



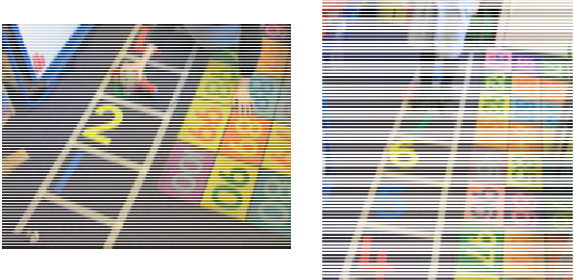

Maths in the EYFS

Enabling Environments



**Maths in the Early Years Foundation Stage –
enabling environments**

Area: Developing number sense

<p>Masking tape ladder</p> 	<p>Placing numbers in order</p> 
<p>Standing or placing 'puppet/toy' on a given number</p> 	<p>Matching Numicon to numerals</p> 

Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

Recites numbers in order to ten
Recognises numerals to ten
Knows that numbers identify how many objects there are in a set
1:1 correspondence when counting objects
Match numeral with quantity
Recognise that anything can be counted – objects and steps up the ladder
Place numbers in order
Say number that is one more or one less than the number they are standing on

Maths equipment and models/images required to help develop children's conceptual understanding:

Plastic Numbers
Numicon
Objects – cubes, bears, Christmas decorations, conkers, etc – these could be of child's personal interest/topic related
Number track to support ordering of numbers

Key questions to support adult interactions with children during learning:

Which number comes next?
How do you know?
Why do we have to say the numbers in the same order when we count?
How many do you have? How do you know you have that number?
How could you check your answer?
How do you know you have counted every object?
What number is 1 more than the number you are standing on?
Which number is 1 less?
What do you notice when you find 1 more? – *you go up the ladder*
How do you know this is the number 5? How is it different to 3?

This ladder activity can be used inside or outside.

The ladder can be made with masking tape, chalk, paint or agility ladder.

Differentiate the numbers: could start at ten and then focus on teens numbers.

- Encourage children to predict what the end number will be...

Muddle the order of the numbers: Can children say which numbers are in the wrong places?
Can they explain why?

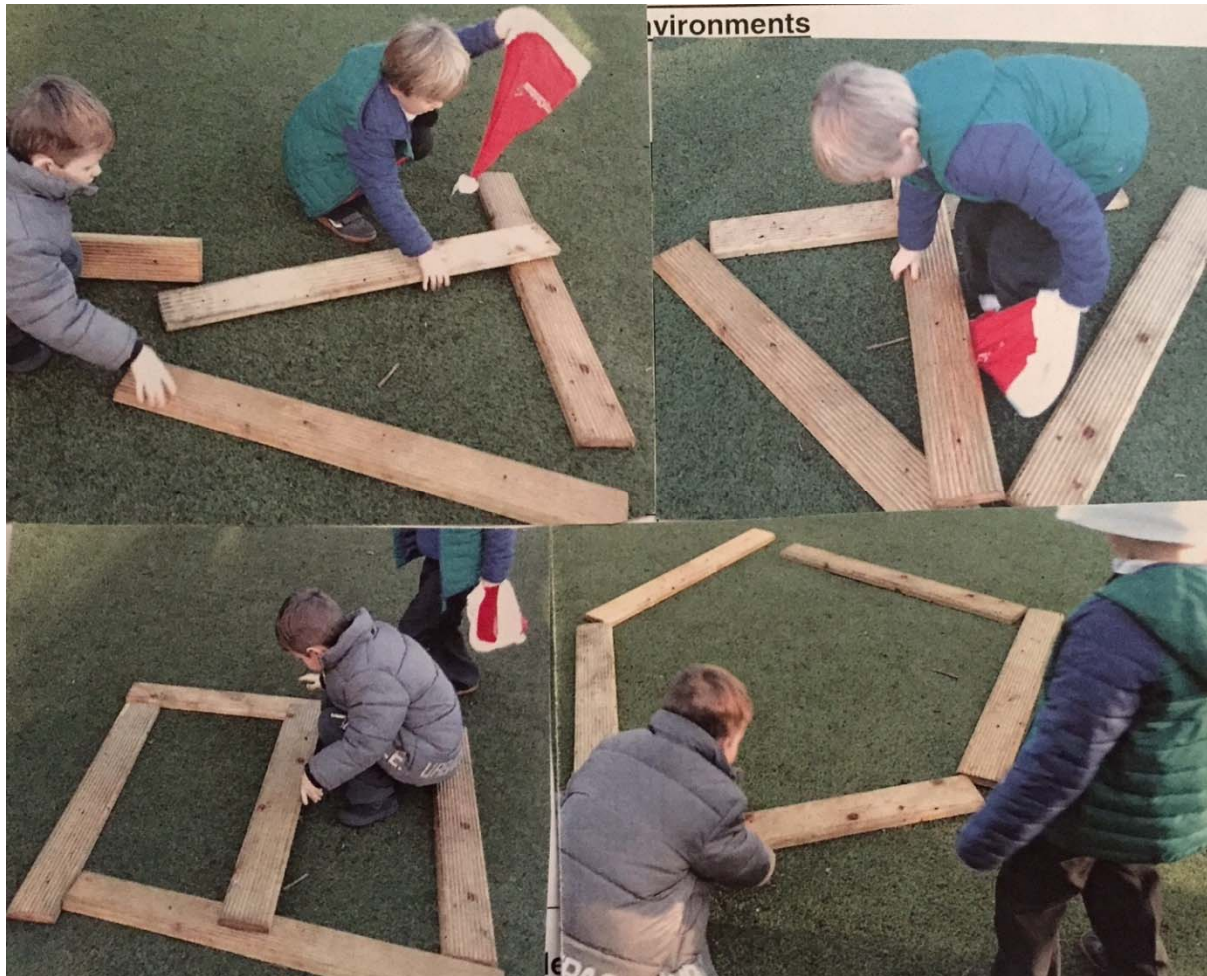
Use the track as a game:

