



# Parent workshop - Maths

## Welcome



Quality First Education Trust

# The aim of the evening

- To outline the national expectations for maths in Early Years
- To share how we teach maths in Early Years at Belleville
- To offer strategies you may want to use when supporting your children at home





## Relentless drive for improvement, excellence and equality

### Aims

**Our aim is that all children and adults:**

- 1) Are safe
- 2) Are excellent learners
- 3) Have excellent social and emotional skills
- 4) Achieve and succeed

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WHATEVER IT TAKES

### Mantra

**For all children and adults:**

Know where we are going

Recruit retain and develop excellent people

Ensure we know what to do

Ensure we know why we are doing the task

Ensure we have excellent skills to do the task

Ensure we have excellent resources to do the task

Ensure we do the task with excellence

Monitor, evaluate and improve

# What we have to do!

## Statutory framework for the **early years foundation stage (EYFS)**

The EYFS framework sets the statutory standards for the development, learning and care of children from birth to age 5.

It **promotes teaching and learning to ensure children's 'school readiness'** and gives children the broad range of knowledge and skills that provide the right foundation for good future progress through school and life.



# What we have to do!

## Statutory framework for the **early years foundation stage (EYFS)**

### Key Principles:

- every child is a **unique child**, who is constantly learning and can be resilient, capable, confident and self-assured;
- children learn to be strong and independent through **positive relationships**;
- children learn and develop well in **enabling environments**, in which their experiences respond to their individual needs and there is a strong partnership between practitioners and parents and/or carers; and
- **children develop and learn in different ways and at different rates.** The framework covers the education and care of all children in early years provision, including children with special educational needs and disabilities.



# Specific areas of learning and their associated early learning goals (ELGs)

## Mathematics

This involves providing children with opportunities to:

- practise and improve their skills in counting numbers, calculating simple addition and subtraction problems
- describe shapes, spaces, and measures



## **ELG 11 Numbers:**

- 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 2 single-digit numbers and count on or back to find the answer
- They solve problems, including doubling, halving and sharing



## **ELG 12 Shape, space and measures:**

- 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



# Prime areas of learning and their associated ELGs

## Communication and language development

This involves giving children opportunities to speak and listen in a range of situations and to develop their confidence and skills in expressing themselves.

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## ELG 01 Listening and attention:

- Children listen attentively in a range of situations
- They listen to stories, accurately anticipating key events and respond to what they hear with relevant comments, questions or actions
- They give their attention to what others say and respond appropriately, while engaged in another activity

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## ELG 02 Understanding:

- Children follow instructions involving several ideas or actions
- They answer 'how' and 'why' questions about their experiences and in response to stories or events

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## ELG 03 Speaking:

- Children express themselves effectively, showing awareness of listeners' needs
- They use past, present and future forms accurately when talking about events that have happened or are to happen in the future
- They develop their own narratives and explanations by connecting ideas or events

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## ELG 04 Moving and handling:

- Children show good control and co-ordination in large and small movements
- They move confidently in a range of ways, safely negotiating space
- They handle equipment and tools effectively, including pencils for writing

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# ELG description of 'exceeding'

- **Numbers:** 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, space and measures:** Children estimate, measure, weigh and compare and order objects and talk about properties, position and time.



# What does that look like in our classrooms?

- Lessons are based around a 'real life' problem
- Lots of discussion with talk partners using maths language
- Shared explanations
- High level questioning and expectation of high level explanations
- Concrete-pictorial-abstract approach
- Resource-rich + real life!

