quack"
And only two little ducks came back!

Two little ducks went swimming one day
Over the hill and far away.
Mother duck said, "Quack quack quack quack"
And only one little duck came back!

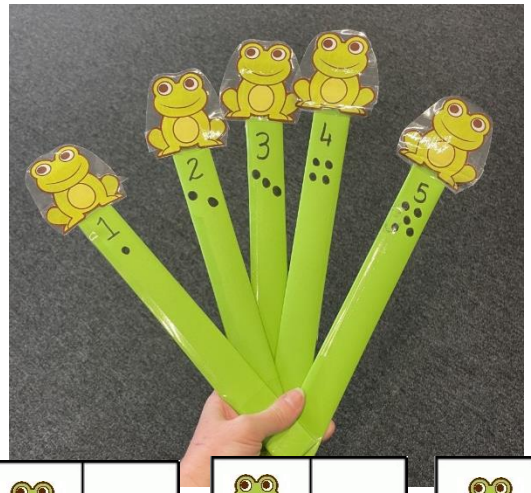
One little duck went swimming one day
Over the hill and far away
Mother duck said, "Quack quack quack quack"
And all her five little ducks came back!

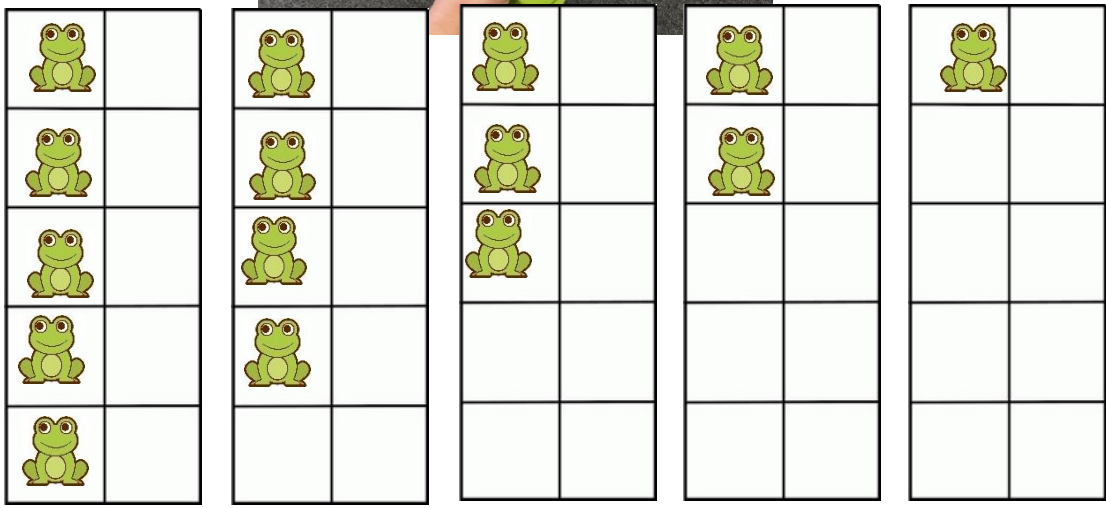


5 little speckled frogs

Five Speckled Frogs

Five little speckled frogs
Sat on a speckled log
Eating the most delicious
bugs (yum yum)
One jumped into the pool
Where it was nice and cool
Then there were four green
speckled frogs. (glub glub)

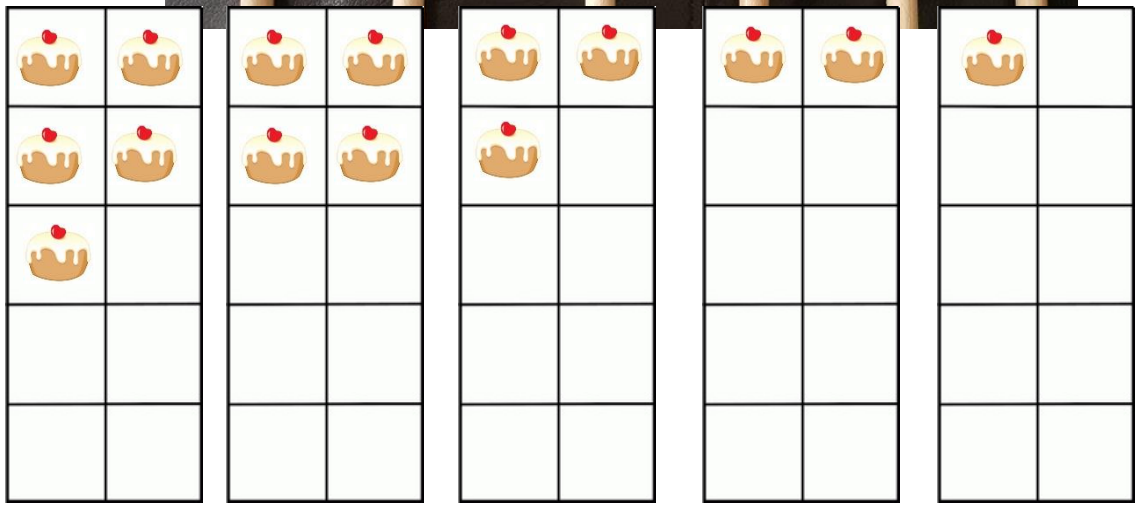




5 currant buns

Five Currant Buns

Five currant buns in a
baker's shop.
Round and fat with a cherry
on the top,
Along came a boy with a
penny one day,
Bought a currant bun and
took it away.

