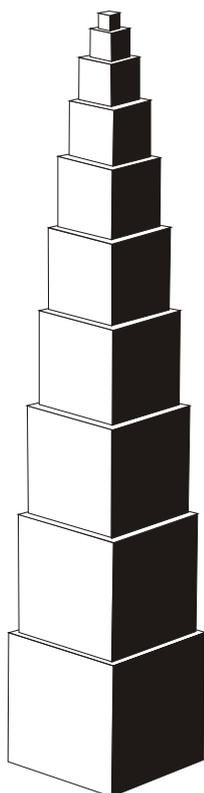


## THE PINK TOWER

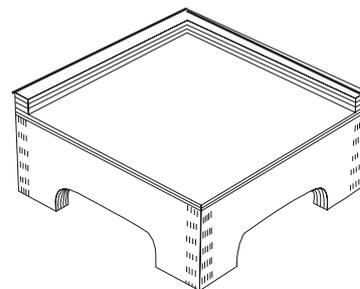
### **Material:**

Ten wooden cubes painted a pale pink. The cubes grade in size by 1 cubic centimetre, so that the smallest cube is one cubic centimetre and the largest cube is ten cubic centimetres. The ten cubes of the pink tower materialize mathematical series as  $1^3$ ,  $2^3$ ,  $3^3$ ,  $4^3$ ,  $5^3$ ,  $6^3$ ,  $7^3$ ,  $8^3$ ,  $9^3$ ,  $10^3$ .



### **Display:**

The materials are displayed on a specially made wooden stool, of 11 x 14 cm length and breadth and 25cm height. A narrow strip in contrasting colour of a few cms height in contrasting colour should be fixed on any one side and another strip is fixed at right angles to the first strip. The Pink Tower could be displayed centrally in the room.



### **Characteristics:**

Pink Tower is presented to the child only after the child has had enough experience with Practical Life activities.

### **Presentation:**

Invite the child and take him to the place where the material is displayed. Introduce the material and show the child how to hold the cube in the middle, with thumb towards you and fingers on the other side. (Refer Pg 107 of Creative Dev. in the Child - Vol 1). Bring the cubes one at a time (let the child carry them) to the place of presentation. (Could be a mat spread on the floor). While carrying the biggest cube, take support of the left palm at the base if necessary. (The child might find the cube too big and may need both hands to hold the biggest blocks.)



Do not put them in any order on the mat, but make sure that all the cubes are easily seen by the child, and that no small cube is hidden by a bigger cube in front. With exaggerated movements find the biggest cube and keep it in front of the child.

Find the biggest among the remaining and place it on top of the first with one intentional movement. Along with the child, check if it is in the centre. Continue doing the same with rest of cubes. (*Important:* Before presenting the tower to the child, the teacher must practice enough, so that she does not make any mistake, in choosing and placing the correct sized cube each time.) Bring the child's attention to the control of error by saying "See, the tower looks like exactly how it was." Ask the child, "Shall we do it again?" Help the child by dismantling one cube at a time.

Make sure that the child does not knock down the tower, as that damages the edges of the cubes.

### **Control of Error:**

Visual disharmony.

**Direct Aim:**

Development of visual discrimination of dimension - length, breadth and height.  
Develop control over intentional movements.

**Indirect Aim :**

Preparation for mathematics; the decimal system.

**Age of presentation:**

2 ½ years.

**Language :**

cube , small, large, smaller, larger, smallest, largest.

**ADDITIONAL EXERCISES**

**Ex 1- Missing Cube ( One)**

**Presentation:**

Once the child has built the tower, ask him to close his eyes. You remove one of the cubes and put it in front of the child. Ask the child to open his eyes and then show him the cube which you removed and ask him from where it was removed". When the child indicates the place, ask the child to be sure by putting the cube back at the place the child indicated. If it is wrong ,you ask the child to try again.

**Ex 2 - Missing Cube ( Two)**

**Presentation:**

Once the child has built the tower, and ask him to close his eyes and keep the cube away from the child (so that the child cannot see it). Ask the child to open his eyes and find the place, from where the cube is missing. When the child shows the place, give him the cube and ask him to be sure by putting the cube at the place where the child indicates.

