



The Big Idea...

At St Luke's School, pupils all learn together.

Our Maths is centred on the Singapore approach to teaching maths. It is based on research and evidence and it is a highly effective approach to teaching maths and understanding maths.

In line with the National Curriculum, our lessons focus on a mastery approach that assumes all pupils, with varying levels of support, are capable of developing a deep and secure knowledge and understanding at each stage of their learning.

This mastery approach focuses on a deep understanding of number – building number sense through part-whole thinking, understanding place-value and breaking numbers down into parts.

Problem solving lies at the heart of this methodology and pupils are taught how to draw models to represent and solve word problems. Through open questions and problem solving, pupils learn to think mathematically and more independently – and to love maths!

When I was at school...

Why have we changed the way we teach?



In education systems in the UK, pre-school children are often introduced to maths and to number symbols at the same time. But number symbols like 5 or 10 as well as symbols like + or - are often difficult for children to deeply understand. If they are introduced too quickly, there is a risk that young children will struggle and from then on never fully recover their confidence in maths.

Failing repeated tests at school only deepens children's anxiety and they soon learn that maths is not for them - when it is for everyone.

The Singapore method follows a **concrete, pictorial, abstract** approach that is key to establishing and embedding a deeper understanding.

Did you know...?

Real learning involves making lots of MISTAKES! Try to see mistakes as positive things that highlight deeper misunderstandings and create opportunities to learn even more.



What is Concrete?

Concrete is the “doing” stage, using concrete objects to model problems and to bring concepts to life by allowing children to experience and handle physical objects themselves. All new abstract concepts are learnt first with a “concrete” or physical experience.

For example, if a problem is about adding up pieces of fruit, the children might first handle actual fruit before progressing to handling counters or cubes which are used to represent the fruit.

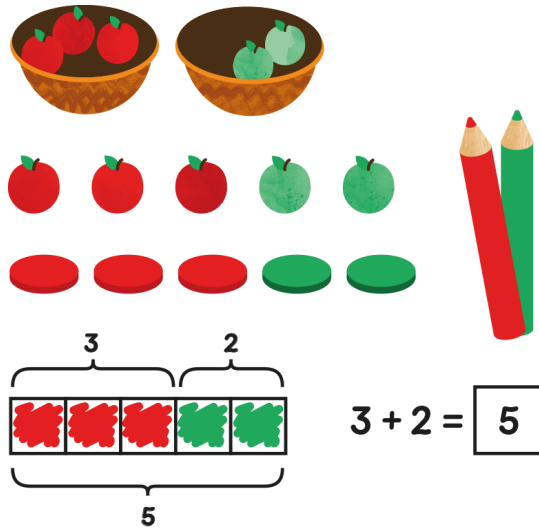


How can you help?

When you are out and about count objects: conkers, sweets, goals scored in a football match - it all helps!

What is Pictorial?

Pictorial is the “seeing” stage, using representations of the objects to model problems. This stage encourages children to make a mental connection between the physical object and abstract levels of understanding by drawing or looking at pictures, circles, diagrams or models which represent the objects in the problem.



Did you know...?

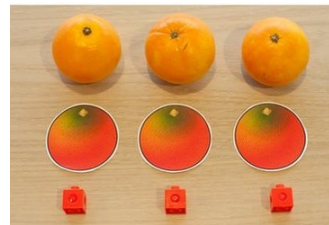
Building or drawing a model makes it easier for children to grasp concepts they traditionally find more difficult, (such as fractions) as it helps them visualise the problem and makes it more accessible.



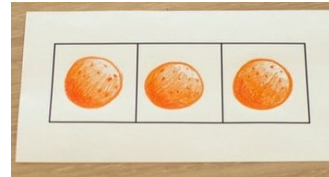
What is Abstract?

Only once a child has demonstrated that they have a solid understanding of the “concrete” and “pictorial” representations of the problem, can the teacher introduce the more “abstract” concept, such as mathematical symbols.

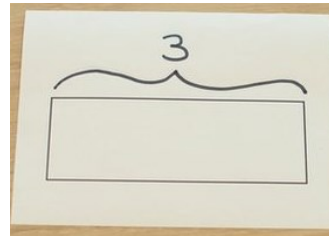
Concrete



Pictorial



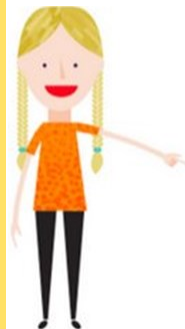
Abstract



Where can I find out more?

BBC website: bbc.co.uk/skillswise/0/24925787

mathsnoproblem.com



Maths at
St Luke's
Primary
School