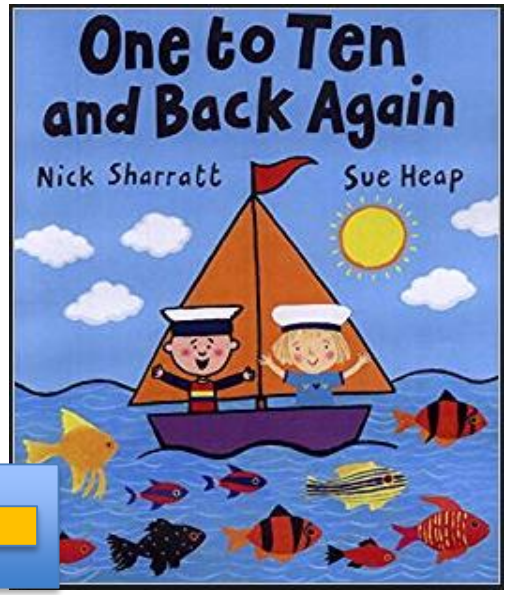


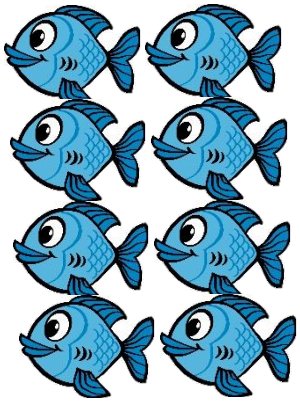
5 little ladybirds

Five little ladybirds climbing up a door.
One flew away, then there were 4.
Four little ladybirds sitting on a tree.
One flew away, then there were 3.
Three little ladybirds landed on a shoe.
One flew away, then there were 2.
Two little ladybirds looking for some fun.
One flew away, then there was 1.
One little ladybug sitting in the sun.
She flew away, and then there were none!