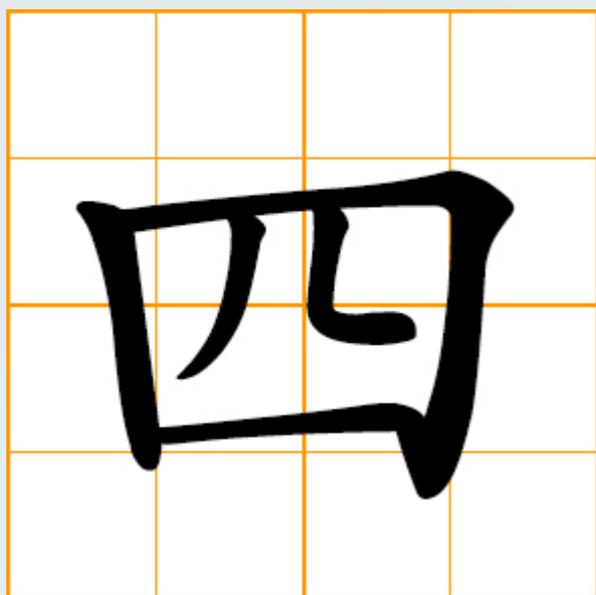


# Building strong foundations..

In Reception and Nursery, we aim to teach so that children have a deep understanding of number.

## Representing Numbers

We want to develop children's number sense so that they understand the number rather than just recognising the numeral. We use different objects and pictures to show that numbers can be represented in lots of ways, not just by the numeral.



# What we use in our maths lessons to develop deep foundations!

- **Concrete – The DOING stage**
- **Pictorial/Representational – The SEEING stage**
- **Abstract – The SYMBOLIC Stage**



# Concrete – The DOING stage

A child is first introduced to an idea or a skill by acting it out with real objects.

This is a 'hands on' component using real objects and it is the foundation for conceptual understanding.



