Maths

Early Maths for Parents

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NCETM

NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

Accredited School Development Lead

"57% of parents stated that maths was the most daunting subject to help their children with."

There's no way I can help my child with maths. It's so difficult and I can't do it!

Recent research suggests that young children's ***exposure*** *to patterning, rather than their number understanding, predicts the later maths learning.*
Rittle-Johnson-Fyfe, Hofer & Farran, 2017

All about the experiences we provide…

All about the experiences we provide…

and the discussions we have around them.

Even if it is one-way…

Wow look at the pigeons… 1-2-3

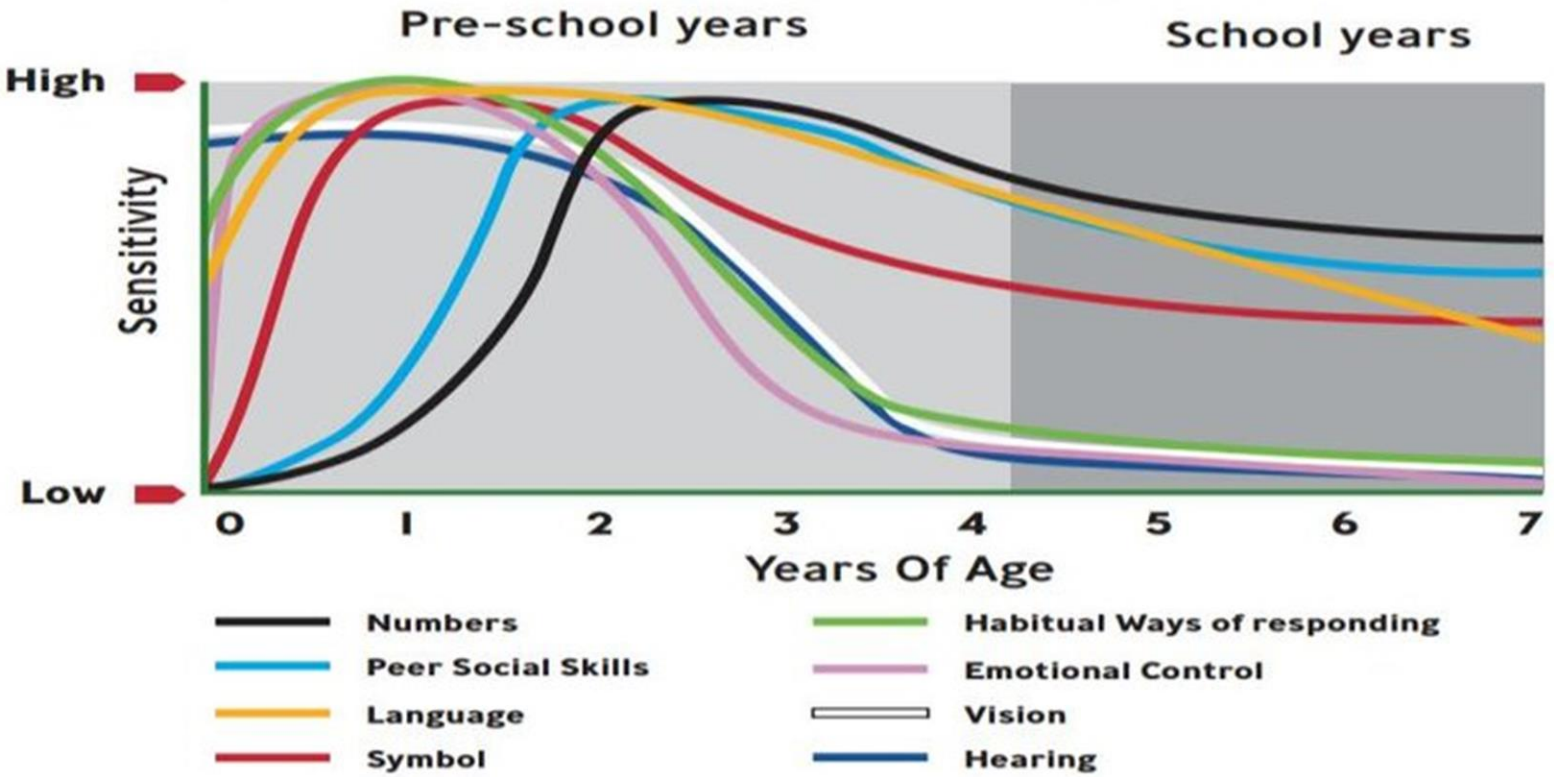
Here is home with the number 7 on the door.

Look some puddles; let's swerve around them.

Oh, I like your family of 4; three are inside and 1 is outside…

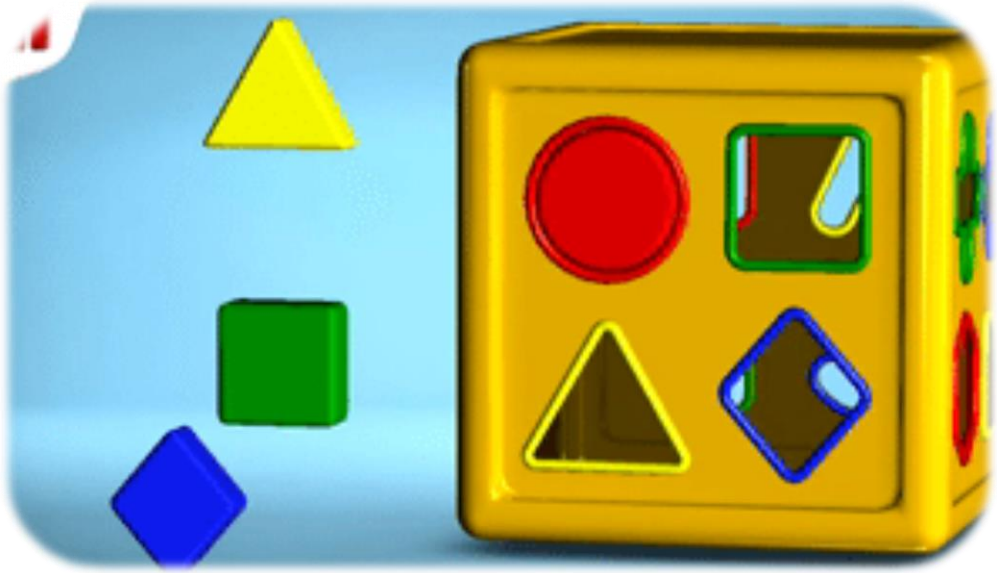
What ever maths you do at home talk about it with your children – even if they cannot respond. They will be soaking it all up.

