

# Mathematical Development in Young Children

## A Guide for Parents

Children's early maths skills start to develop from birth as they are instinctively attracted to the shapes that make up the human face. As they grow and develop, they continue to learn through their play and sensory experiences. This can come as a surprise to many adults who cannot see any possible link between play and maths! Yet these experiences are laying a foundation for an enjoyment of and confidence in maths which is vital for the future. The secondary school child who grasps quadratic equations easily is usually the child whose maths experiences as a young child were positive and enjoyable.

Maths is all around us in our everyday life and there are lots of things that parents and carers can do to encourage their child's development and understanding. Here are some of the key skills that your child will be learning in their early years and ways you can support this.

There are lots more practical ideas for developing early maths skills in the Twinkl ['Parents' Guide to Practical Maths Activities'](#).

Area of Development	Ways to Support and Encourage
Knowing, using and understanding early language of measurement, shape, space, position, numbers, order and patterns	Talk, talk, talk with your child about what they are doing in their play, what you are doing together and what you observe in the world around you. Encourage them to tell you what they are doing, seeing and noticing, using increasingly correct mathematical language. Key words at this stage are: <b>more, less, how many, heavy, light, full, empty, long, short, tall, wide</b> , as well as the names of basic 2D and 3D shapes, numbers and positional language (see below). For patterns, talk about what you see - 'the beads in this necklace make a pattern - red, blue, red, blue', for example.
Know the sequence of numbers	Count things together such as the stairs up to bed, the people in a queue, the buttons on your coat. In the early stages, being able to count up to 20 is enough unless your child wants to go further. Always remember that being able to recite the numbers in order is a useful skill but means very little in itself - children need to know what these numbers are referring to. Playing simple board games such as Snakes and Ladders helps to reinforce this idea. Counting back is also a useful skill - children will enjoy doing a pretend countdown before they start a race, game or activity.
Begin to understand the language of position, e.g. in, on, under, behind, next to	Again, lots of talk and questioning will help here. Talk about putting the plates 'on' the table, ask your child to put their coat 'in' the cupboard, talk about the cat hiding 'behind' the sofa. Alternatively, play 'hide the teddy' - take it in turns to hide a cuddly toy, and the other person has to find it and say where it was hidden: 'under the chair', 'on top of the toybox', etc.

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Show an awareness of time	No need to learn to read a clock at this stage, but talk about your daily routine – wash, dress, breakfast and so on – and refer to parts of the day and week: ‘This afternoon we are going shopping’, ‘Tomorrow it will be Monday’, ‘Yesterday you didn’t feel very well’.
Notice shapes in the environment	Talk plays an important part here too. It’s never too early to start using the correct names for 2D and 3D shapes around you. ‘Look, that road sign is shaped like a circle!’ ‘Daddy made a square-shaped cake!’ ‘This dice is a cube.’
Understand one-to-one correspondence – in other words, understand that when we count we are referring to objects and groups of objects	Encourage your child to count things they see around them – how many books on the shelf, how many grapes are in a bunch. Helping your child to touch, point and/or move each object as they count will help them not to run away with themselves and count too many. Set little challenges for them – ‘How many plates do we need for dinner?’ ‘You can have ten grapes – count them out from the bunch’, ‘How many teddies are on your bed and how many are in the toy box?’ If they understand this well, help your child to think about ‘one more and one less’ – ‘Grandad is coming for dinner – how many plates do we need now?’ ‘One of the teddies has fallen on the floor – how many are left on the bed now?’ Children also need to learn to count objects that cannot be seen or moved – counting steps as you go up or down is a good way to do this. Or play a game where your child closes their eyes and you clap/drop objects in a container/shake a rattle – they then have to count how many they heard.
Learn number rhymes and songs	Songs and rhymes can teach lots of mathematical skills, such as counting forwards and backwards and early addition/subtraction. Try ‘One Two, Buckle My Shoe’, ‘Ten Green Bottles’, ‘Five Little Ducks’, ‘The Animals Went in Two by Two’. All these songs are available online if you’re not a confident singer!
Show an awareness of conservation – understanding that three is always three, no matter how we look at it, whether it’s three bricks, the Three Bears, three biscuits, the number 3 or the word ‘three’.	Let your child look at, move and handle objects, and show numbers in different ways. For example, show three objects in a row and ask your child to count them. Then move them into a different grouping and ask him how many there are now. Your child should move on from having to count them again to understanding that there are still three. When you come across numbers in stories or the world around you, ask your child to show the same number using bricks or other objects, or their fingers: ‘There are three billy goats in this story – show me that on your fingers.’