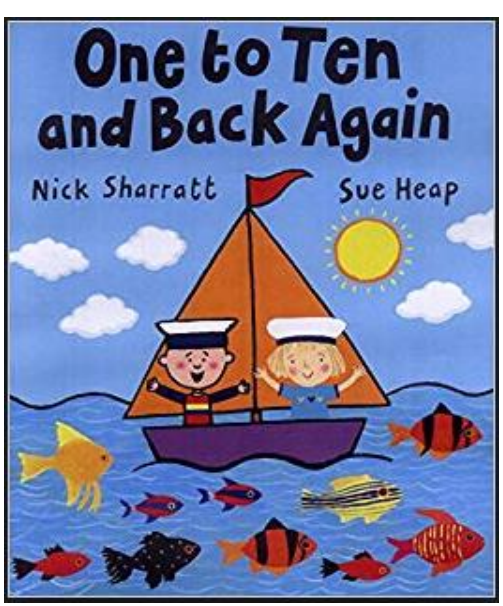
1,2 buckle my shoe

One to Ten and back again

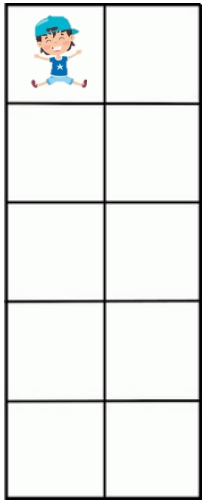
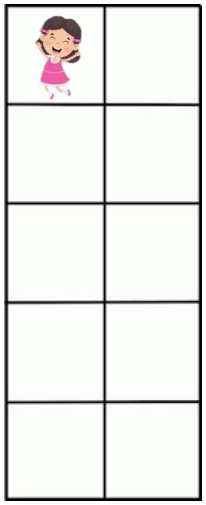
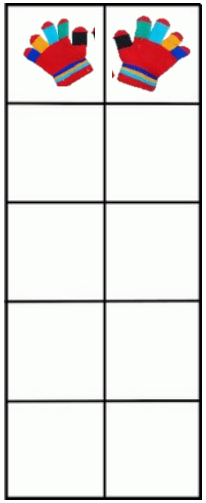
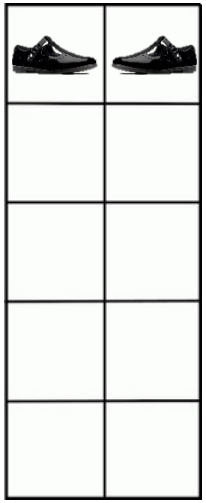
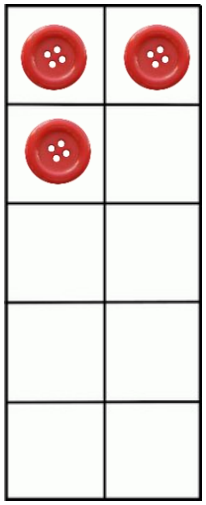
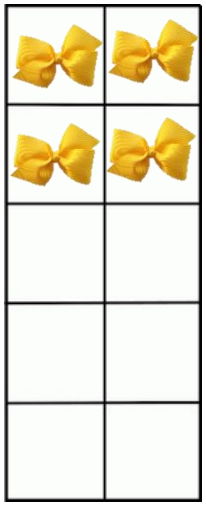
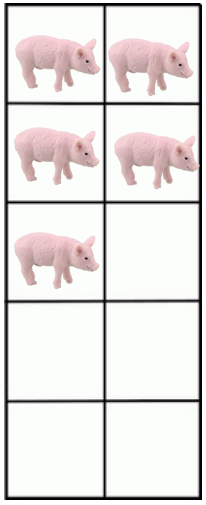
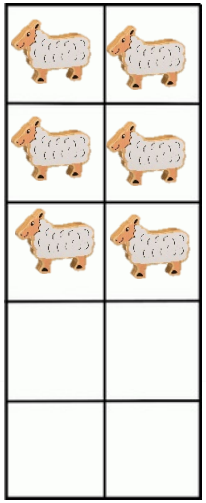
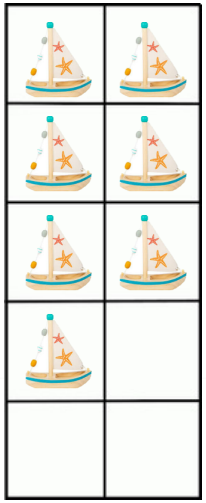
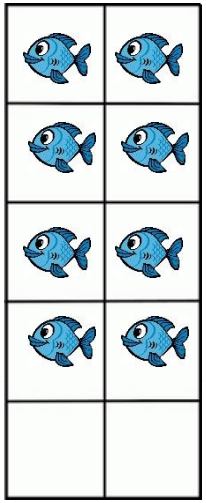




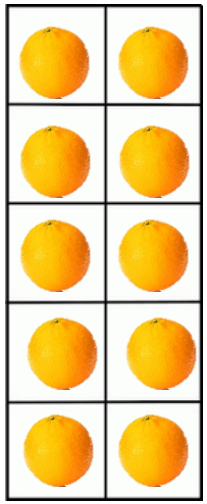
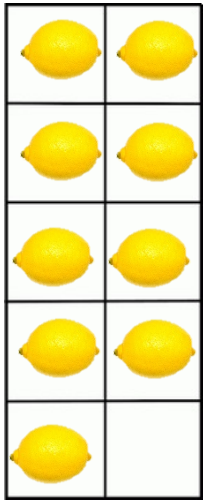
One to Ten and back again

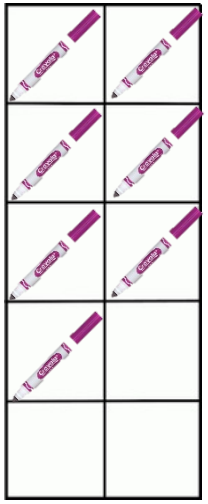
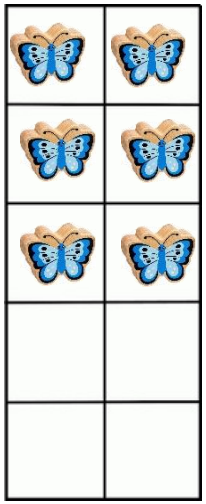
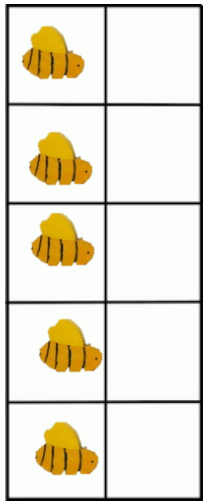
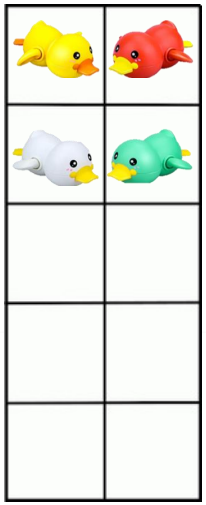
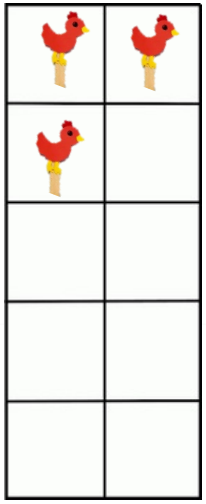
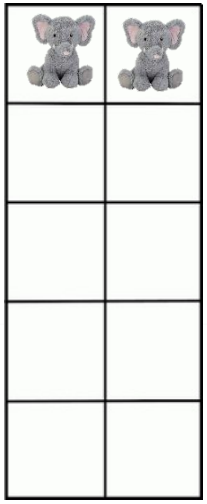
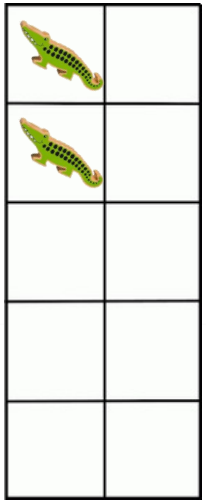
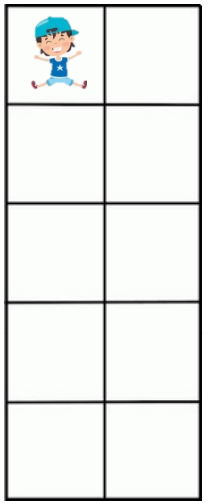
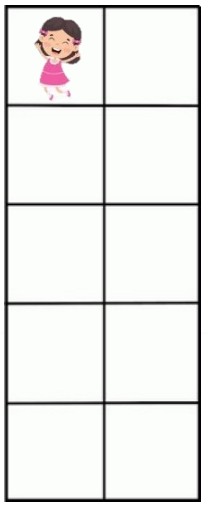