- 1) Start at one, roll the dice and move corresponding places up the ladder. Winner is first to the top!
- 2) Start at 10, roll the dice and move backwards. Winner is first to zero!

Use number to count backwards.

**Maths in the Early Years Foundation Stage –
enabling environments**

Area: Outdoor learning



Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

40-60 months:

- Uses familiar objects and common shapes to create and recreate patterns and build models.

ELG:

- Explore characteristics of everyday objects and shapes and use mathematical language to describe them.

Exceeding:

- Children...talk about properties...

Maths equipment and models/images required to help develop children's conceptual understanding:

Children given free access to a wider range of equipment, including planks.

One child wanted to make his hat and made a triangle, but as the hat had a line he added an extra 'line.'

Another child wanted to make a house so made a square and added a line.

Key questions to support adult interactions with children during learning:

What shape is your hat?

How many pieces of wood do you need? Why?

Can you see any other shapes now that you've added your line?

How many corners, edges, etc?

What would you do if I gave you another plank?

**Maths in the Early Years Foundation Stage –
enabling environments**

Area: Outside chalkboards



Place value numbers



Maths challenge cards



Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

Place value number display (with dots in). Allows an adult to talk about the place value of teen numbers.

Maths equipment and models/images required to help develop children's conceptual understanding:

Lots of shape, pattern, and fraction challenges that will stimulate dialogue between adult and children. Children can solve problems on chalkboard, which can be developed further.

Key questions to support adult interactions with children during learning:

Maths challenge cards are on the chalkboard area to stimulate adult questions and investigation.

**Maths in the Early Years Foundation Stage –
enabling environments**

Area: Outside area



Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

30-50

Shows an interest in number problems

40-60

Estimates how many objects there are and checks by counting them

Counts objects to 10 and beginning to count beyond 10

ELG

Children count reliably with numbers to 20

Maths equipment and models/images required to help develop children's conceptual understanding:

Large balls and hoops, but could use much smaller objects.

Key questions to support adult interactions with children during learning:

- * What does estimating mean?
- * Do you think there are more than 10 or less than 10?
- * Can you guess/estimate how many balls there are?
- * How can we find out how many balls there are altogether?
- * What would be a sensible way to count the balls?

**Maths in the Early Years Foundation Stage –
enabling environments**

Area: Cardinality (5-ness of 5)



Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

- Recognise numerals of personal significance
- 1-1 correspondence
- Counts up to 3 or 4 objects
- Counts objects to 10, and beyond
- Counts irregular arrangement of objects
- Language of more/fewer
- Begin to use vocabulary involved in addition and subtraction
- Adding numbers to make a total

Maths equipment and models/images required to help develop children's conceptual understanding:

Numicon, compare bear, bead strings, cubes, uni-fix, number lines, counters, conkers, pens, paper, body parts!, dienes, cuisenaire, (any classroom resources – get children to find their own)

Key questions to support adult interactions with children during learning:

- Can you represent (5) in a different way? Is there another way to use that resource to represent the same number?
- What would 1 more/1 less be?
- Can you double that number?
- Can you explain why you chose to represent that number the way you did?
- How did friend represent (5)? Did you use something different?

**Maths in the Early Years Foundation Stage –
enabling environments**

Activities to encourage subitising



Roll the dotty dice. Can you tell me the number? Show me how you can make the pattern on the playdough with the straws.