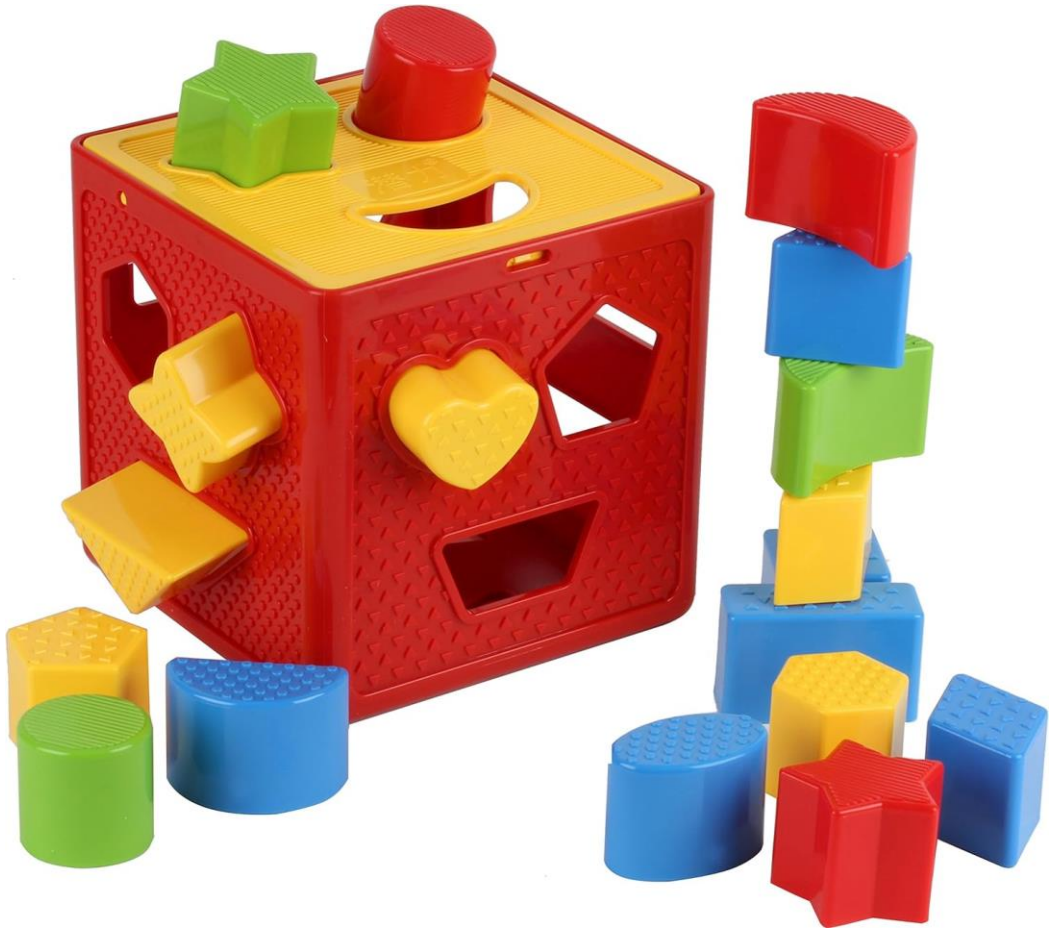
Sensitive Periods in Early Brain Development



Graph Developed by Council for Early Child Development
(ref: Nash, 1997; Early Years Study, 1999; Shonkoff, 2000.)

What's the same? What's different?





Wonderings…

- What's the same? What's different?
- Does this always happen? Or sometimes? Or never?
- Which is the odd one out?
- What will happen if I change…

"Children are **born ready**, able and eager to learn. They actively reach out to interact with other people, and in the world around them. Development is not an automatic process, however. It depends on each unique child having **opportunities** to interact in positive relationships and enabling environments."
NCETM

All underlying mathematical concepts are learnt by the age of 5; after that they are simply built on.

Cardinality and Counting

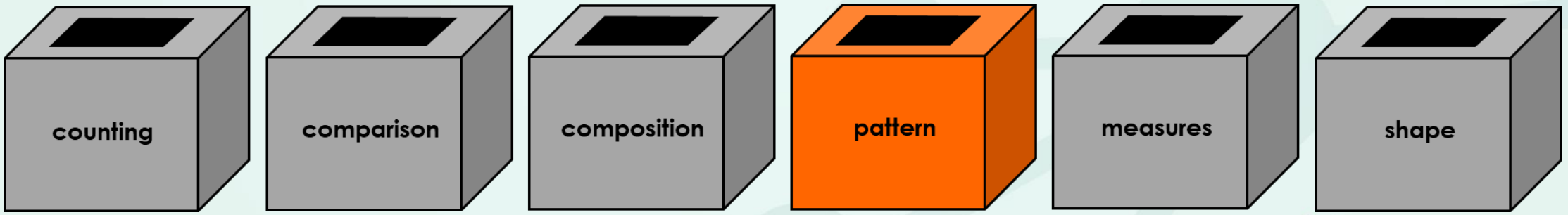

Comparison


Composition


Pattern

Shape and Space


Measures



The key concepts of early maths

Schematic Play

A repeated action that children use to learn about the world

Posting
Emptying
Enveloping
Filling
Rotating
Transporting
Connecting & Lining-Up
Enclosing

