



BISAK المدرسة البريطانية العالمية بالخبر
British International School Al Khobar

EYFS Mathematics Workshop

November 2018



- Understanding the maths approach in EYFS
- What are the expectations in EYFS?
- How to help at home



Maths involves providing children with opportunities to develop and improve their skills in counting, understanding and using numbers, calculating simple addition and subtraction problems; and to describe shapes, spaces and measures.

Statutory Framework for the EYFS

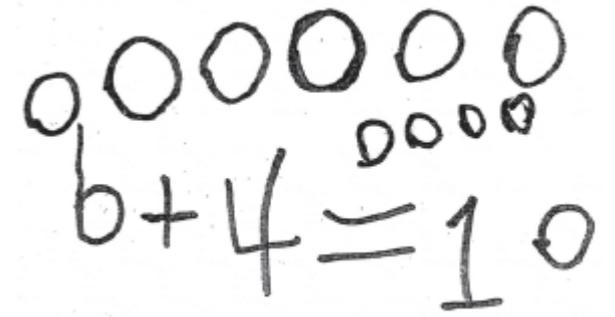


Mathematics in EYFS consists of:

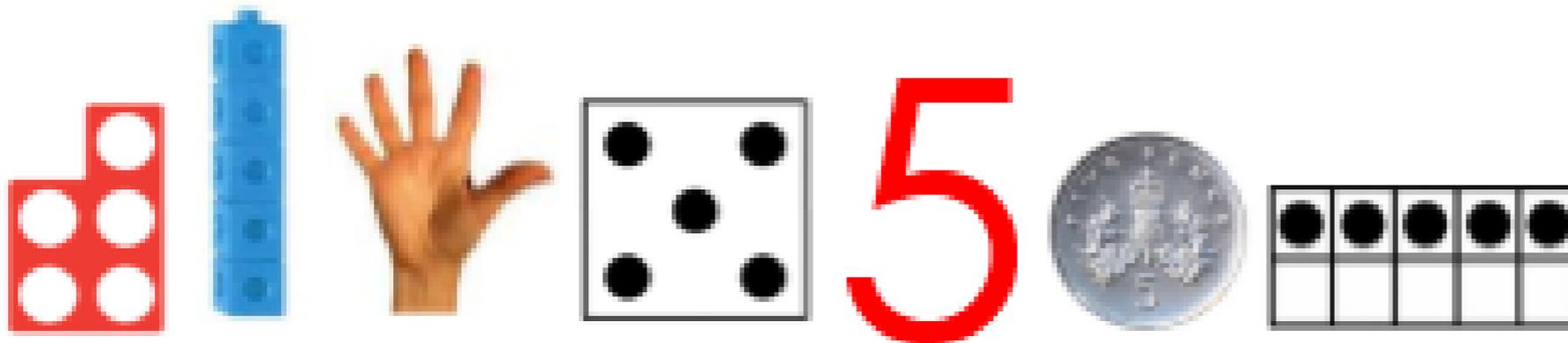
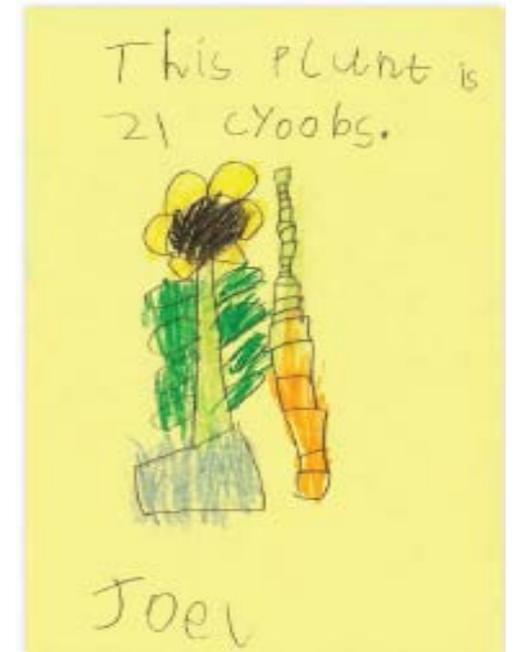
- Numbers
- Shape, Space and Measure (SSM)