One to Ten and back again

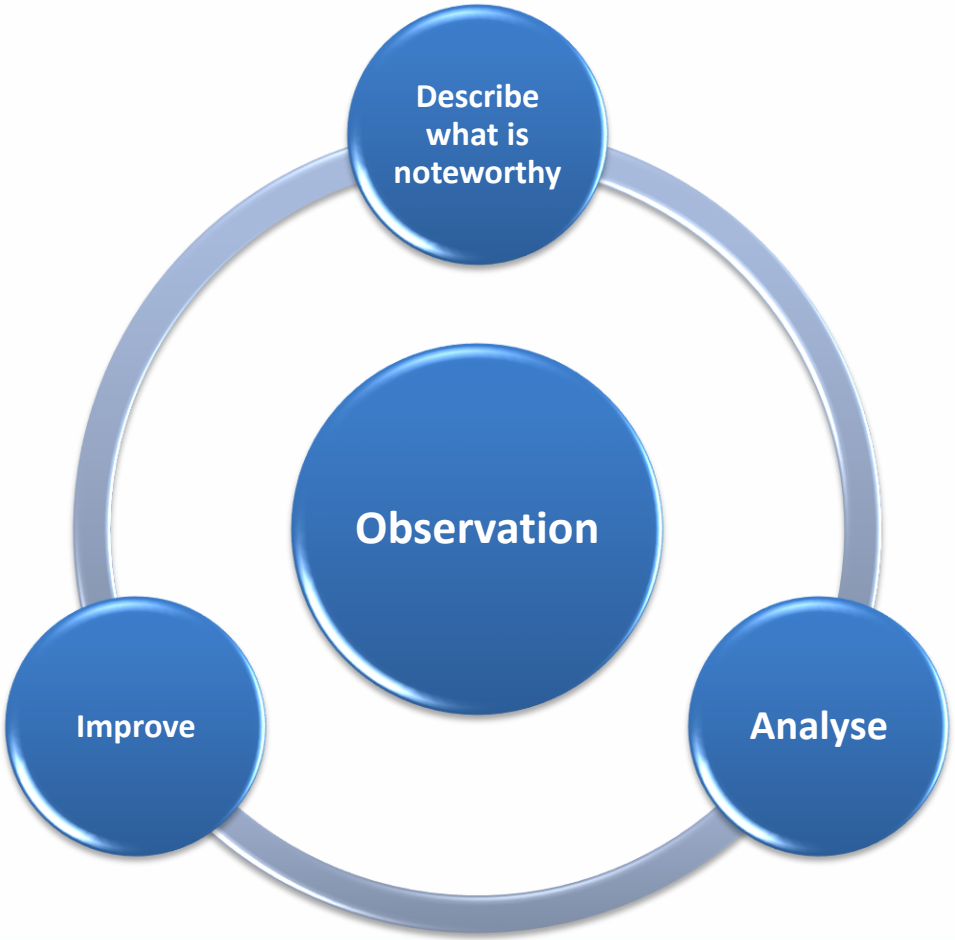











One to Ten and back again

Learning stories



Digital mathematical stories and rhymes

iPad Apps to support story telling

Book Creator

iPad Apps to support story telling

Book Creator

Early Level Tracker 1: Approach for Developing Comprehension and Storytelling

Interactive Shared Reading 1

Interactive Shared Reading

Interactive Shared Reading is an approach intended to support children's engagement and understanding of stories. These sessions should be planned and include multisensory opportunities for children to interact with a text.

In small groups, children should have the chance to revisit and hear the same story on several occasions. Adults should use **Think Alouds** and **Effective Questions** to encourage thinking and conversation whilst remembering to follow the child's lead to enable sustained interactions.

Through **Interactive Shared Reading** children will develop awareness of **book handling skills** and **concepts of print** whilst exploring **story elements** and **story structure** to support their **comprehension**.