What can you tell me about the face on this die? Shall we make that pattern with the conkers? Can you tell me what number that pattern represents? Can you write/find the numeral?



Use the pipes or the sandcastle buckets in the sandpit to represent the patterns on the cards.



Snowman game – Roll the numbered dice (1). What number is it? Can you show me what pattern that would look like? What part of the snowman do you need to draw?

Christmas tree game – Roll the die. Can you tell me the number? Can you show me what that number looks like when it is written?

These games are taken from <http://stimulatinglearning.co.uk>

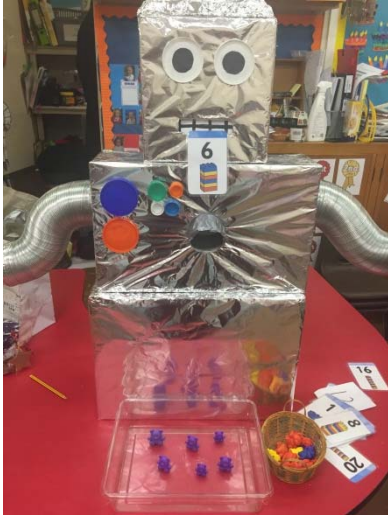


I find having maths shelves in my classroom very useful. I have objects such as conkers, cones, gems, number cards, stop watches, miniature fun pegs, wrapped up presents of different weights, balances, number sentences, clocks, tape measures, straws of different lengths, magnetic numerals, remote controls, outlines of feet and 'mini me's.'

**Maths in the Early Years Foundation Stage –
enabling environments**

Area: 1:1 Counting

Counting Colin



Number cards / Numicon can be posted through his mouth at the front (and also from the back)



Counters can be posted through his body from the back

Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

1:1 counting
Matching numerals and quantities
1 more / 1 less
Addition

Maths equipment and models/images required to help develop children's conceptual understanding:

Numicon,
Numeral cards
Compare bears,
Cars
Blocks

Key questions to support adult interactions with children during learning:

- How many bears have I posted? Can you find the matching card?
- What is 1 more than...?
- What is $2 + 3$? Prove it to me!
- Which Numicon piece matches this number card?
- Watch carefully and tell me about the items that come from Colin. (Give children the opportunity to group in different ways e.g. 3 yellow bears, 2 green cars, 1 blue bear, 6 things altogether etc.)

**Maths in the Early Years Foundation Stage –
enabling environments**

Area: Number

Ordering the numbers



Checking the order



Challenge - ordering beyond 20 and discovering a pattern!



Opportunities for mathematics learning – linked with EYFS profile and key early concepts/skills, as appropriate:

- 40-60 - recognise some numerals of personal significance; recognise the numerals 1 to 5.
- ELG - count reliably with the numbers from 1 to 20, place them in order and say which number is one more or one less.

Maths equipment and models/images required to help develop children's conceptual understanding:

Wooden blocks (Jenga game was used for this activity and I wrote the numbers on the bricks).
Number track to support ordering the numbers.
Objects- teddies, counters etc could be used to match the quantity to the numeral.

Key questions to support adult interactions with children during learning:

Which number comes first?

Which number will follow? Can you explain why?

Can you see a pattern in the numbers?

Can you find the number 12? What is one more/one less than 12?

What do you notice when you find one more? Move up the tower and the number gets larger.

The children first completed the activity in pairs.

The blocks were mixed up and then put in the correct order.

The children then referred to the number track to check.

Variations:

- matching a number of objects to the correct brick or Numicon.

- timing how quickly the bricks can be put in order.

- sharing the bricks between the children, making a tower with the bricks in order and then playing Jenga!

Mathematical learning through den building

As Early Years practitioners, we know that the outdoors environment makes a fantastic stimulus for outdoor learning. Our challenge was to make a maths focused 'den.'



Comparing:

- Length of sticks
- Number of pegs

Number:

- Counting objects – pegs, sticks, etc.
- Language – more, less, few, most, fewest, least, enough, same amount and how many more? Etc.
- Addition – one more, one less, totals.

Time:

- Timer for activity.
- Use of language – before, after, later, long, etc.



Shape, space and measure:

- Patterns in materials.
- 2D and 3D shape recognition.
- Shape language – sides, corners, straight, curved, faces, flat, solid, etc.
- Describe dimensions – tall, round, etc.
- Positional language – behind, in front, under, next to, inside, outside.
- Construction – talking about shapes or arrangement of shapes.
- Shape recognition – names of shapes – 2D and 3D.

Enhancements:

- Number/shape games and books.
- Role play toys.
- Sets of toys – tea set, etc.
- Recording equipment.



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