Early Maths

Early Number

- Subitising
- Counting
- Composition to 10

Schematic Play

A repeated action that children use to learn about the world

Posting
Emptying
Enveloping
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Enclosing

enclosing

posting

transporting

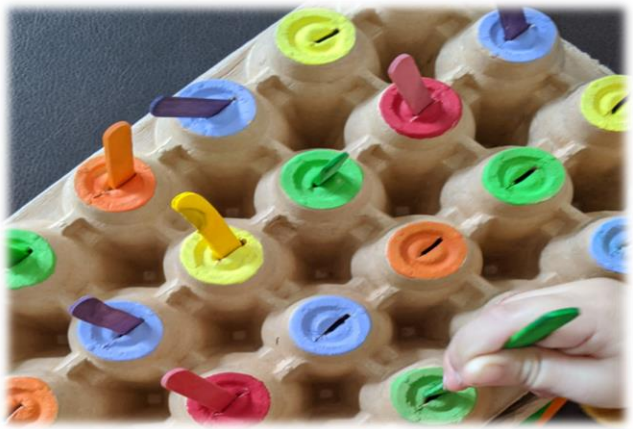
filling & emptying

enveloping

connecting

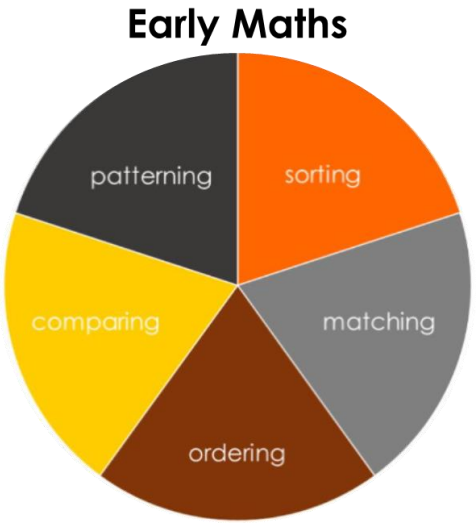
rotating

Matching




Early Maths
patterning
sorting
comparing
matching
ordering

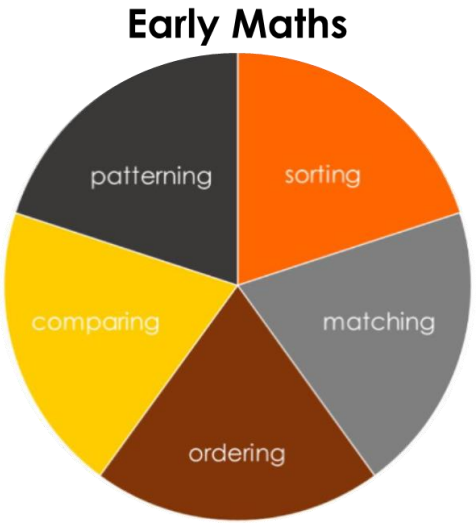
Sorting


Early Maths
patterning
sorting
comparing
matching
ordering

Ordering


fisher-price


2
3


Early Maths
patterning
sorting
comparing
matching
ordering

Comparing

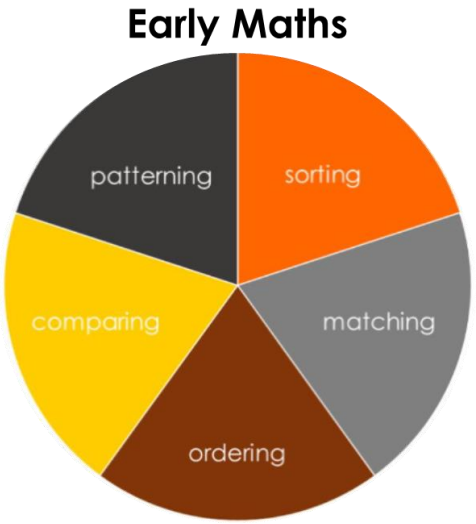
more/less

larger/smaller

heavier/lighter

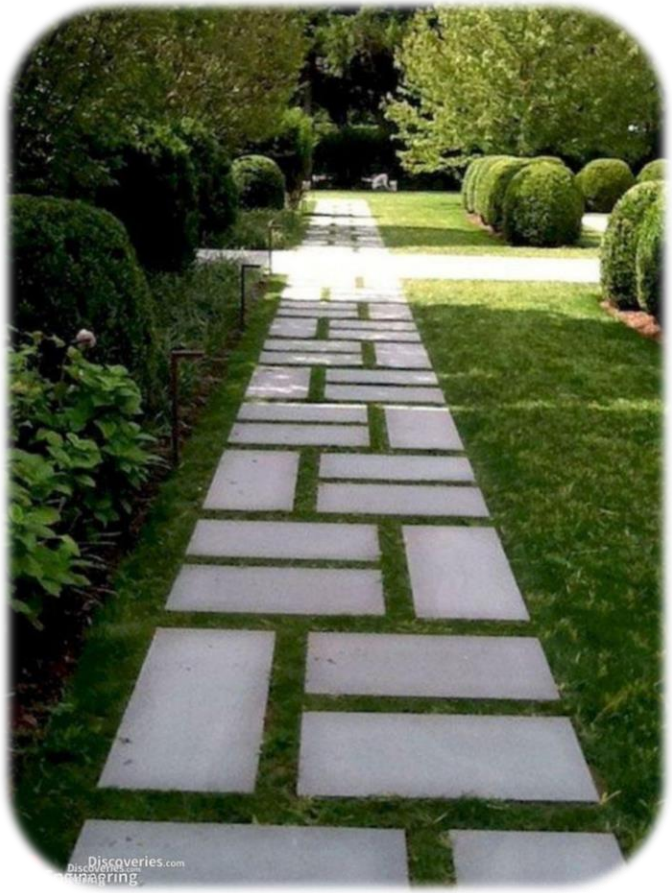
full/empty

Can you make it fair?



