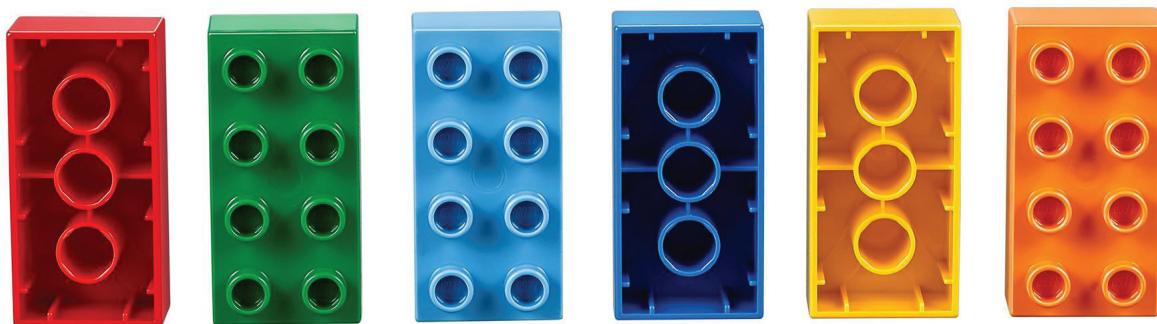


# Six Bricks

By Brent Hutcheson

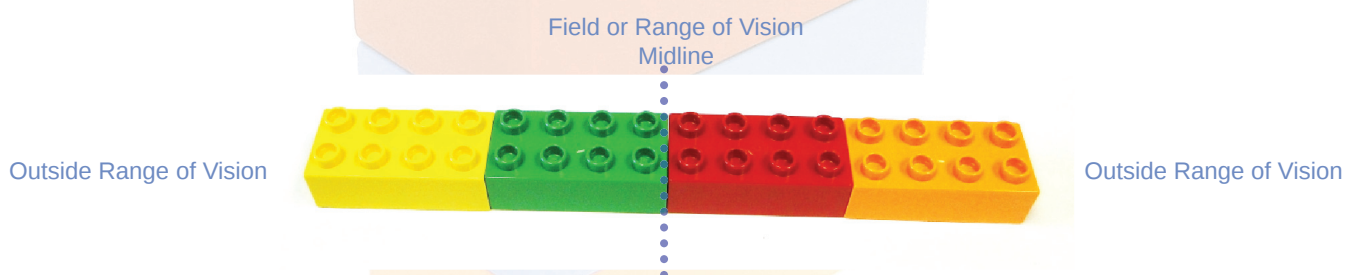
Images by Brent Hutcheson



*"Children must master the language of things before they can master the language of words."  
Friedrich Froebel*

Froebel, the father of the term Kindergarten, understood just how important tactile stimulation and the use of manipulatives (concrete objects that you can see, touch, feel and manipulate) are for the perceptual development of children. Would you believe that with just six DUPLO bricks you can help children refine and develop their perceptual and motor skills?

Many children today, in both affluent and disadvantaged communities, display motor development handicaps. Research has shown that it is critically important for children to play with large manipulatives and to physically move and work with these manipulatives outside their range of vision.  
(Range of vision for children is approximately 20–22 cm)



This forces children to move their eyes left and right and to track objects across their midline, thereby invoking bi-lateral integration and opportunities to practice moving objects from concrete to abstract. Many of the toys kids play with today are too small and don't require children to work outside their range of vision. This limits the exercising and movement of the eyes, resulting in control and tracking problems, and can lead to tiredness, which may contribute to restlessness, distractibility, poor concentration and problems with coordination.

## The History of Six Bricks

Care for Education is a non-profit organisation and a LEGO® Foundation partner in South Africa. It was started by a group of teachers who wanted to make a difference in the early stages of a child's life. Initially we wanted to assist learners during their Foundation years (ages 5-9) to ensure a better base for lifelong learning. To achieve this, we were looking for a simple, scalable and cost effective solution for schools and learners in South Africa. After experimenting over a five year period with numerous educational manipulatives (mainly LEGO® Educational products) in 25 schools in Atteridgeville (a township outside Pretoria), we started to develop an idea about using only a few bricks.



We felt that perceptual development was poor and children were missing out on crucial developmental areas. We investigated the relationship between concrete manipulation, learning and development. Our focus was to learn how perceptual and motor skills could be developed, what activities and exercises could assist, and how to keep the activities short yet engaging.

Our research indicated that children had to build outside their field of vision within five steps (i.e. five manipulatives) to remain engaged. Five DUPLO bricks in a row end-to-end is the perfect size to do this, however this did not easily provide us with a middle point – and we knew we needed this for children to be able to cross the midline and for bilateral integration exercises (coordinating two sides of the body to perform one action at the same time). The 6th brick solved the problem – and hence the Six Bricks idea was conceptualised.

Choosing the first four colours was easy – they were the four basic LEGO® brick colours (R, G, B, Y). We knew they would be easy to source. We didn't have much choice with regards to other colours – we didn't want to use black or white – and after discussing with colleagues and teachers, we decided to use two similar colours (light blue and dark blue) to assist with language concept development. In the end we added orange as our sixth colour based on the fact that it too was easier to source.

Initially we thought it would be great if we had an activity for each school day of the year (= 221 days). Our first book had only 30 activities – our latest has over 300. Whilst working on and developing the new ideas, we continued the research into using manipulatives and ended up adding so much more. We now include activities that promote the development of social and emotional areas, language and mathematics, group games and activities, board games and executive functioning skills.

