

Maths through Play

Play is the natural way in which children learn. It is the process through which children explore, investigate, recreate and come to understand their world. Play is an activity in which everything that a child knows and can do is practised or used to make sense of what is new.

Role of the Adult

The quality of children's play is influenced by the adults around them. Adults can provide materials and encouragement and open the door to new activities and learning. Play cannot be directed by adults. An adult can support, enhance or extend play, but the moment they interfere or dictate its progress then it ceases to be play.

Maths through Play

Young children are learning maths all the time through a wide variety of play experiences. In the home and at Nursery children have many opportunities to enjoy and learn maths through play.

Maths in the Home

Maths is everywhere in the home. With the support of the parents, children can grasp many mathematical concepts through their play.

Children will begin to:

- know and understand early maths language of measurement, shapes, spaces, early numbers, order and patterns
- know the sequence of numbers
- begin to understand positional words, e.g. in, on, next to
- show an awareness of time
- be aware of shapes in their environment
- be aware of 1-to-1 correspondence
- learn number rhymes and songs, e.g. 1, 2, 3, 4, 5, once I caught a fish alive
- be aware of conservation

When we say children "know their numbers" what we often mean is that they can recite the names of numbers in order. This is useful to be able to do, but it can mean very little in itself. Children need to know what the number system really means.

They can be helped to do this through play.

One of the first things they have to learn is about conservation – that, for example, 3 is always 3 no matter how it is arranged or presented, whether it is the number 3, the letters for three, 3 bricks, 3 buttons on a coat or the 3 Billy Goats Gruff.

Before a child can understand numbers for things that cannot be seen – 3 miles, 3 years old – they need real objects which can be seen and handled with a chance to check by counting each time.

Young children can have many mathematical experiences in the home.

For example:

- become aware of numbers as they count the stairs to bed
- start to understand the concept of time as they become familiar with the routine of their day - wash, dress, breakfast etc.

Children's home life offers many practical opportunities to learn about number, shape, space, sorting and matching. For example:

- setting places at the table – a cup for me, a cup for you
- water play
- helping to sort the washing, matching socks, big shirt / small shirt
- matching lids to saucepans

Here are a few ways in which you can use play to learn mathematical concepts.

Sand and Water

- Using sand can develop mathematical concepts and language, e.g. heavy, light, empty, full, big, and little
- Conservation – how much will it hold
- Make shapes and patterns
- Provide boxes and materials of different shapes and sizes to compare weight and quantity

Language

- You can help to promote mathematical language such as – heavy, light, empty, full, long, short, big, small in relevant contexts
- Look at your home environment to develop language, especially positional words – small object in front of big object, behind, in, on

Playdough

Using playdough can help to develop a mathematical understanding for pre-school children.

- Develops mathematical language – short, long, fat, thin
- Make shapes of different dimensions – flat shapes, 3-d shapes

Helping around the house

- Simple activities like letting your child set the table for dinner can help develop counting skills, e.g. getting out three pieces of cutlery.
- Involve your child with household activities. After washing, allow your child to sort clothes into different colours, or different types of clothes, e.g. t-shirts and socks.

Books and Rhymes

Enjoy stories and rhymes with your child that has a mathematical element, e.g. “One-two, Buckle my Shoe”. This can also help to develop literacy skills by showing your child that the print reads from left to right. Let your child count out items in the books – how many animals are on the page etc. Using rhymes can also help develop your child’s awareness of sequencing

Physical Play

- Develop fine motor skills through physical activity, e.g. sorting a jigsaw, threading beads
- Playing with bricks or toy cars can help to develop sequencing by encouraging children to sequence according to size, colour, and use (e.g. bike, car, and lorry)
- It can also develop mathematical language – first, second, third, how many are blue, which is largest / smallest.