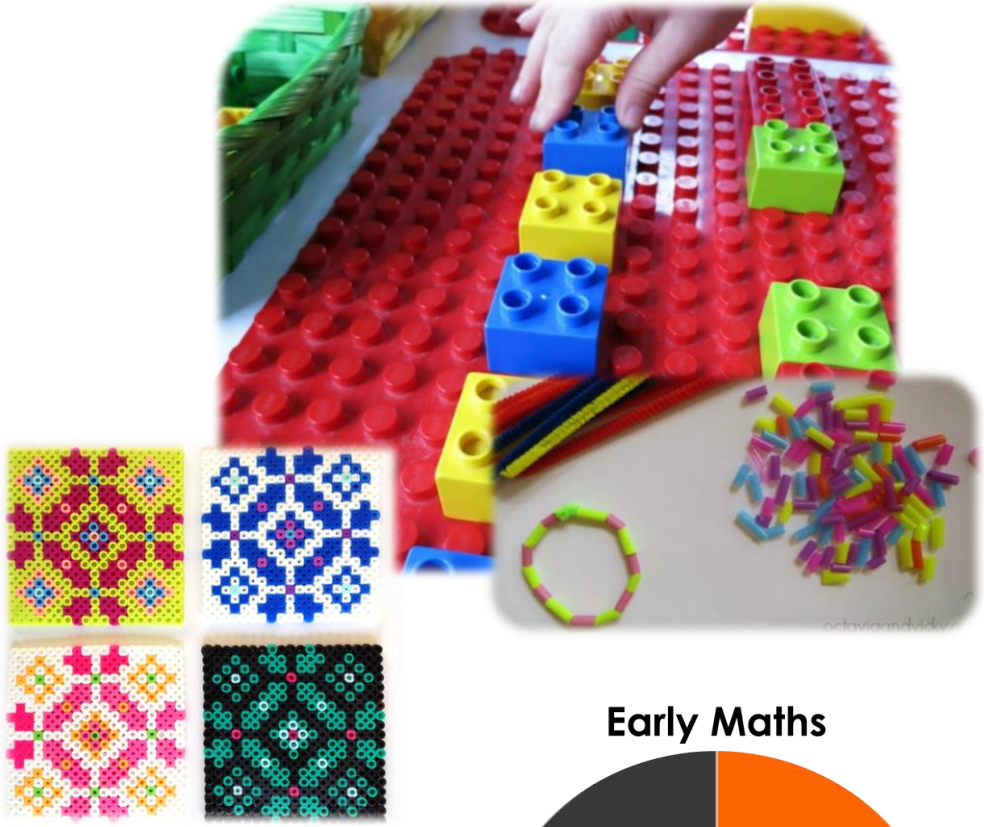
Patterning

1. Pattern Noticer



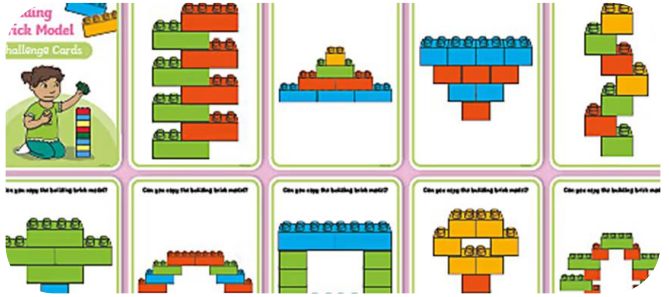
2. Pattern Recognizer

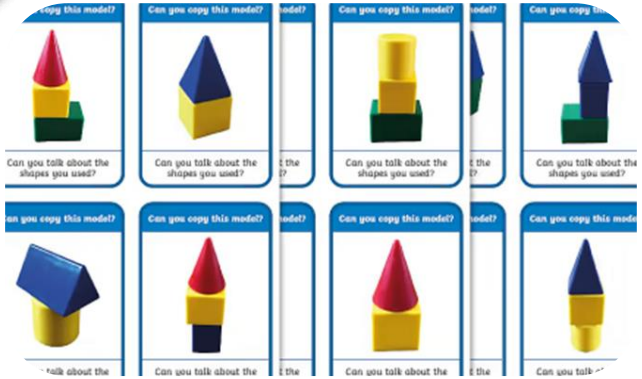
3. Pattern Creator



Early Maths

Spatial Awareness





Early Maths

Subitising

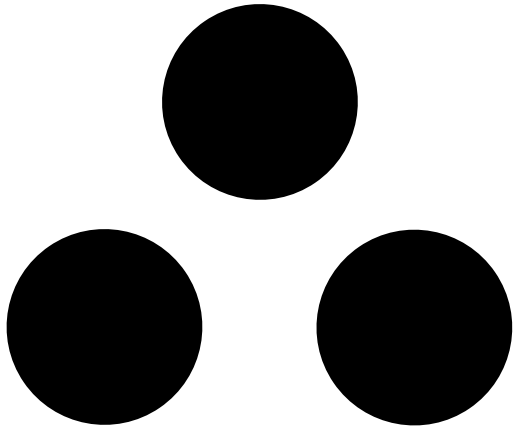
What do you notice?

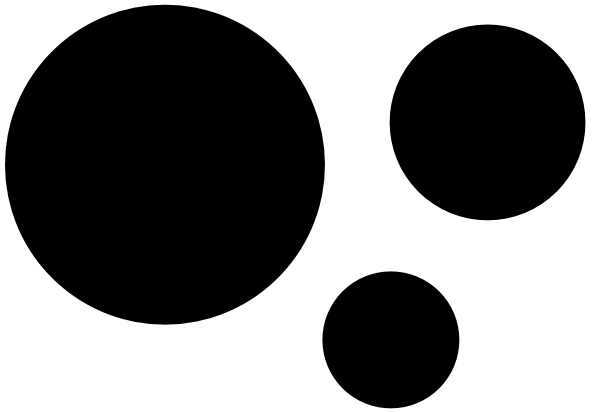
What do you see?

