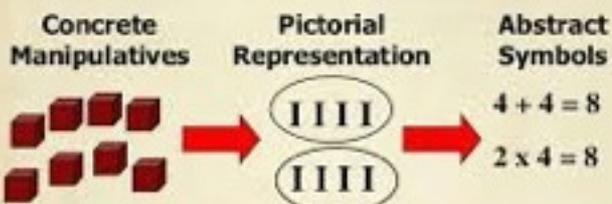


MATHS AT CHURCHTOWN

At Churchtown, we believe that In order for children to develop a deep understanding of a mathematical concept, they need to follow a concrete - pictorial - symbolic (abstract) approach.

Building Mathematical Concepts



*Significant time must be spent working with concrete materials and constructing pictorial representations in order for abstract symbol and operational understanding to occur



The **concrete** stage of representation occurs when children are first introduced to a topic. They use real objects e.g. when dividing, they may share 12 sweets between 3 children. Other concrete resources such as numicon, multilink cubes, counters, and straws can help children to make sense of a concept or problem. **This is the foundation for conceptual understanding.**

The next stage is the **pictorial** representation of a mathematical idea. When the child has understood the concept stage, they are ready to relate concepts to images. In the case of division, this could be the action of putting circles around groups of apples.



The final stage is called the **symbolic (abstract)** representation of a mathematic topic. At this stage, the child is able to use mathematical notation, for example $12 \div 3 = 4$. During any maths lesson and throughout their time at Churchtown, children will switch between these three representations.



The Mastery Approach at Churchtown

At Churchtown, we have adopted a Mastery approach to the teaching of Maths. This Mastery curriculum has been developed to ensure every child can achieve excellence in mathematics. It provides pupils with a deep understanding of the subject through a concrete, pictorial and symbolic (abstract) approach (see above). This ensures pupils fully understand what they are learning.

Key features of our Maths Mastery curriculum:

- High expectations for every child
- Fewer topics, greater depth
- Number sense and place value come first
- Research - based curriculum
- Objects and pictures always before numbers and letters
- Problem solving is central
- Calculate with confidence – understand why it works

Mastery places emphasis on the cumulative mastery of essential knowledge and skills in mathematics. It embeds a deeper understanding of maths by utilising a concrete, pictorial, symbolic approach so that pupils understand what they are doing rather than just learning to repeat routines without grasping what is happening.

Useful Maths Websites

<http://primarygamesarena.com/Subjects/Maths> A whole collection of games from elsewhere on the web that have been rated by users and sorted into suggested year groups. Lots of other subjects are available too.

<http://www.counton.org> Lots of puzzle style maths activities in one place.

<http://www.bbc.co.uk/bitesize/ks2/maths/> Useful for KS2 revision

<http://www.bbc.co.uk/schools/digger/> Useful site for KS1 and covers English and Science.

<http://mathszone.co.uk> Lots of Maths skills for years 1 to 6

<http://nrich.maths.org/frontpage> website aims at extending more able mathematicians with puzzles, problems and investigations.



TOP TIPS TO HELP YOUR CHILD

By doing some of these simple activities at home, you can help improve your child's maths skills and also their attitude towards maths. We use maths every day without even realising, maths doesn't have to be boring.

When doing the washing, think about sorting the clothes by colour or size. Children could count the number of items of clothing, count in threes or match pairs of socks together.

On the walk to school, look at door numbers, the colour of cars or counts things such as people, trees etc.



The trip to the shops can be a great opportunity to improve maths skills. For instance, your child could count out the right number of things e.g. apples. Children could recognise numbers in prices and weights. Can children identify the best deals?



There are many games that children can play without realising they are developing key maths skills such as snap, junior monopoly, dominoes and snakes and ladders.



To develop reasoning skills, pose problems such as how many knives, forks and spoons will I need if four people are going to be eating?

For little children, number rhymes and songs are a great way to do maths without the children even realising it.

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with all
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Believe
with all
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Achieve
with all
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