First read strategies and approaches

Purpose: *To introduce the book and enable children to hear the whole story. Conversations should not affect the story's 'flow'.*

Before reading:

- You may wish to draw children's attention to **some key features** of the book e.g., title, author, illustrator, front/back cover, blurb.
  "Let's read the blurb. What does it tell us about the story?"
- Use the front cover/title to encourage children to make predictions about the book.
  "Tell me about the front cover. What do you see?"
  "What do you think the story might be about?"
- Children may be able to identify who the main character might be, the problem that may arise or the setting of the story e.g.,
  "I am trying to visualise where this story might take place, I wonder if anyone else can…"
- To reinforce book handling skills you may wish to point to the word where you will start reading.

During reading: **Flow of story**

- Read aloud to group (use comments and questions at natural breaks.)
- Trace finger under some words.
- Shorter conversations.
- Encourage predictions. ***"I'm wondering about…"***
- Emphasise new vocabulary.

After reading: **Develop Understanding**

- Talk about the book using story elements (character, setting, problem, actions, resolution) and story structure (beginning, middle and end).
- Ask 'why' questions – ***"Who?"*** (character) ***"Where?"*** (setting) ***"What?"*** (action/big problem/resolution) ***"Why?"*** (explaining/understanding)? E.g.,
  "I'm trying to understand why (insert scenario) ***happened?"***
  "I'm wondering why (insert character's name) ***did that?"***
- Leave a copy of text in library with story props to reinforce the story.

Early Level Tracker 1: Approach for Developing Comprehension and Storytelling

Interactive Shared Reading 2

Subsequent reads strategies and approaches

Purpose: *To develop comprehension and extend thinking skills by engaging children in longer conversations.*

Before reading: Prior knowledge

- Recap story elements from last session and discuss any new vocabulary.
- To reinforce book handling skills you may wish to point to the word where you will start reading.

During reading: Comprehension

- Ask more questions to develop understanding.
- Use think alouds **followed by** questions e.g.
  "I'm wondering if…"
  "What would you…?"
- **Strive for 5** turns in conversations. Discuss characters' thoughts and feelings, refer to illustrations to provide clues for children.
- Encourage children to make connections with the story and their own experiences, thoughts and feelings e.g.,
  "What does this story remind you of?"
  "Has anything in the story ever happened to you? Would you like to share it?"
  "What might you have done in _____'s situation?"
- Use **Shooting for the SSTARS** to make **words sparkle**.

After reading: Develop thinking

- Have conversations about the **resolution** to the **problem**. Continue to ask **why** questions e.g.,
  "What do you think about…? Why?"
- Encourage children to explore characters' **thoughts** and **feelings**, imagine and project e.g.,
  "What would you say if you were…? Why?"
  "Why do you think the character has been drawn like this?
- Ask about secondary characters' thoughts and feelings, encouraging children to explain their ideas.

Final read strategies and approaches

Purpose: *To help children retell or read the story using illustrations and/or props as an aid.*

Before reading: Prior knowledge

- Ask children to recall the title, characters and setting and ask about the big problem in the story.
- Review any new **sparkle words**.
- Explain that the children are going to 'read' the story. You won't read all the text, just the parts of it that children need help with.

During reading: Encourage details

- Support children to retell the story (events, reasons why, thoughts, feelings) with think alouds, question prompts and illustrations/props e.g.,
  "What happened on this page?" "What's happening here?"
  "Why did this happen?" "What is she thinking/feeling here?"
  "What will he do next?"
- Encourage use of details – names, objects, feelings and reasons.
- Observe and encourage children to use new **sparkle words**.
- Reread parts of the text if needed to secure understanding.

After reading: Encourage thinking

- Develop conversations by following the children's lead.
- Continue to expand understanding by asking children to make connections, use their imagination (e.g., alternative ending) and make predictions e.g.,
  "Think of a time when you… What would have happened if you…?"
- Encourage all children to contribute by **Striving for 5** interactions.
- Invite children to comment on others children's suggestions.