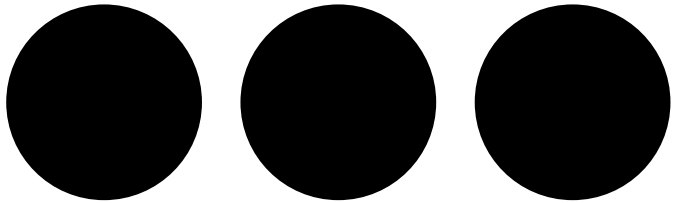
Yes, electronic devices have benefits – and we all use them with our children – but give chances for dice/board games too (so many benefits)

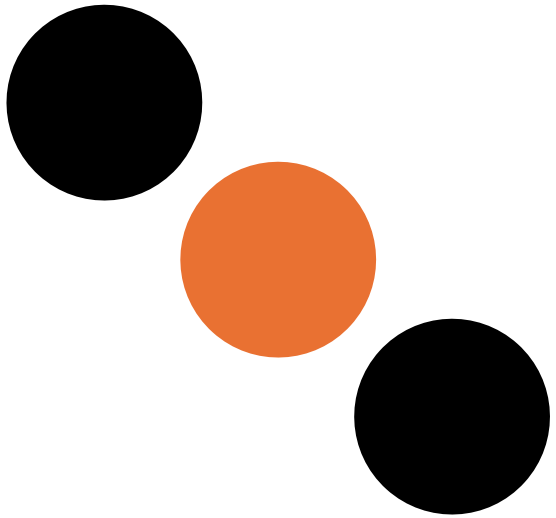
The more board games the better!

Subitising

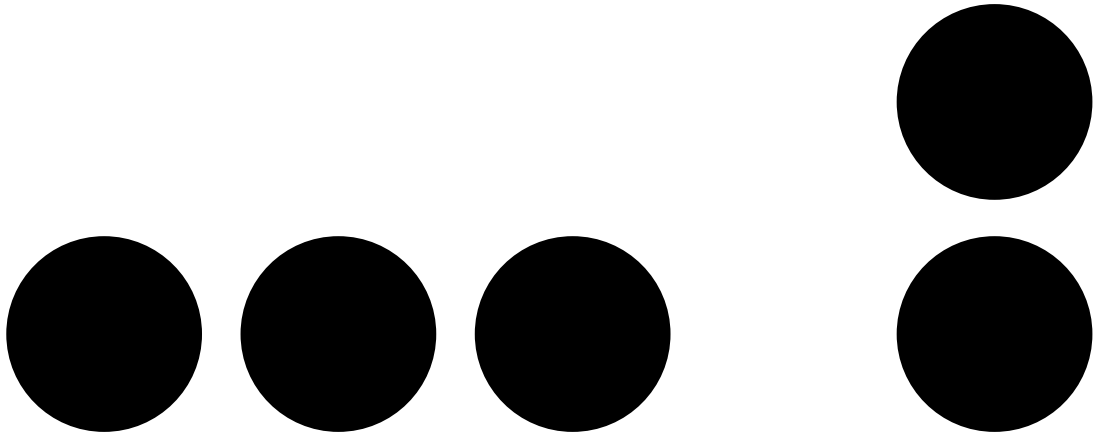


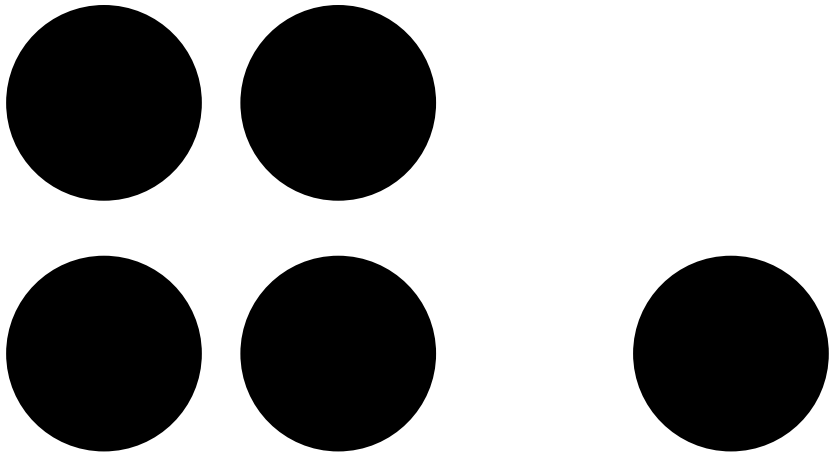


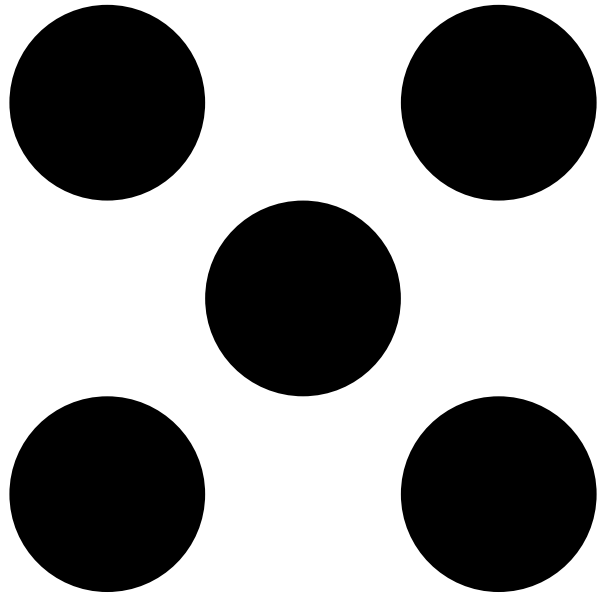




Subitising







Counting

Early Number

- Subitising
- Counting
- Composition to 10

Stable order principle
numbers in order

One-to-one correspondence
matching a quantity to the number name/digit

Cardinality
last number via the two above is the amount

Abstraction
anything can be counted

Order Irrelevance
The order items are counted in does not affect the total (e.g. left to right, scattered)

Count an amount from a larger group – not just count how many!