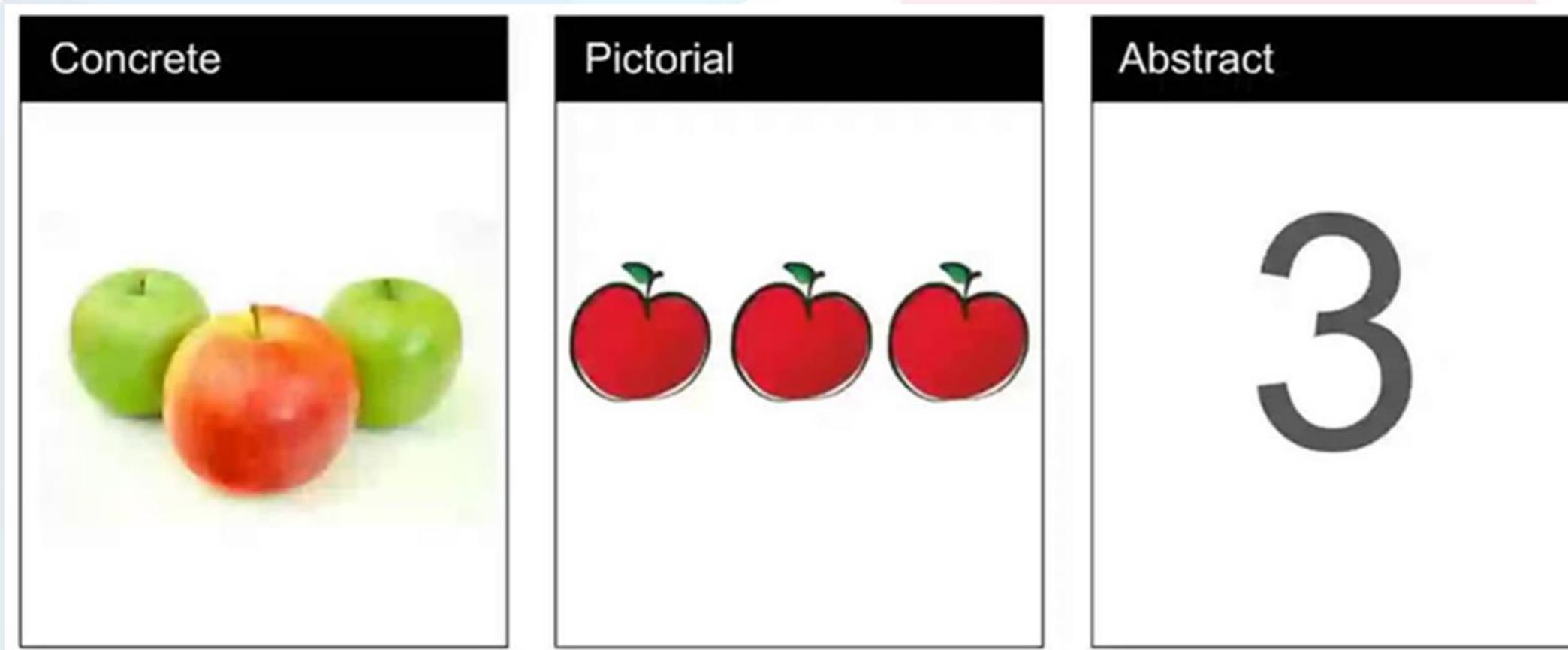
# Pictorial – The SEEING stage

A child has sufficiently understood the hands-on experiences, has performed and can now relate them to representations, such as a diagram or picture of the problem.



# Abstract – The SYMBOLIC Stage

A child is now capable of representing problems by using mathematical notation, for example:



# Reasoning

Reasoning helps children to be able to explain their thinking, making it easier for them to understand what is *actually* happening in the maths they are doing.

Reasoning in Reception and Nursery may include:

- spotting incorrect maths eg 1, 2, 3, 4, 6, 5, 7, 8, 9, 10
- identifying mistakes in patterns
- true and false statements eg adding one to a number always makes it smaller
- explaining how we know something, how we worked it out and where others may go wrong



# Problem Solving

Problem solving allows children to use their maths skills in different contexts and in situations that are new or unfamiliar to them. It allows them to seek solutions, spot patterns, be creative and think about the most efficient strategies.

In Reception, problem solving might include:

- spotting, following and creating patterns
- estimating small amounts of objects
- predicting how many times they can do something in a minute
- sharing objects between different groups
- finding **different ways** to partition numbers (number bonds)

For example, 5 could be  $3+2$ ,  $4+1$ ,  $5+0$



# **Building strong foundations together**

What can you do at home?



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# Building strong foundations together

- Count EVERYTHING - cars going past a window, steps up the stairs
- Ask children to say how many without counting (more than/less than 5) – dominoes, dice, ladybirds
- Ask children to set the table with enough knives, forks and plates for everyone – how many more, one less than...is?
- Spot numbers/digits in the environment – on phones, buses, oven, clocks, vehicle number plates, doors, bills.



# Building strong foundations together

- Ask children to think of their own ideas/representations for numbers that can be easily seen in real-life situations
- one head, **two hands**, three wheels on a tricycle, four wheels on a car, five colours of sweet in a bag of Skittles, six sides on a dice, seven dwarves, five/ten toes



# Building strong foundations together

## Tips for counting:

When counting, children need to understand...

- That we need to say one number for each object counted (one-to-one correspondence).
- That the final number we say is how many objects there are altogether. Some children continue to count after they have reached the final object as they don't connect the numbers they are saying to the objects in front of them.
- That we can count **objects** in any order and the total stays the same. (but random counting is not efficient)



# Building strong foundations together

- Deliberately make mistakes. Children need to understand mistakes are normal and everyone makes them.
- Get mixed up when counting, muddle two numbers when ordering them.
- And don't ever say you're 'rubbish at maths'!

