



## Focus on...Numberland

A recent flurry of activity in the [Early Years Forum](#) focused on [Using stories to inspire mathematical learning in the early years](#). Barbara Schindelbauer wrote about her work on [Numberland](#). What follows is a brief outline of Numberland and the rationale behind it. There are several interesting ideas which could easily be used in any classroom or setting - for more information go to the [Numberland website](#).

The core idea of Numberland is that children travel to an imaginative land, where the numbers one to ten live. Once there, children have a multi-sensory experience of numbers as they play. This tangible experience of what is essentially abstract mathematics, helps the children to develop a deep and lasting understanding of number which they can build on. Numberland is not a scheme of work but a theme, which can therefore be adapted to the needs of any particular group of children.



Number Lane shows the way to Numberland. Essentially, this is a simple numberline, easily created from numbered floor tiles. Number Town is a circular arrangement of Number Gardens, corresponding to each number. Number 1 lives in a circle. This is explained as being because the circle has 'one centre point'. Number 2's garden is an ellipse 'because the ellipse is constructed around two points'. Number 3's garden is a triangle and so on until Number 10, who lives in a decagon. Linking the shapes to the numbers is a useful idea, but perhaps a semicircle would have been easier to explain than an ellipse.

Each Number Garden has a house with windows in the dice and domino pattern arrangement. After five, there are two houses on each plot, a five house and a one house for six. This is said to correspond directly to the children's hands and shows that numbers can be split.

The children 'furnish' the gardens themselves. Items are limited according to the number of the garden. So a horse could be placed in Number 4's garden, as could four buttons, four bricks or indeed four of anything. The horse could also be placed in Number 1's garden, since it is one horse. Children discuss where each item should go. The Numberland booklet tells the story of a boy in charge of Number 5's garden. He wanted the horse for his garden and justified it by telling the others that "The horse has four legs and one tail so that makes five!" Having convinced the rest of the group, he was allowed to place the horse in Number 5's garden.



Hodeypodgery the Goblin is a popular figure because he messes things up. He swaps house numbers or mats and so on. Children enjoy finding out what is wrong in any particular garden and correcting it. Forgetmenot, the Fairy of the Numbers, can be called with a spell to help put things right again. You could use puppets, children or just imagination for these characters.

Number towers, puppets, stories and songs continue the theme. When Number 4 is ill, a drink is made from four parts of four different herbs from her square herb garden. After four minutes brewing time, four spoons of honey are added and stirred four times, curing Number 4 immediately.

Numberland aims to combine findings from brain research and developmental psychology as well as current research into how children learn mathematics. It considers how young children view the world and builds on what they know and understand. The magical element appeals to children, echoing their

belief that everything around them is alive. They become absorbed and transfer the ideas to their own imaginative play.



A research project in 2002 - 2004 showed that in settings which have adopted the theme of Numberland, children aged three to six have made one year of progress in mathematics in ten weeks. A similar outcome was seen for language development. A second study between 2005 and 2009 confirmed the findings. This all-embracing development of the children makes the theme widely accepted in Germany, where it is often used with children who have special educational needs. Numberland is currently finding its way to the USA, Poland, Romania, Thailand, India and other countries.

Although it is possible to buy a Numberland booklet for more ideas and some specific resources to create Numberland, the concept is open enough for practitioners to create Numberland in their own way, using resources already in the setting or easily made at very little cost. Many practitioners will already use stories and songs for each number, the concept of Numberland just takes this a little further. If you decide to have a go at creating Numberland with your children and then using it in some of the ways suggested, [let us know](#) how you get on. Barbara Schindelbauer would also be interested – post to the [forum](#) or [contact her direct](#).