Count 5 buttons when there are only 5 is very different to count 5 from the above; this helps lay down the idea of barriers in the counting system like 10 for place value or 60 for minutes. **It is so important!**

Composition 10

Early Number

- Subitising
- Counting
- Composition to 10

1, 2, 3, 4, 5, 6, 7, 8, 9, 10…

7

It is easy to think a child knows 7 because they can count to it and write it, however…

They understand it, if they understand its composition.

3 and 4

6 and 1

2 and 5

They understand this best through physical resources…

Composition 10

What numbers are inside 7?

Drop yellow double-sided counters.

See what two parts are made.

Could be with buttons, toys.

Family.

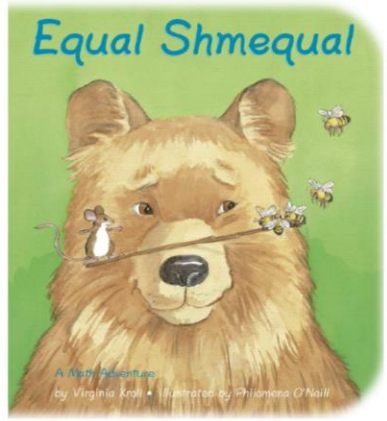
*A family of **four**.*

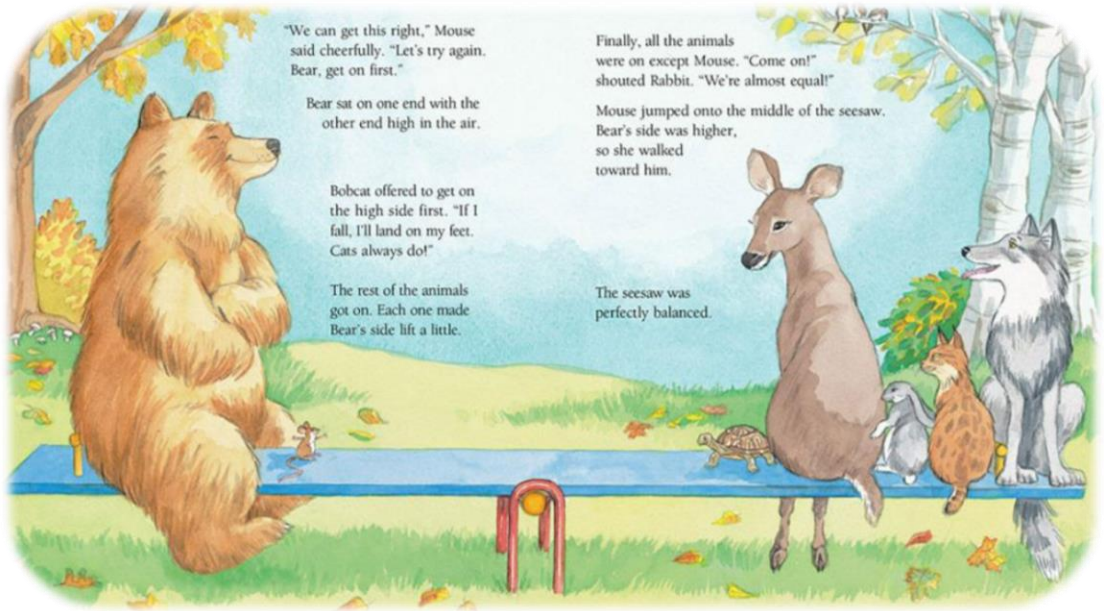
Some are in the house and some outside.

Three inside and one outside. Three and one a family of four.

And of course… maths through stories

In this story, various woodland creatures use tug-of-war and a seesaw to explore the idea of equality and balance by attempting to make equal teams. The animals create different combinations of teams to compete against the large Bear by investigating the concept of mass.





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Maths Story List

Number
Number Recognition
Filthy Franny and the four faery fleas
One
One Thing
Pink Tiana cookies for three
Sidney the Silly who only eats six
The twins two by two
Two
Two is for twins
One to one correspondence
Abu Ali counts his donkeys
Count off, squeak scouts
Crash boom
Five silly fisherman
Seaweed soup
The right place for Albert
Counting forwards and backwards from 10
5 little ducks
10 easter egg hunters
10 fat turkeys
10 trick or treaters
A dozen ducklings lost and found
Monster Math
Mouse count
On the launch pad
One more sheep
One wolf howls
Counting forwards and backwards from 100
Emma's big counting
100 days of cool
100 hungry monkeys
Skip Counting
Arctic Fives Arrive
Ants at the picnic
Bunches of buttons
Counting sheep
Eggs and legs
Eric the red
Lots of lady bugs
One hundred hungry ants
Plenty of petals
Tail feather fun
Just add fun
Large Numbers
Cuthbert the croc
How big is a million

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Maths Nursery Rhymes: EYFS

Pattern
In and Out the Dusty Bluebells
Tongue twister patterns such as Red Lorry, Yellow Lorry
Clap Your Hands and Wiggle Your Fingers
Pretty patterns

Numbers 1, 2, 3
Clap Your Hands and Wiggle Your Fingers
When I Was One, I Banged My Thumb
Hickory Dickory Dock
One Elephant Went Out to Play
Three Little Speckled Frogs
Three Little Ducks
The mini-beasts came in two-by-two
One potato, two potatoes

Numbers 4 & 5
1, 2, 3, 4, 5, Once I Caught a Fish Alive
One Man Went to Mow
Five Currant Buns
Five Little Men in a Flying Saucer
Five Little Speckled Frogs
Five Little Teddy Bears
Alice the Camel