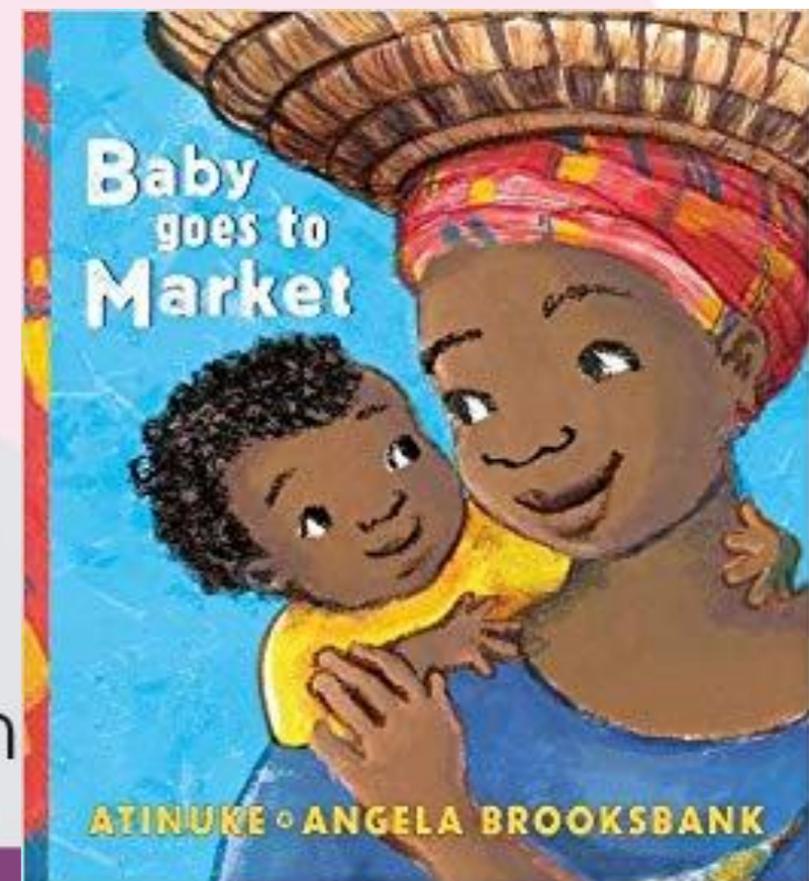


# Building strong foundations together

- Play games that incorporate maths – hopscotch, snakes and ladders, or, even better, let children make up their own games and decide how to score points.
- Read books with maths concepts - The Very Hungry Caterpillar, One is a snail, ten is a crab, Ten Little Pirates, Baby ,Goes To Market, What's the time, Mr Wolf?
- Draw attention to more and less.
- Share the day of the week, the date, the seasons and the related month



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# Building strong foundations together

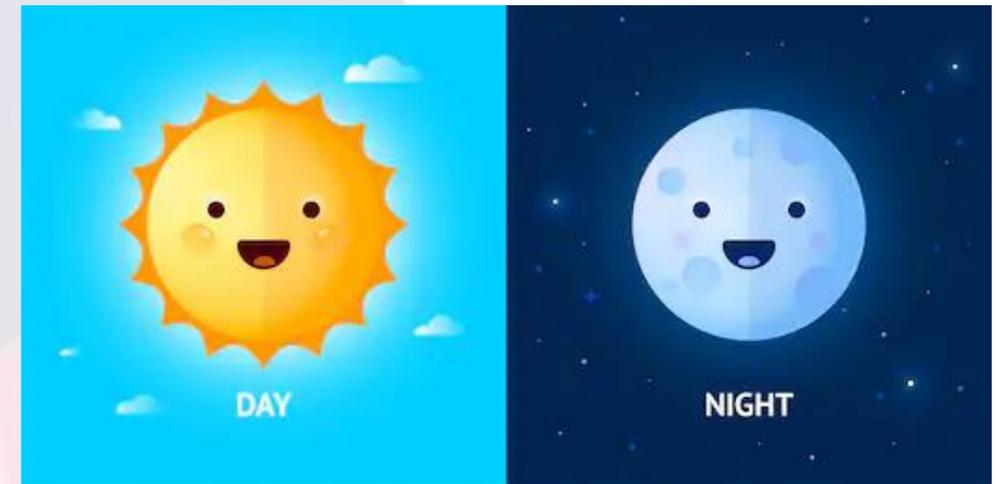
## Shape, space and measure

- Find them in their environment and every day experiences
- Objects around the home – be careful not to confuse 2-d and 3-d shape names
- Play Eye-spy
- Describe the shape (Guess My Shape)
- Make shapes – play dough, pipe cleaners, cut around shapes