**Ex 3 - Memory exercise**

**Presentation:**

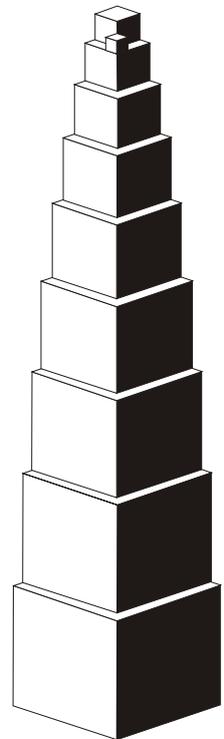
Memory exercise is possible by keeping the ten cubes at ten different places. Each cube should be hidden from the other. i.e. the child should not be able to see other cubes, from the place where any one cube is kept. Also, the tower which is being built should not be visible from any of these locations.

Aim of these exercises is to help the child become conscious of nature of a mathematically graded series and the dimensional differences between the square faces.

**Ex 4 - Memory exercise**

**Presentation:**

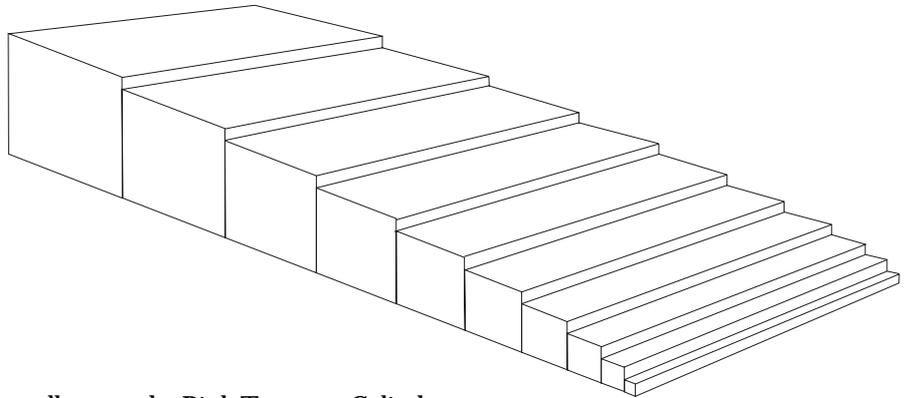
When the child is able to make the tower correctly, he can be shown how to place one cube on top of the other with two sides corresponding to the cube below, in such a manner that the smallest cube can be placed exactly, in the small space ( ledge) generated at the corner of each block . ( see figure)



**THE BROAD STAIRS** ( Also Know As Brown Stairs / Prisms)

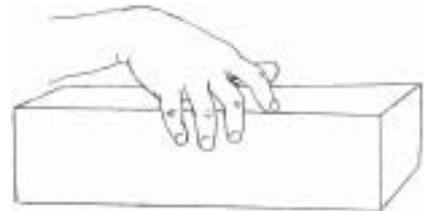
**Material:**

Ten brown prisms of the same length but differing in breadth and height. All are 20 centimetres long but the widest is ten centimetre wide and the narrowest is one centimetres wide. They are made of highly polished and varnished wood.



**Display:**

The material can be displayed next to the wall, near the Pink Tower or Cylinder Blocks . The brown stairs can be displayed on a stool which is 25 cms high and has a top of exactly 59 x 24 cms. A thin wooden strip is fixed in an ‘L’ shape along the two edges of the stool. The colour of the strips must be contrasting but not outstanding.



**Characteristics:**

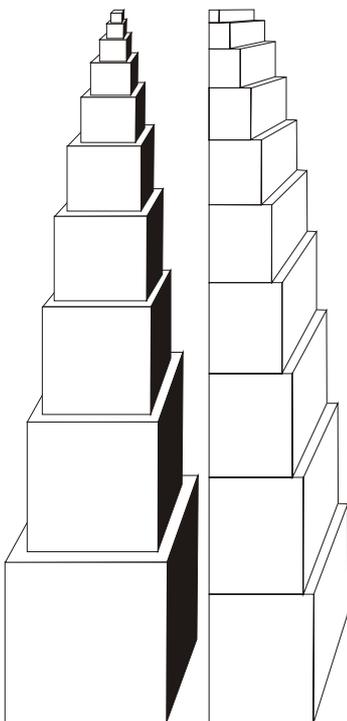
The Pink tower differs in three dimensions but brown stairs differs only in 2 dimensions and hence is more difficult for the child to perceive the differences between successive prisms. The brown stairs are built diagonally to help the child notice the construction of stairs.