Mathematical Mark Making

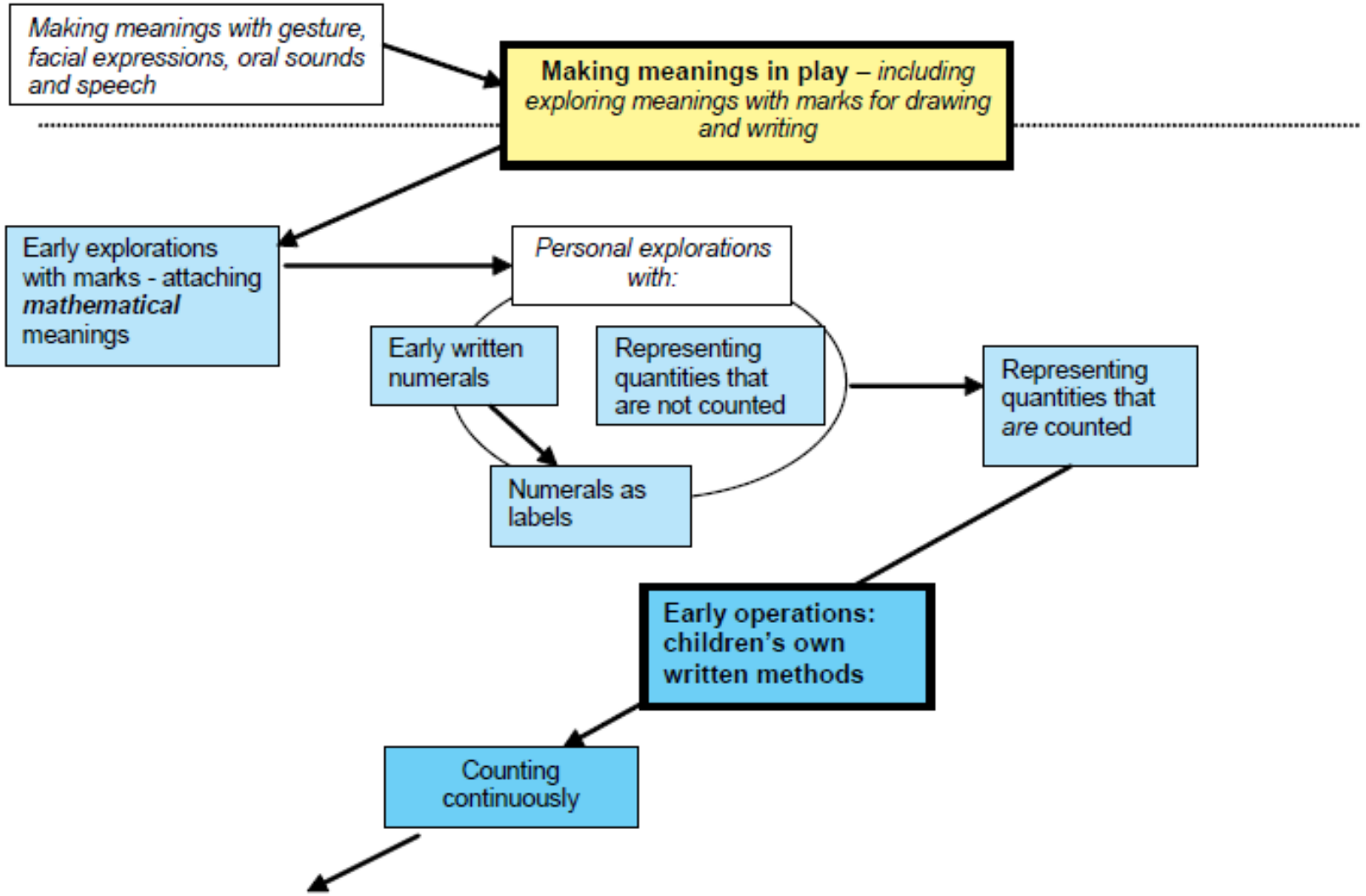
What are children's mathematical graphics?

The term *children's mathematical graphics* was originated by Carruthers and Worthington (2003). It is used to describe children's own marks and representations that they use to explore and communicate their mathematical thinking. Research into *children's mathematical graphics*, (Carruthers and Worthington, 2006) has revealed young children's development of their early mathematical thinking as they explore the symbolic 'written' language of mathematics. These graphics include: scribble-marks, drawings, writing, tally-type marks, and invented and standard symbols including numerals. Young children's graphical exploration 'builds on what they already know about marks and symbols and lays the foundations for understanding mathematical symbols and later use of standard forms of written mathematics', Carruthers and Worthington (2006).

The EYFS PSRN emphasises that practitioners should:

