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Inspire Maths at Barncroft

The new National Curriculum has high expectations of pupils and requires learning for mastery. Children can often under perform in mathematics because they find it boring or they can't remember all the rules. The Singapore method of teaching mathematics develops pupils' mathematical ability and confidence without having to resort to memorising procedures to pass tests - making mathematics more engaging and interesting.

One of the key learning principles behind Singapore maths is the concrete-pictorial-abstract approach (CPA).

Concrete representation

A child is first introduced to an idea or a skill by acting it out with real objects. In division, for example, this might be done by separating apples into groups of red ones and green ones or by sharing 12 biscuits amongst 6 children. This is a 'hands on' component using real objects and it is the foundation for conceptual understanding.

Pictorial representation

A child has sufficiently understood the hands-on experiences performed and can now relate them to representations, such as a diagram or picture of the problem. In the case of a division exercise this could be the action of circling objects.

Abstract

A child is now capable of representing problems by using mathematical notation, for example: $12 \div 2 = 6$. This is the ultimate mode, for it "is clearly the most mysterious of the three

It's good because...

- It deepens children's understanding of maths with lots of problem solving.
- Every page in the text books has been carefully designed to deepen the children's understanding
- Everyone moves through the unit at the same time and children mostly sit in mixed ability groups
- It develops the children's mathematical vocabulary as the children must answer in full sentences
- It encourages the use of resources for all learners and follows the CPA approach – concrete, pictorial, abstract

Concrete



Pictorial



Abstract

