

Shapes and patterns everywhere

Our world is full of shapes such as round tables, rectangular rugs or a square window. Patterns are everywhere too – on curtains, clothes and even in spiders' webs.



Noticing shapes and patterns as part of everyday life and exploring them through play help children to become familiar with their names and to recognise the features that make them unique, e.g. the number of edges, corners, faces, whether they roll etc.

Exploring shapes

Exploring shapes provides children with the opportunity to become familiar with different types, such as:

- **two-dimensional (2D) shapes** – have two dimensions, such as height and width, e.g.

circle



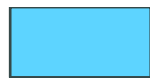
square



triangle



rectangle



- **three-dimensional (3D) shapes** – have three dimensions, such as height, width and depth, e.g.

ball (sphere)



cube



pyramid



cuboid

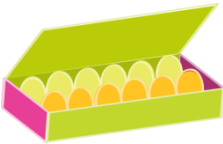


Naming shapes

The correct mathematical names of some of the more complex three-dimensional shapes are not something that we use very often and so may not be familiar with. For example, we usually refer to a three-dimensional round shape as a 'ball', whereas the correct mathematical name is a 'sphere'. However, talking about a game of 'footsphere' just doesn't have the same ring to it!

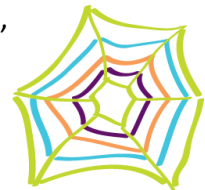


Young children tend to use everyday words that they hear others say to describe shapes. For example, they may use 'round' rather than 'circle', or 'egg-shaped' rather than 'ovoid' – this is perfectly OK and is a great start! Over time, they will learn the mathematical terminology – usually when they are introduced to them at school.



Exploring patterns

Children learn about patterns through experiencing and talking about them as part of their everyday life. You can help by pointing out the patterns that you see around you every day, perhaps on wallpaper, fabrics, brick walls, paving stones... or by looking for patterns in nature – perhaps in cobwebs, leaves, flowers etc.



Look out for patterns on a nature walk – there are lots of patterns in pine cones, tree bark, ladybirds etc. Spotting patterns is an important part of helping children to think about and understand maths and science ideas later on.

Patterns are everywhere when you start to look for them!

Patterns in songs and rhymes

Songs and rhymes offer opportunities for children to explore patterns in lots of different ways. Music, songs and rhymes all have patterns – if you listen carefully, you can find them in:

- the rhythm of the music
- repeated words
- physical actions – e.g. clapping, rocking or dancing
- the way in which songs and rhymes are structured using rhyming words and choruses.

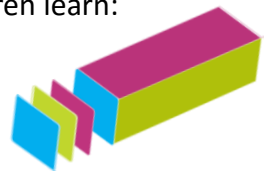


Banging drums (*or an upturned saucepan with a wooden spoon*) or shaking shakers (*or a washed out yoghurt pot filled with dry pasta or rice and sealed securely*) will help your child develop a sense of the beat and rhythm – and an understanding of patterns in music, songs and rhymes.

Learning about shapes and patterns

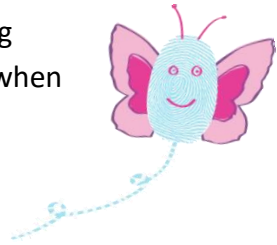
Children develop their understanding of shapes and patterns through play, exploration and when they chat to you about them as part of everyday play or practical situations. For example – playing with a shape sorter, cutting up a round pizza or noticing the pattern left by frost on a windowpane. In this way, children learn:

- the names of shapes
- the features of two-dimensional and three-dimensional shapes – how they look and what they feel like



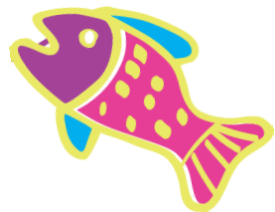
- the behaviours of different shaped objects – e.g. that a ball will roll
- to notice that things can be the same and different
- the language of maths, through hearing others model mathematical language when they describe shapes:

- *“The butterfly has the same pattern on both wings.”*
- *“Let’s make a square pizza instead of a round one!”*



- early ideas of symmetry:
 - that some shapes and patterns look the same when they are turned around, but others looks different
 - discovering how shapes can be moved by turning or flipping to become exactly like another shape, such as when using a posting box or jigsaw.

Learning about patterns and shapes and their properties provides children with the underpinning knowledge that will help them to use more complex and useful maths ideas later in life. Before you know it, they will be calculating how much carpet to buy for their bedroom or how much water they need to fill a fish tank!



Learning about shapes and patterns provides the basis for more complex maths ideas later on.