Number

- Reciting numbers in order
- Counting
- Counting reliably – 1:1 correspondence
- Recognising numerals
- Ordering numerals in order
- Knowing one more or one less than a number
- Recording through pictures/numerals
- Adding/Subtraction
- Solving simple number problems



$$6 + 4 = 10$$





- Adding together two groups of objects to find a total.
- Using single digit numbers e.g. $6+4=10$
- Taking away from a group of objects

Solve practical problems

Doubling Two teddies have come for lunch.



Two more arrive.

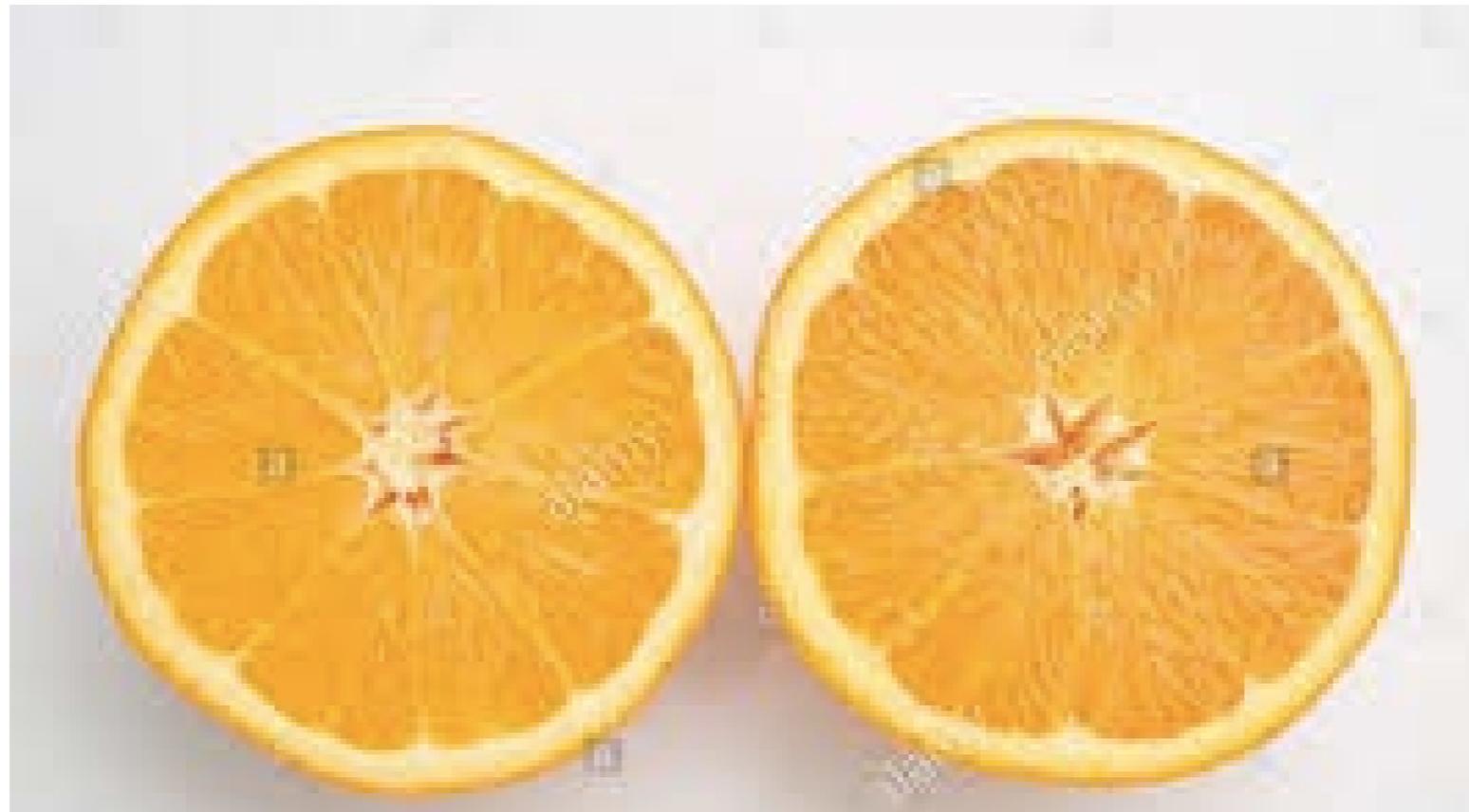
How many do we have now?