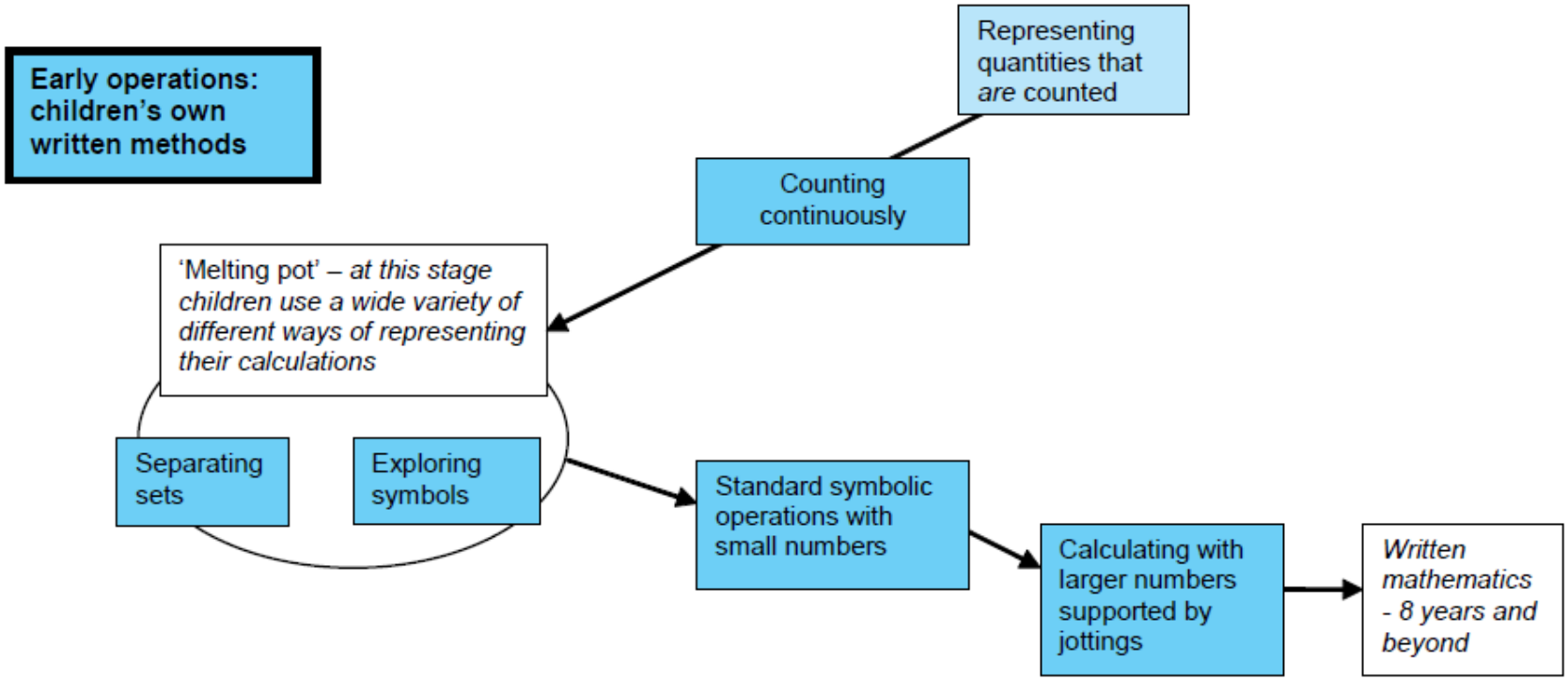
'Value children's own graphic and practical explorations of problem solving' and observe 'the context in which young children use their own graphics.'

Mark Making Progression 1

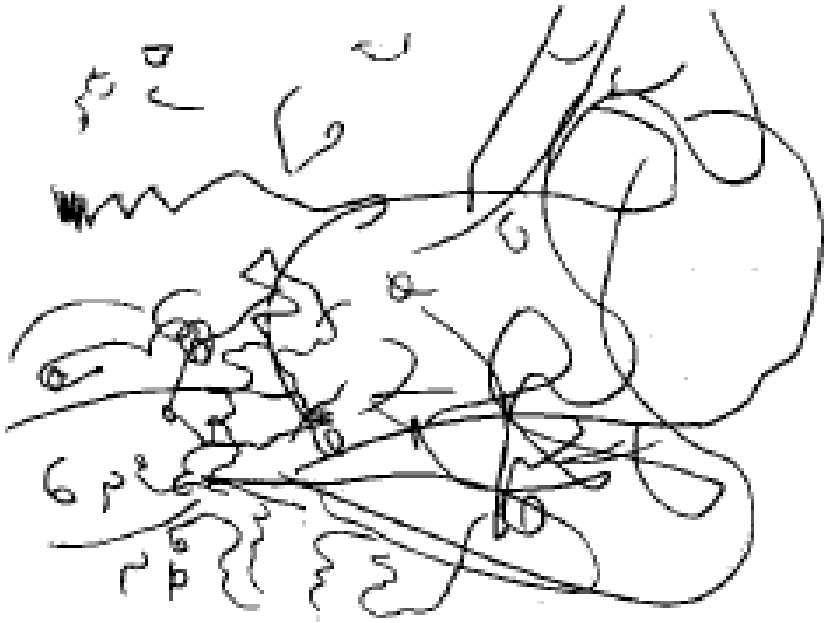


Mark Making Progression 2

Continuing the journey into children's mathematical graphics



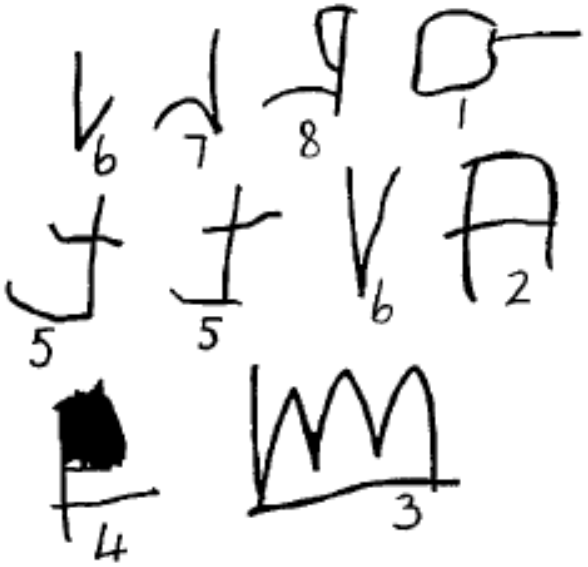
Early exploration with mathematical marks



Sam and the calculator (3 years 6 months)

Sam has been watching his friend Bradley play with a calculator and occasionally writing on a piece of paper as he presses the buttons. Sam wants to be a part of this play and when he has fetched a calculator for himself, the two boys talk about the numbers they press, often choosing their age number: '3'. Sam decides to make marks of his own on a piece of paper as they play.