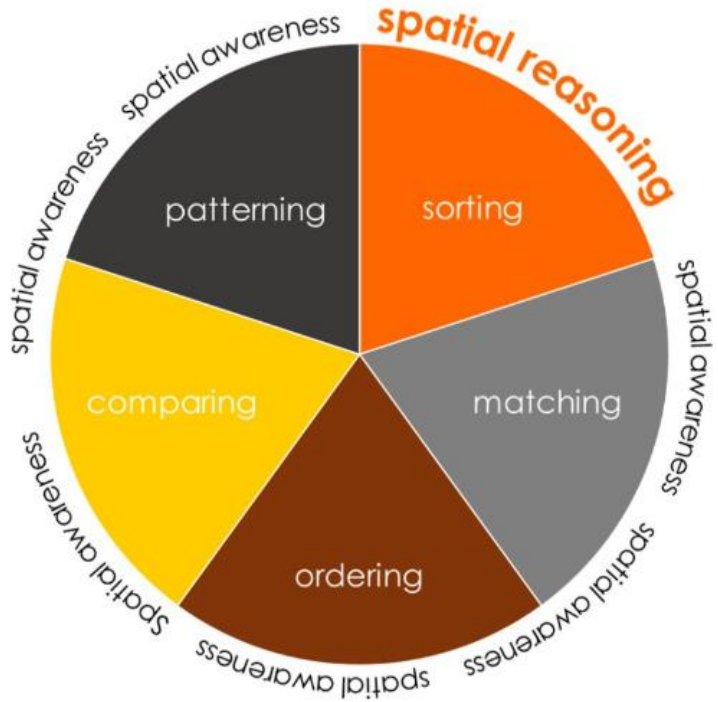
Numbers to 10
Ten Sleepy Fingers
Ten Fat Sausages
Ten Green Bottles
Ten In A Bed

Addition & Subtraction
How many on the bus
Pop goes the balloon
The baker man
This is the way we take away

Geometry
My Hat, It Has Three Corners
3D Shapes (Twinkl)
2D Shapes (Twinkl)
Pretty Patterns

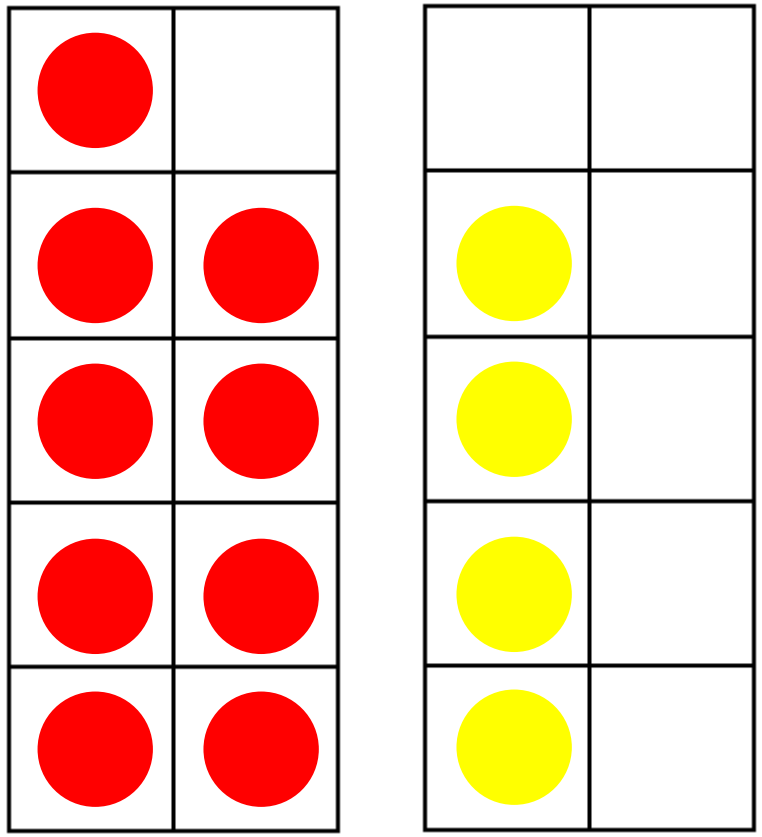
Measures
This Is the Way We Brush Our Teeth
Big Fish Little Fish cardboard Box

Girls and construction?



In Key Stage 1 they need to…

9 + 4 =



Posting
Fine motor
Comparing
Subitising
composition
Counting
Pattern
Fine motor

In Key Stage 2 they need to…

2309 + 1273

0.9 + 0.4

34.9 + 21.4

In the bath

(or water play with a bowl, pool or sink)

comparing capacities

Would you like this big jug or this small jug?

comparing capacities

Let's pour all of the water from the yellow pot into this blue pot, what do you think might happen?

capacity

Let's see if one jug full will fill all these cups…

volume

Let's half-fill these ones so we can both have the same amount of 'drink'.

website

Watch your child playing • See what they enjoy doing • Join in and use these ideas when they seem ready

Putting away the shopping

EARLY CHILDHOOD MATHS GROUP

size

This is a big potato!

counting

1, 2, 3, 4.
That's 4 cans of beans. Did we buy 4? Is that all of them?