**Presentation:**

Brown Stairs are presented to the child after the child has worked plenty of times with the Pink Tower. This is in accordance with Dr. Montessori’s principle, that the child should be taken from what is easy to what is difficult.



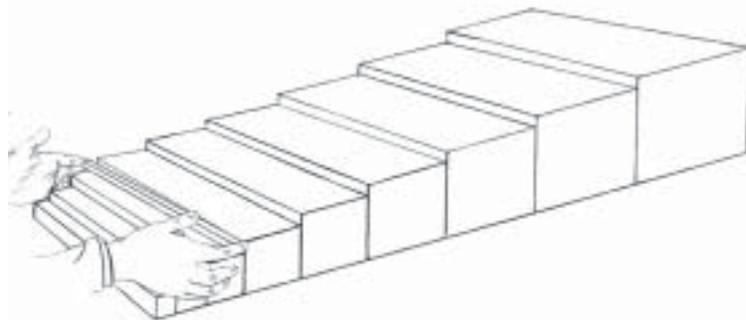
Invite the child and take the child where the material is displayed. Introduce the material, and then show how to separate the first prism stair from the second. With the index of the right hand move it slightly. Hold the prism with the right hand at the centre, with your thumb on one side and the fingers on the other.. The amount of strength needed by the hand to lift each prism, will help the child feel the difference of the dimensions and the thickness by means of his muscular sense. Take support of the left hand palm at the base, for the bigger prisms if necessary. It is practical to bring thinnest one first.



**Note :-** As a rule we don’t allow children to bring two materials at a time to the work place, but here we observe the child and may not interfere if he tries some variations, which respect the material . For instance: - the child may bring the Pink Tower and Brown Stairs and work with both, together.

Place each prism in different directions on the mat, as you bring them to work place. Make sure all prisms are visible to the child. Clear some space in front of the child on the working mat, in such a way that the child will be able to arrange the prisms diagonally.

Ask the child to watch. Let the child see you comparing the square faces of each stair/prism clearly. Find the thickest one and put it furthest away from the child on his right. Now build the stair carefully, finding the next thickest stair and placing it along the first prism. Continue till the entire stair is built, diagonally, towards the child. Let the child see you inspect the regularity of the stairs and bring his attention to the control of error by saying " Doesn't it look the same as when it was on the stool Ask the child, " Shall we do it again?". Help by dismantling one prism at a time.



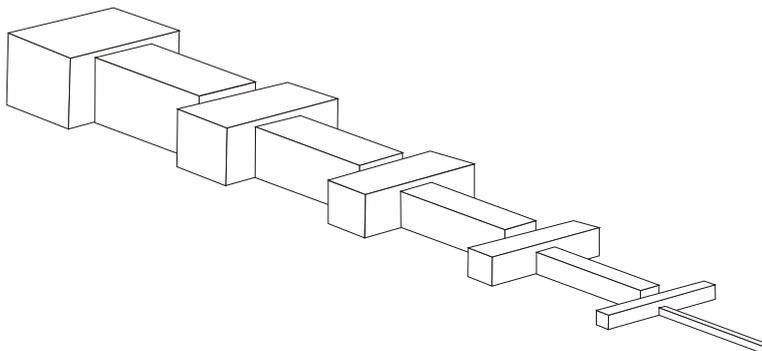
Later the child may try his own variations, which if the purpose of the material is served must be respected.

**Control of Error:**

- ◆ Visual disharmony
- ◆ Ask the child to run his fingers down the stairs. He will be able to feel any discrepancy.
- ◆ The child can be shown how to hold the smallest prism with forefingers at each end and place it in the gap between each successive prism and see whether it fits exactly. See picture

**Direct Aim :**

Visual discrimination of dimensions- breadth and height.  
Fine tuning of the ability to perceive dimensions.



**Indirect Aim:**

Muscular Development.  
Preparation for mathematics.  
Decimal system.

**Age of Presentation:**

Generally 2 ½ to 3 years, but after the child has plenty of experience with Pink tower.

**Language:**

Thick, Thin, Thicker, Thinner, Thickest, Thinnest.

**ADDITIONAL EXERCISES**

All exercises possible with Pink Towers can also be done with Broad stairs.