Early written numerals



Alex's numbers (4 years 11 months)

Alex loves writing and, on this occasion, chooses to explore numerals using his own symbols. He adapts the symbol '6' for '7' and '8' and uses elements of standard letters and of numerals he knows. He is consistent in repeating '5' and uses the first letter of his name to stand for '2'.

Alex's explorations illustrate just how much he already knows about written symbols and number, showing that Alex knows his numbers. He soon comes to understand and use standard written numerals.

Numerals as labels

Jessica's clocks (4 years 6 months)

Jessica wanted to write all the 12 numbers in the clock the first time but they did not quite fit so she has tried several times. She gives this to her key person explaining 'It's nearly milk time'. She is making connections with what she knew about time in the nursery (i.e. milk time) and clock time, and finally carries her sign around the nursery to show the other children.

Representing quantities that are not counted

Joe's spider (3 years 9 months).

Joe is exploring and playing with a set of toy spiders in the nursery. Joe decides to draw a spider and tells the nursery teacher, 'My spider is Hairy Maclary and he has eight legs.' Joe represents his idea of many legs in his drawing: he shows a growing awareness of number and quantity and is able to describe it.

Representing quantities that are counted

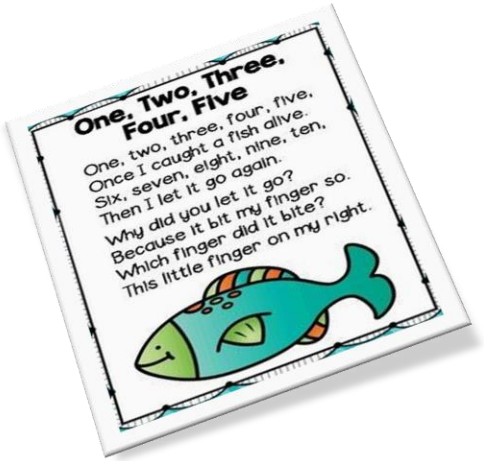
Jenna's raindrops (3 years 9 months).

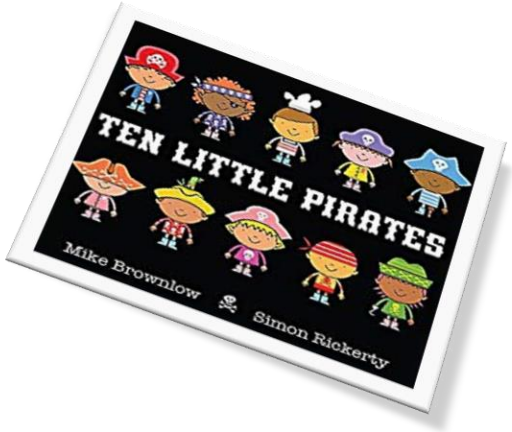
Jenna draws and counts raindrops in the graphics area. Perhaps the coloured pens remind her of raindrops, or this may be a current interest of hers since many children love to draw rainbows. Jenna finally counts each vertical column before proceeding to the next to reach the total she has drawn.

Practical Tips on encouraging Mathematical Mark Making...

- Model your own mathematical mark making.
- Provide mark making materials in all areas.
- Celebrate children's mathematical mark making.

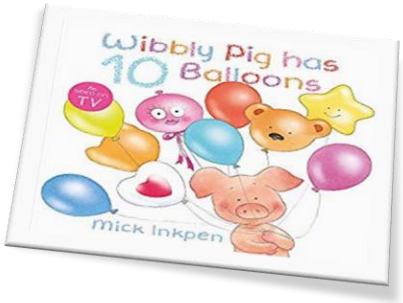
Interim Task





Take one of the planned Storytime/Rhyme time and implement in your playroom.

You could tie this in with Interactive Shared Reading Strategy from LfA



Contacts

- **Anastasia Gould:** gw22gouldanastasia@glow.ea.Glasgow.sch.uk

- **Twitter**: @GlasgowLEL
- **Blog**: Google Leaders of Early Learning
  https://blogs.glowscotland.org.uk/gc/gccleadersofearlylearning/

Glasgow Counts in our Playrooms

THE SCOTTISH ATTAINMENT CHALLENGE
LITERACY NUMERACY
HEALTH & WELLBEING

Glasgow's Improvement Challenge
Unlocking Learning

Professional Learning gtc SCOTLAND 2018 EXCELLENCE AWARD

Counting and Subitising 2

2020/2021