weight

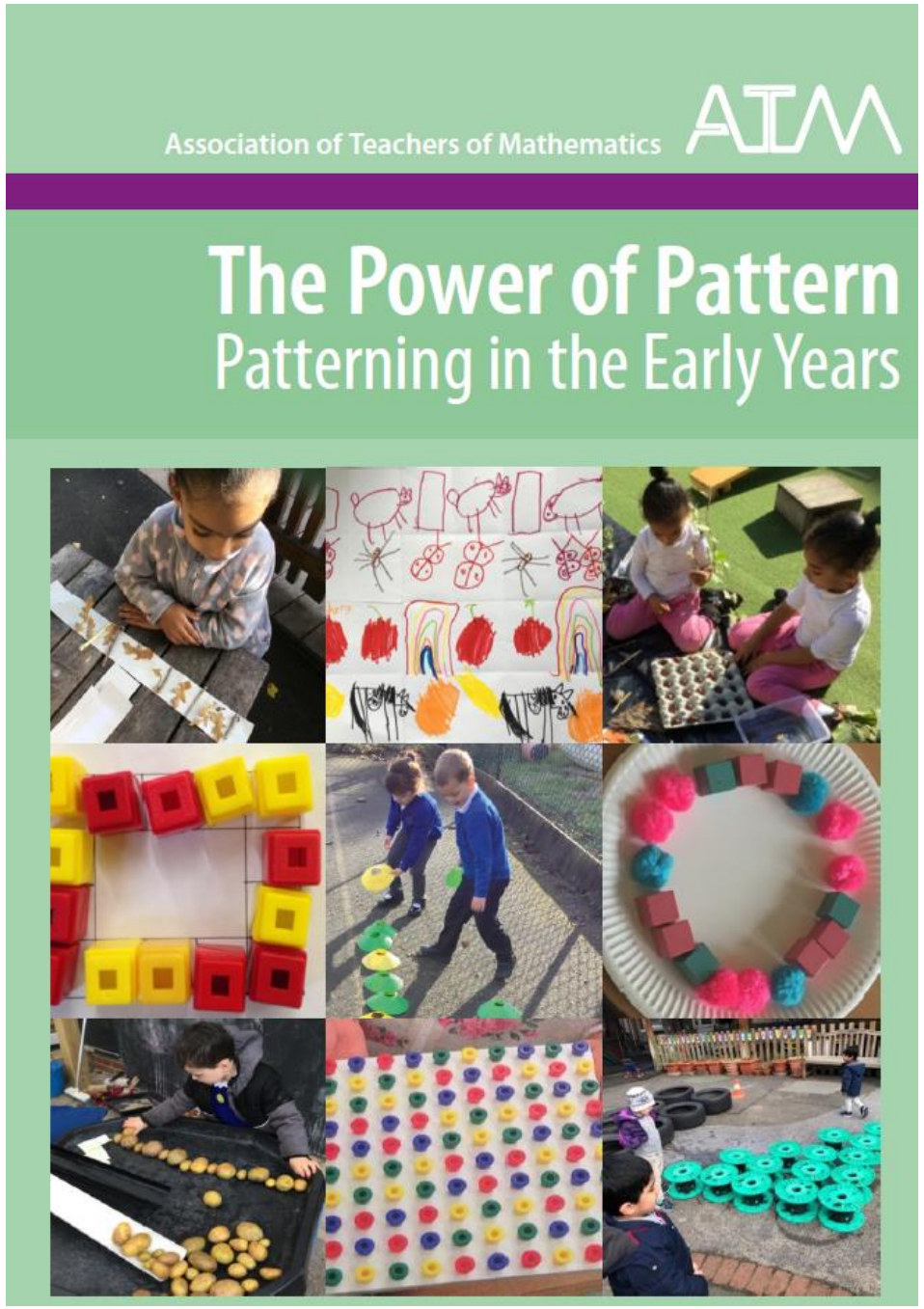
This box is heavy – can you lift it okay?

position

Put the yogurt next to / on top of / in front of / behind the butter.

website

Watch your child playing • See what they enjoy doing • Join in and use these ideas when they seem ready

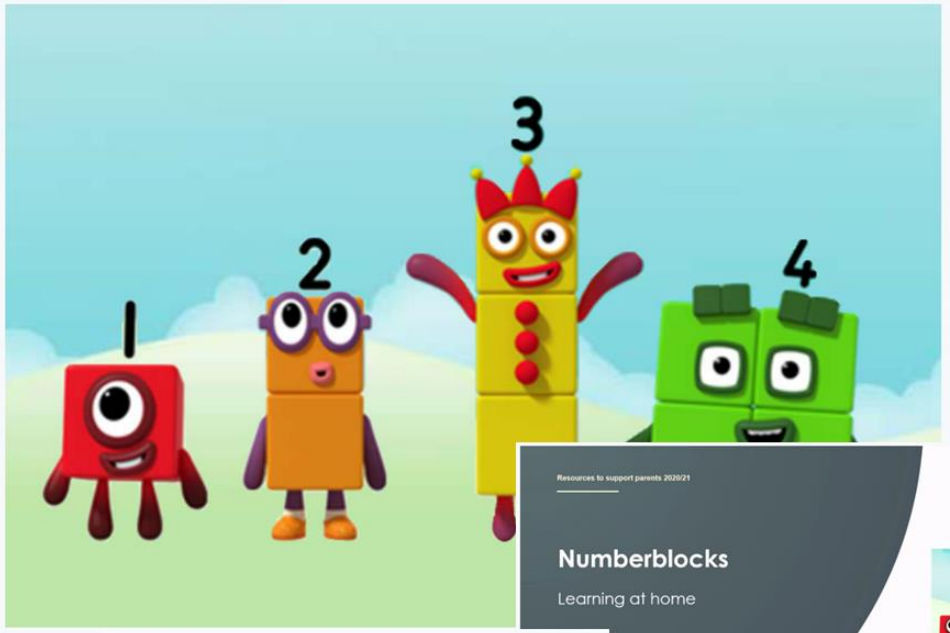


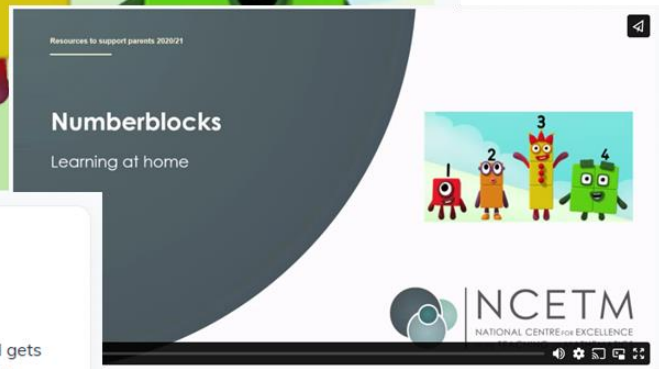
Numberblocks at home

Resources to accompany the CBeebies Numberblocks series, designed for parents to use at home with children

Early Years

Early Years Materials





Series 1, Episode 7: "Five"

Five arrives to get the band together – and gets the party started – with a big high five!

https://www.ncetm.org.uk/classroom-resources/ey-numberblocks-at-home/

Lots of chances for these activities makes a huge difference to maths success…

Enjoy talking about them ☺

It will be the most valuable maths your child EVER gets!