A group of Danish teachers visiting South Africa late in 2013 were exposed to the Six Bricks concept and went back to Denmark to try it out for themselves. They started a movement that has now spread to many other countries. The content has been translated into 9 languages (including Spanish ) and the LEGO® Foundation has set up a special webpage<sup>[1]</sup> and a Facebook community<sup>[2]</sup> for Six Bricks enthusiasts. This has resulted in many teachers worldwide developing their own activities and sharing them. There is now an abundance of ideas and activities from which everybody can benefit.

The content (activities, templates, resources and videos) is now freely available online<sup>[3]</sup>.

#### What do we mean by:

**Perceptual development** involves the accurate observation, organisation and interpretation of information gained from the senses to the brain. It is very closely linked to motor development.

**Visual and auditory perceptual skills** are important in the development of the preschool child and to ensure the child learns effectively. Visual perception is the accurate observation, analysis and interpretation of sensory inputs transmitted from the eyes to the brain. Visual perceptual skills are critical to all aspects of learning, reading, writing, and mathematics, as they form the basis for academic achievement.

**Fine motor development** involves the coordination of the small muscles of the body and usually in conjunction with the eye. Fine motor skills involve strength, dexterity and control.

## Why try/use Six Bricks?

Children learn best when they are encouraged to explore, interact, create and play. Six Bricks uses play as a tool for learning by laying the foundation for perceptual, pre-numeracy and pre-literacy skill development. Play is critical for cognitive, social, emotional and physical development. It is during play that core learning skills are developed. Constructive play requires a supportive environment provided by adults and materials that are used to encourage children to think, discover, learn, and problem solve.

Learning is fuelled by curiosity which drives a child to make connections with what has already been learned. Using six bricks every day creates a receptive environment in which the child is confident and positively engages with previously learned knowledge and new concepts. Teacher participation and the use of direct and interactive teaching encourages the development of self-esteem and gives children the confidence to try new things. It will also re-energise the brain; through movement children get blood flow to the neurons to create new neural pathways. This builds new learning while reinforcing and consolidating previous learning.

The quick 5–10 minute activities are designed to be repeated daily and to develop mental readiness in which the child focuses and concentrates for a limited period of time. These short activities are teacher guided, but open ended with plenty of opportunities for children to control and direct their own learning. The power is not in how many activities you can do at one time but rather in the repetition of activities to build self-regulation and working memory.



## An exercise for you to try

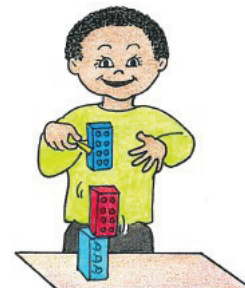
If you have a few DUPLO bricks available then here is one example of an activity from our books (with many variations) that you can now try at home or at school if you are a teacher. This type of activity is also being used with the elderly in Rest Homes with great results.

Each participant will also need a clothes peg for this activity.

### Activity: Topsy Towers

**Developmental Areas:** Physical / Motor; Perceptual; Socio-Emotional; Cognitive: Mathematics; Speech & Language

**Skills Development:** fine-motor; dominance; planning; problem solving; inhibitory control; expressing feelings; collaboration



- Separate the bricks and lay them out in front of you.
- Turn all the bricks so that they are all facing studs down.
- Use a peg, in your dominant hand, to pick the bricks up and stack them in a short-end to short-end tower.
- Your non-dominant hand should be behind your back.

#### Some Activity Extensions – start in the same way as above ...

- Repeat the brick stacking exercise, but this time the first brick you place must have the studs facing you and the next brick must have the studs facing away from you. Keep alternating the bricks in this way.
- Do this exercise with your eyes shut. No peeping!

How did you feel when your eyes were shut? Did you manage to balance the bricks?  
Was it easier / more difficult? Can you explain?

- Work in groups of three for this next activity idea. You may do this activity with your eyes open, and you may use both hands!
- Build a tower, short end to short end. Each person in the group takes a turn to add a brick.
- See how many bricks you can stack like this in the time that is given to you.

Did any group manage to stack all 18 bricks?

- If you are up for a real challenge, work in groups of four and see if you can stack 24 bricks!

#### Notes on the activity:

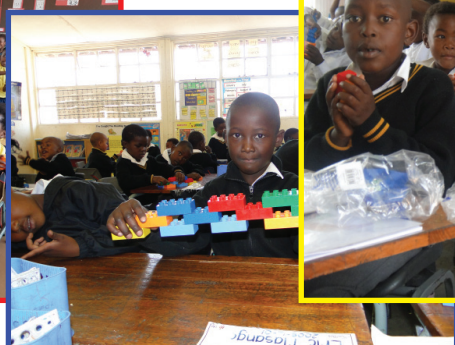
- Squeezing and releasing the peg in the dominant hand to grasp & place the brick activates the arch muscle in the hand – which is a great fine-motor exercise for the holding of a pencil.
- This is also a great exercise in perseverance and patience!
- When children do activities where they are not allowed to peep, they have to exercise inhibitory control – they have to stop themselves from giving in to the impulse to peep. This helps them to develop the self-control they need in later life to achieve their goals.

[1] <http://www.LEGO@foundation.com/en-us/programmes/communities/six-bricks>

[2] <https://www.facebook.com/groups/725765130822588/>

[3] <http://www.carefored.co.za>

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# BACK TO BASICS

with **6 BRICKS**

sequencing

number concepts

counting

visual discrimination

sensory-motor

figure ground

crossing the midline

comparing

visual memory

estimating

tactile discrimination

classifying

sorting

measuring

motor skills

spatial awareness

bilateral integration



Imagination fuels innovation