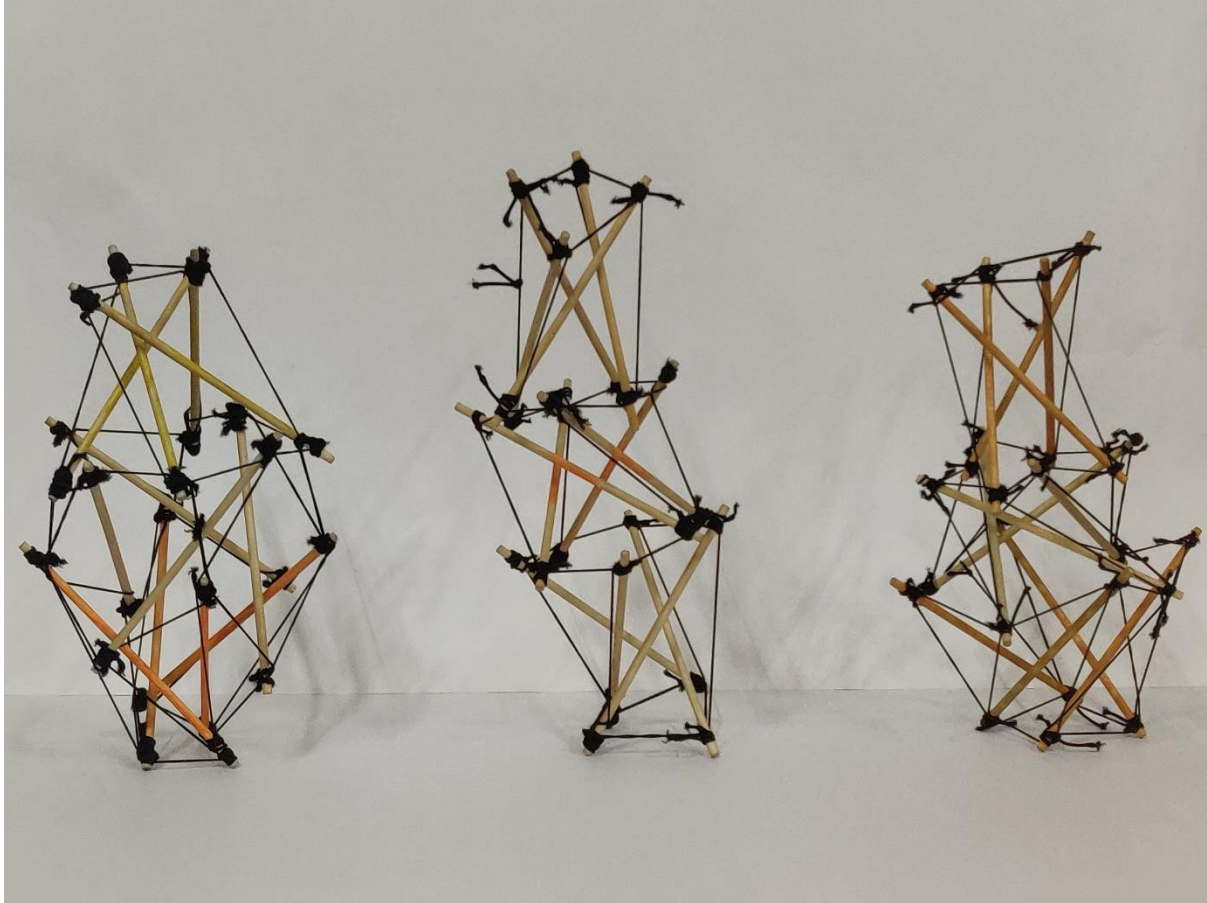# BOB THE BUILDER

HOW TO MAKE TENSEGRITY TOWER?