# Building strong foundations together

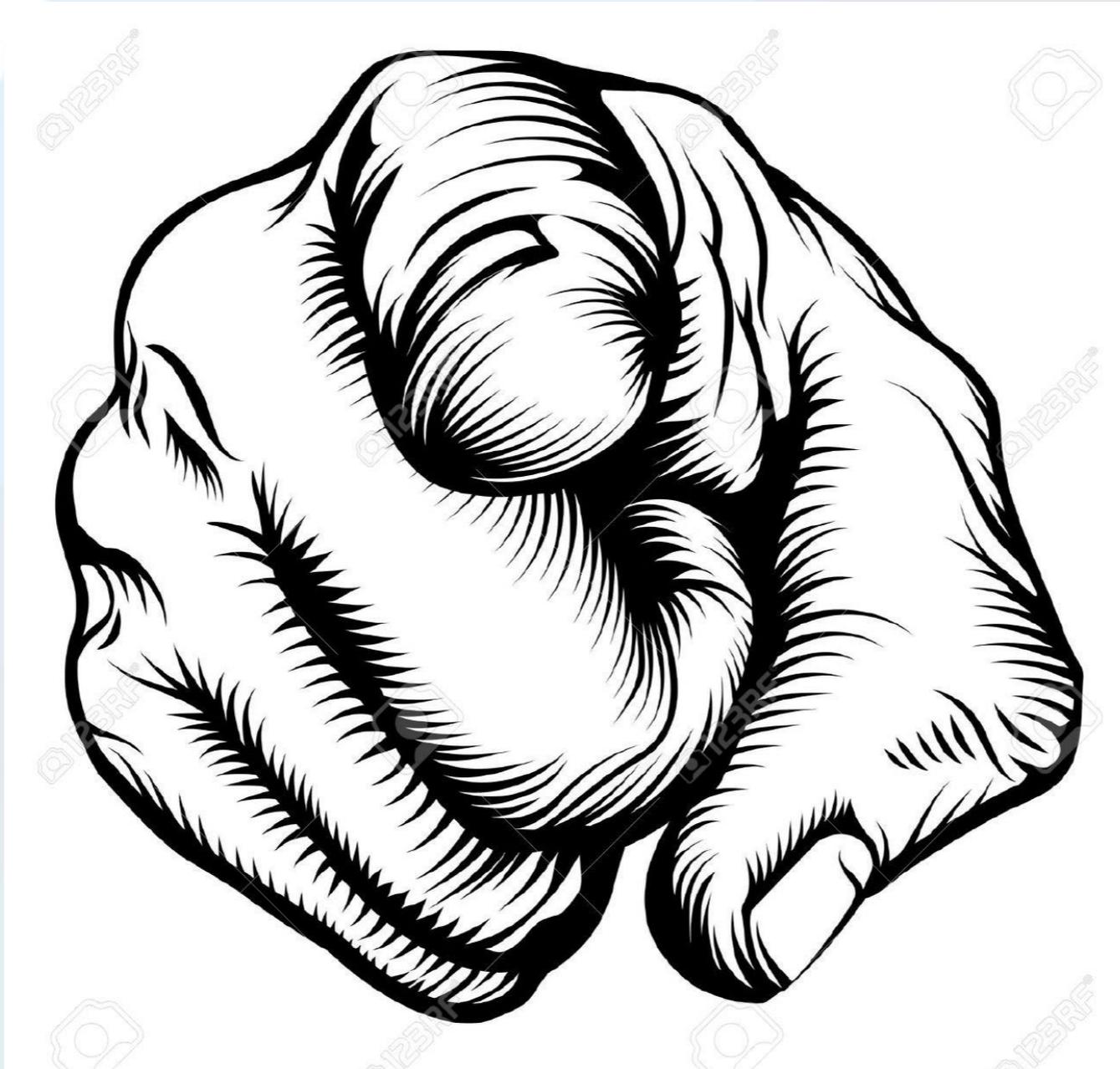
Wake up in the morning  
Bedtime at night



Autumn  
Winter  
Spring  
Summer



# Your turn!!



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# Your on-going help?

- Ask your child to show you how they solve the problem. If they get stuck, don't rush them. Praise effort and reassure them that they'll get it with practice.
- Find opportunities to solve maths problems everywhere. Take real-life situations and look for patterns, connections and things that can be matched. Play games that involve numbers. Show them that maths is fun and isn't only reserved for the classroom.
- Never say you are rubbish at maths!

