

# Building and Using a Geoboard! Part 1

*A geoboard is a mathematical tool for exploring and investigating a variety of topics such as shapes, space and symmetry.*

Create your own Geoboard!

Things needed:

1 board of very thick cardboard (or wooden board)  
(size approximately 30 cm x 30 cm)

1 packet push pins (you can use small nails if you're using a wooden board)

graph paper big enough to cover board

1 packet rubber bands (variety of sizes)

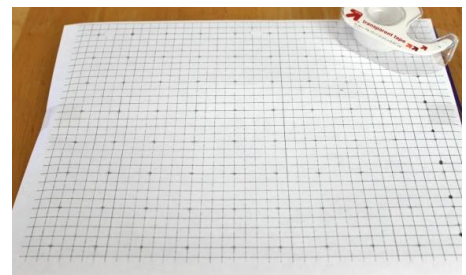
small hammer

## Note to guardians

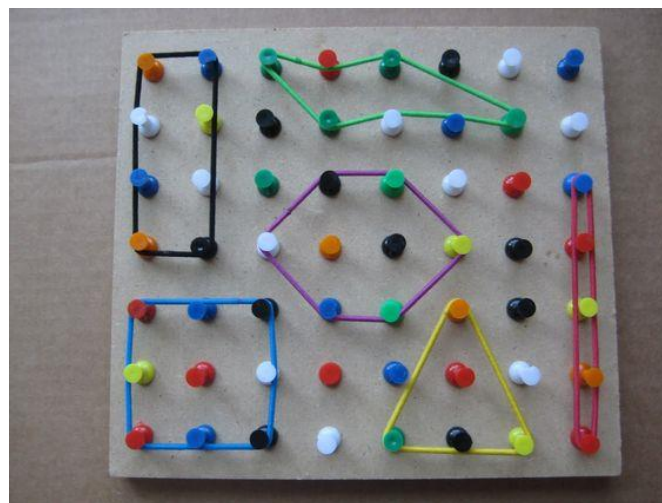
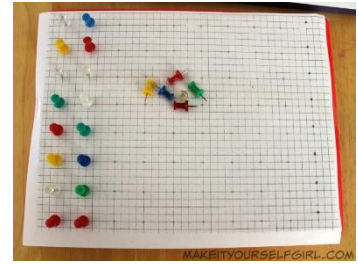
As always, provide supervision to your child/ren with this and any activity where certain tools and resources are used. Use your judgement when doing such activities with your child/ren.

Method:

- a) Cut the card/wooden board to the size you want it. The larger the geoboard is the more pushpins you need.
- b) Lay the graph paper on the board and stick it so that it will not move.



- c) Mark where you want your pins to go. Make sure the spaces between pushpins are the same.
- d) Lightly hammer the pushpins where your marks are. Do not hammer all the way down.
- e) Carefully start from one corner and rip in the graph to pull it off one bit at a time. Make sure no pins come off.
- f) Once all the graph paper is off, hammer in the pins to the board. Make sure to get them in straight!



Note: If you don't have the resources or time to make a geoboard you can find free geoboard apps online.

<https://www.mathlearningcenter.org/resources/apps/geoboard>

<https://toytheater.com/geoboard/>

<https://www.roomrecess.com/Tools/Geoboard/play.html>

### **TASK 1 Exploring Geoboards**

Try out your geoboard or the Geoboard app online.

Make as many different shapes as you can.

Explore:

Quadrilaterals (e.g. squares, rectangles, or other 4-sided polygons)

Triangles (scalene, isosceles, equilateral, right-angled triangles)

Regular or irregular pentagons, hexagons or octagons

### **TASK 2 Classifying Quadrilaterals**

Make at least 5 different four-sided shapes.

(Different not just in size but in shape)

Chose a pair of your shapes.

What is the same about them?

What is different about them?

Do this for a different pair and another different pair.

### **TASK 3 Transforming quadrilaterals**

Choose one of the quadrilaterals you created and divide it into triangles. Into how many different triangles can you divide it?