How could we record this?

Halving:

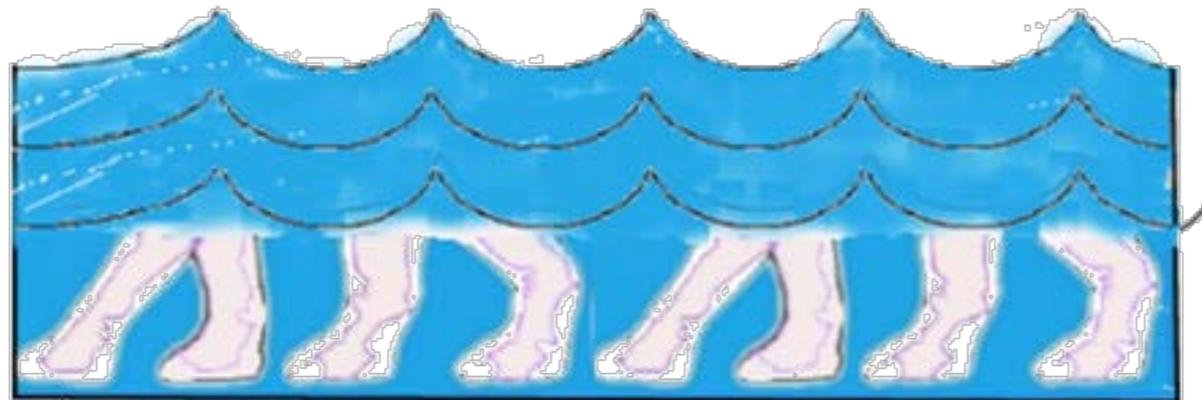
Sharing a group of objects equally between two children

Food in a café, cutting fruit for snack in half



Example of a number problem

- You are swimming under water in a lake and you see dinosaur feet in the water. You don't want to go to the surface in case they are not friendly dinosaurs. Below is a picture of what you see.



- How many dinosaurs are standing in the lake? Explain how you know. Use words and mathematical language to explain your solution.

At the beginning of Nursery (Development Matters: 30 – 50 months)

Uses some number names and number language spontaneously.

- Uses some number names accurately in play.
- Recites numbers in order to 10.
- Knows that numbers identify how many objects are in a set.
- Beginning to represent numbers using fingers, marks on paper or pictures.
- Sometimes matches numeral and quantity correctly.
- Shows curiosity about numbers by offering comments or asking questions.
- Compares two groups of objects, saying when they have the same number.
- Shows an interest in number problems.
- Separates a group of three or four objects in different ways, beginning to recognise that the total is still the same.
- Shows an interest in numerals in the environment.
- Shows an interest in representing numbers.
- Realises not only objects, but anything can be counted, including steps, claps or jumps.



During the Nursery year and part of the Reception year (Development Matters: 40 – 60 months)

- Recognise some numerals of personal significance.
- Recognises numerals 1 to 5.
- Counts up to three or four objects by saying one number name for each item.
- Counts actions or objects which cannot be moved.
- Counts objects to 10, and beginning to count beyond 10.
- Counts out up to six objects from a larger group.
- Selects the correct numeral to represent 1 to 5, then 1 to 10 objects.
- Counts an irregular arrangement of up to ten objects.
- Estimates how many objects they can see and checks by counting them.
- Uses the language of 'more' and 'fewer' to compare two sets of objects.
- Finds the total number of items in two groups by counting all of them.
- Says the number that is one more than a given number.
- Finds one more or one less from a group of up to five objects, then ten objects.
- In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting.
- Records, using marks that they can interpret and explain.
- Begins to identify own mathematical problems based on own interests and fascinations



Expectations at the end of the Reception year:

Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number.

Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.

They solve problems, including doubling, halving and sharing.

Exceeding:

Children estimate a number of objects and check quantities by counting up to 20.

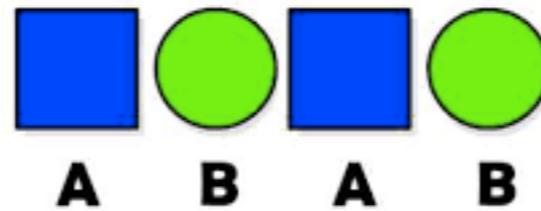
They solve practical problems that involve combining groups of 2, 5 or 10, or sharing into equal groups.

Shape

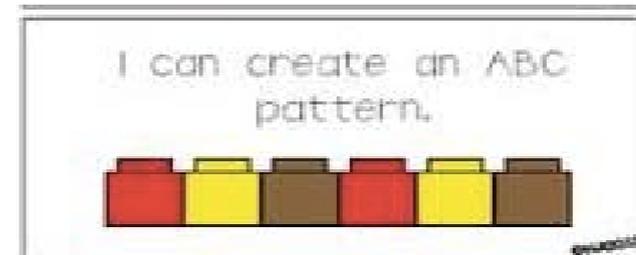
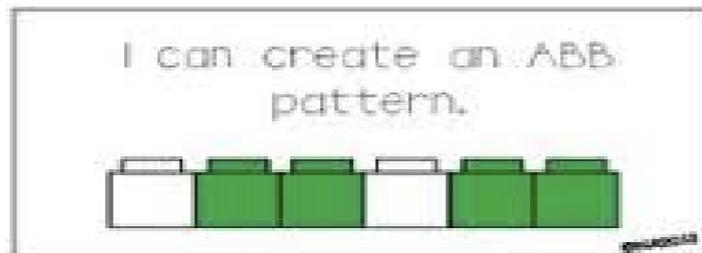
Shapes in the environment: describing shapes
e.g. round, flat.

Naming 2D and 3D shapes.

Describing their position in relation to objects e.g.
behind, next to etc.



Describe and create patterns



Uses the mathematical vocabulary of size, weight, capacity,
distance, time and money.



At the beginning of Nursery (Development Matters: 30 – 50 months)

- Shows an interest in shape and space by playing with shapes or making arrangements with objects.
- Shows awareness of similarities of shapes in the environment.
- Uses positional language.
- Shows interest in shape by sustained construction activity or by talking about shapes or arrangements.
- Shows interest in shapes in the environment.
- Uses shapes appropriately for tasks.
- Beginning to talk about the shapes of everyday objects, e.g. ‘round’
- and ‘tall’.



During the Nursery year and part of the Reception year (Development Matters: 40 – 60 months)

- Beginning to use mathematical names for ‘solid’ 3D shapes and ‘flat’ 2D shapes, and mathematical terms to describe shapes.
- Selects a particular named shape.
- Can describe their relative position such as ‘behind’ or ‘next to’.
- Orders two or three items by length or height.
- Orders two items by weight or capacity.
- Uses familiar objects and common shapes to create and recreate patterns and build models.
- Uses everyday language related to time.
- Beginning to use everyday language related to money.
- Orders and sequences familiar events.
- Measures short periods of time in simple ways.



Expectations at the end of the Reception year:

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems.

They recognise, create and describe patterns.

They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

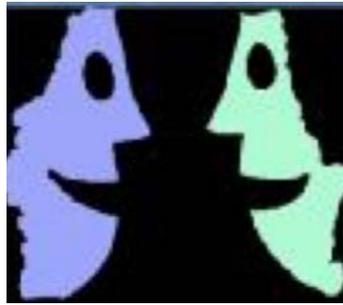
Exceeding:

Children estimate, measure, weigh and compare and order objects and talk about properties, position and time.