MATERIALS REQUIRED :-

- 12 wooden sticks of length 145mm and diameter 5mm approx.
- Elastic material having adequate tensile strength. (Details of materials will be shared with you through video).
Note:- You can use highlighters to colour sticks to distinghuish between floor levels.
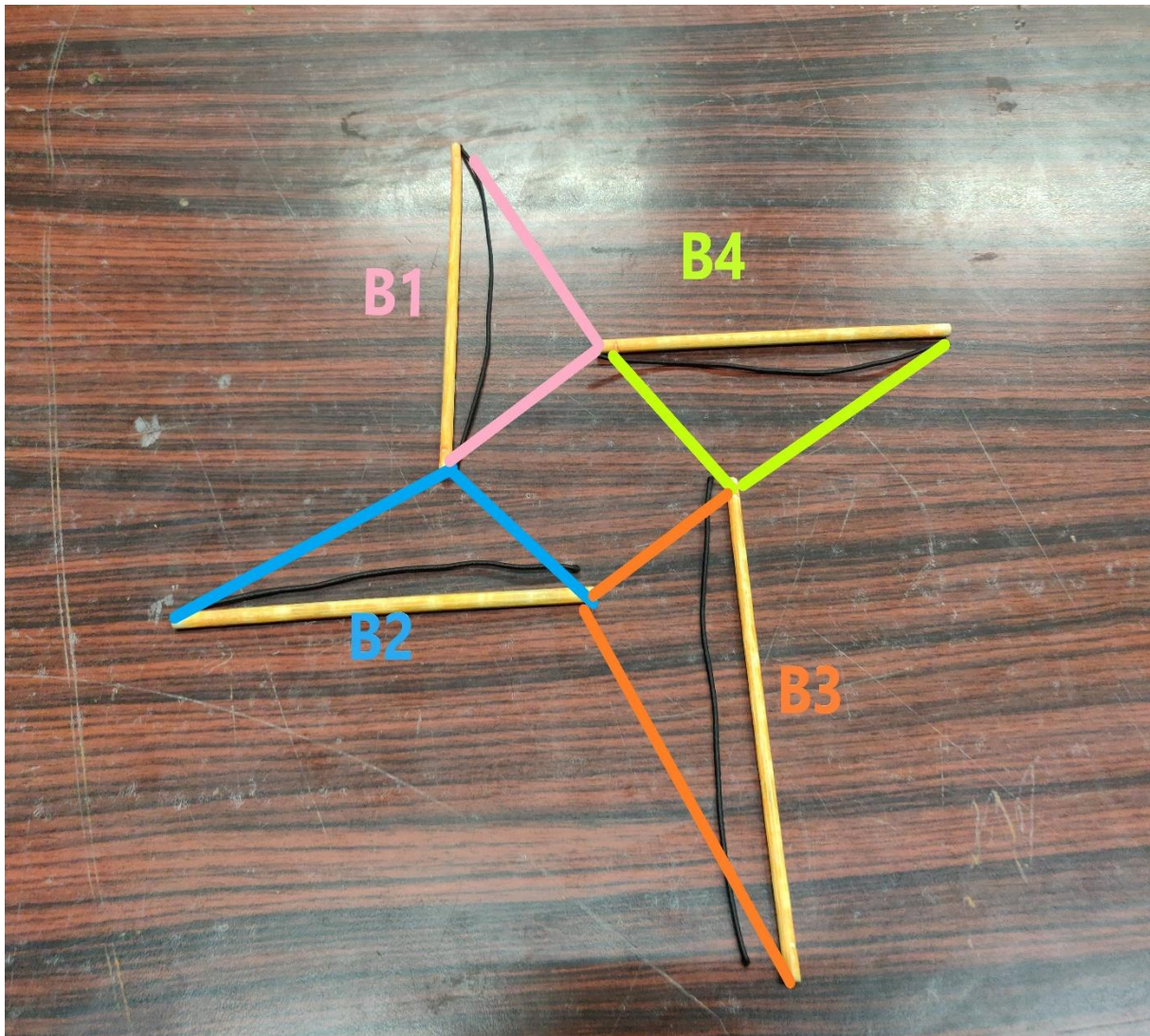
Procedure:-

fig 1

1.Arrange sticks as shown in fig 1 and cut the strings of length equal to the length of the stick . Make similar connections for all the sticks (as in fig 1) such that inner base points form the quadrilateral.(Highlighted sides of the triangles in fig. represent the strings)