$7 + 3 = 10$
 $2 \times 10 = 20$

Symbols



Language

- Plus
- Sum
- Total
- Increase

Mathematical image/picture

Context



Adapted from Derek Haylock and Anne Cockburn 2003



What does mathematics look like in the classroom?

- Everywhere
- Exposure to numbers
- Environment
- Problem solving
- Child-initiated (balanced with adult support)
- Interactive
- Cross-curricular
- Role-play

Maths from stories

Weights and measurement

Making porridge

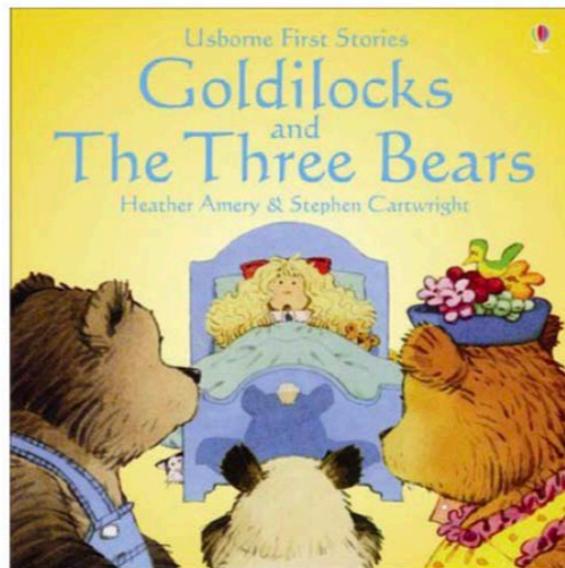
Which bowl will hold the most porridge? Explain how you know.

Shape

Make a house for the bears
What shapes could you use?

Count the shapes

Describe the shapes



Problem Solving and investigations

Share the basket of food between the bears

Each of the bear needs one pair of wellies.

How many boots for 1 bear? 2 bears? 3 bears?

Size ordering and comparison

Can you order the bears by size? Explain how you've ordered them. Is there another way you could order them?

What else could you order and compare?



Focus on vocabulary and language:

- Uses the language of 'more' and 'fewer' to compare two sets of objects
- Finds the total number of items in two groups by counting all of them
- In practical activities and discussion, beginning to use the vocabulary involved in adding and subtracting (add, more)
- Records, using marks that they can interpret and explain
- Measurement (longer, shorter, bigger – comparative language)
- Positional language (between, under, forward, nearby)



How you can help at home...

- Count anything they are interested in counting e.g. clothes as they come out of the washing machine, toys, kitchen utensils, collections - cars and toys
- Count a set of objects
- Sing counting songs that allow both forward and backwards counting e.g. Five Little Ducks, 10 in the bed, The Ants Go Marching.

(Use actions when singing these songs.)



- Use counting in purposeful ways like Hide and Seek and board games
- Play 'I spy'
- Go on a shape or number hunt

Top Tip

When learning to count children like to touch, point to and move objects as they say the number aloud so encourage them to do this and provide lots of opportunities for this.

Cooking

Cooking is a fun and enjoyable way to incorporate maths into every day life and it allows for opportunities to use a range of different skills.

- Counting e.g. how many spoonfuls do we need?
- Recognising numerals when reading a recipe
- Understanding more/less e.g. How many more tomatoes do we need?
- Understanding capacity
- Understanding weight through using scales for measuring
- Reading the numbers on the equipment used
- Time e.g. It's 1pm, the muffins will be finished at 1.30pm. That's 30 minutes.

I am a Preschooler. I am not
made to sit still. Instead teach
me by ...

Giving me sheets and clothespins to build with.

Scavenger hunts. Hiding blocks in a box and
having me count them with only touch.

Making a hopscotch. Counting while you
push me on the swing. Singing to me. Reading
to me. Making up stories and songs and
rhymes. Being silly. Playing simple card games
with me. Drawing in the dirt with sticks with
me. Putting different things in tubs of water
for me to explore. Freezing those tubs of water
for me to explore differently. Giving me blocks
to build with. Giving me beads and

pipecleaners. Baking with me. Most of all, by
giving me unstructured time