fig 2

3. The base floor will look like fig 2 after all connections are made. Lift the outer nodes as shown below to get an idea of how the ground floor will look like.
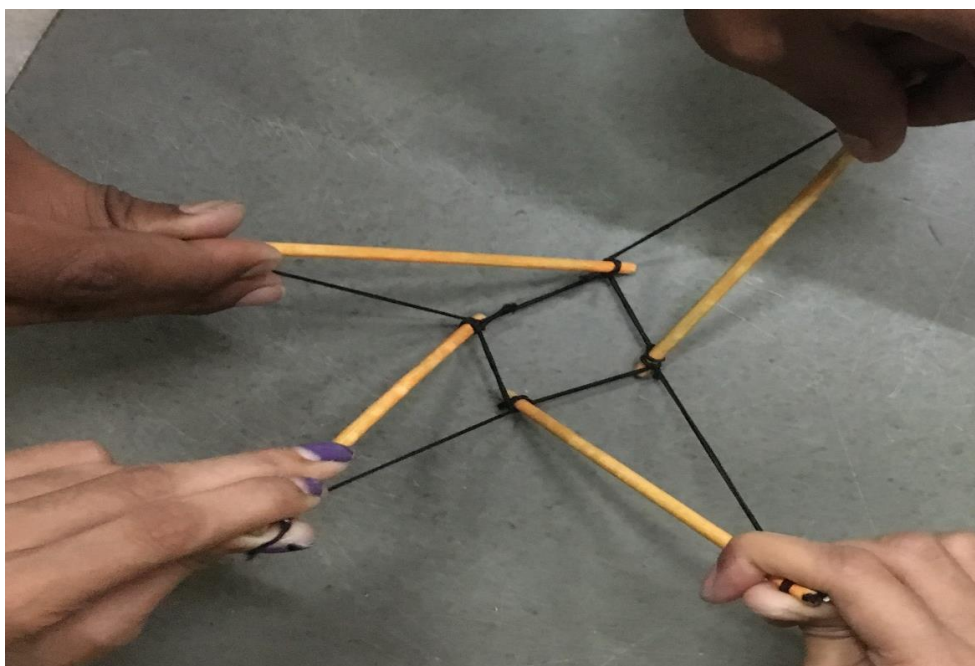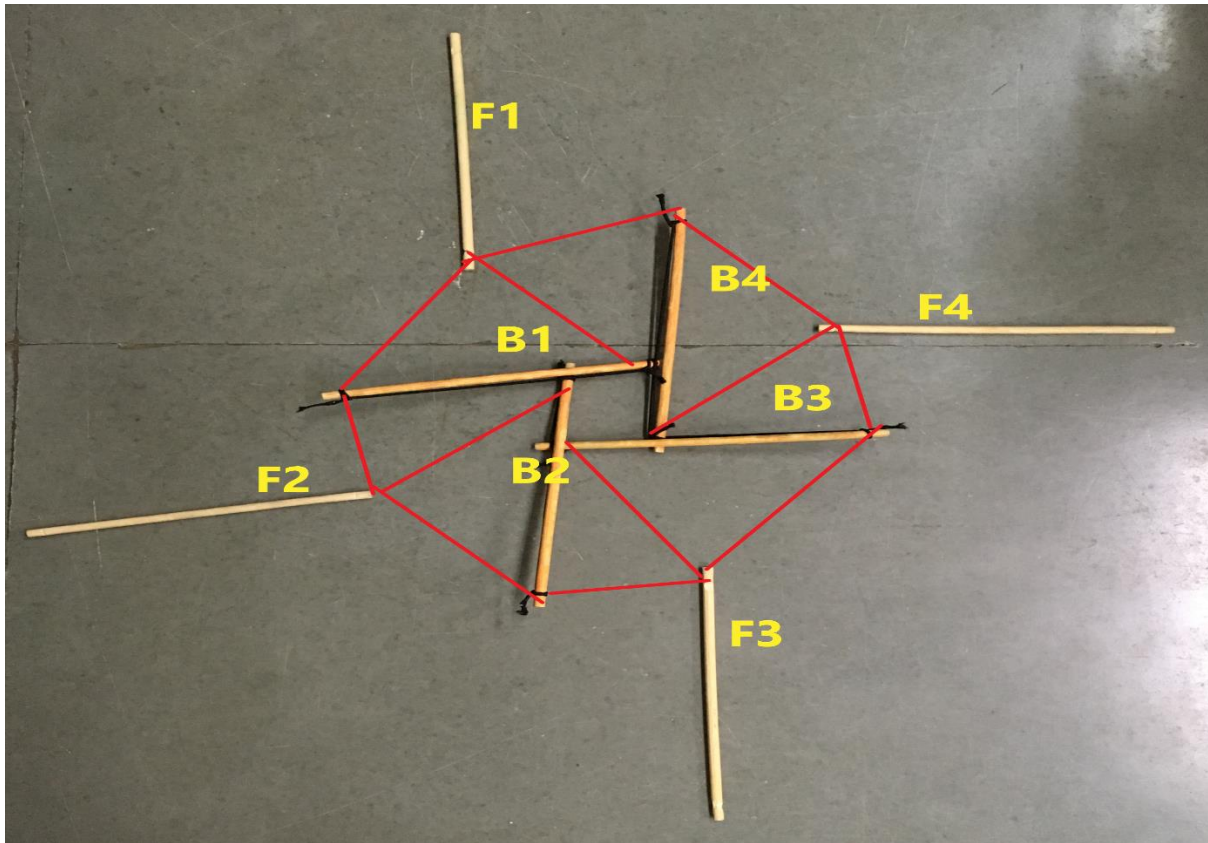
fig 3 (2D view of first floor connections)

4. Connect the sticks of first floor as shown in fig 3. Make sure that middle string (in red) of the stick F2 is connected to the bottom node of stick B2 as shown in fig 4
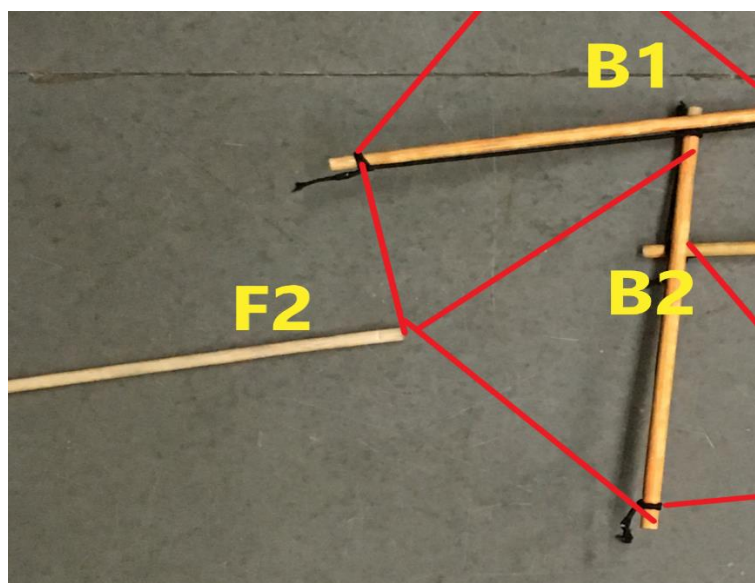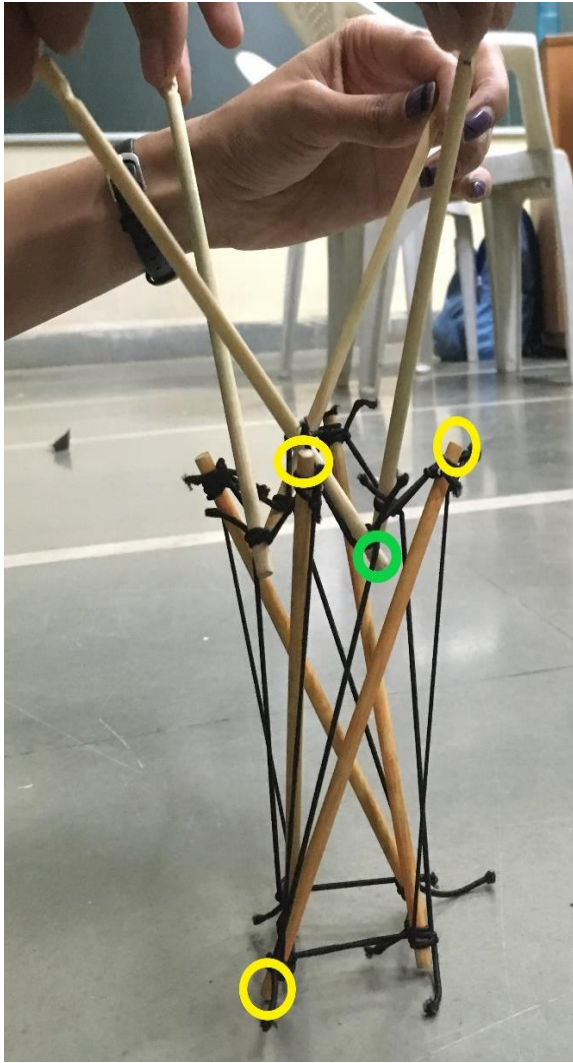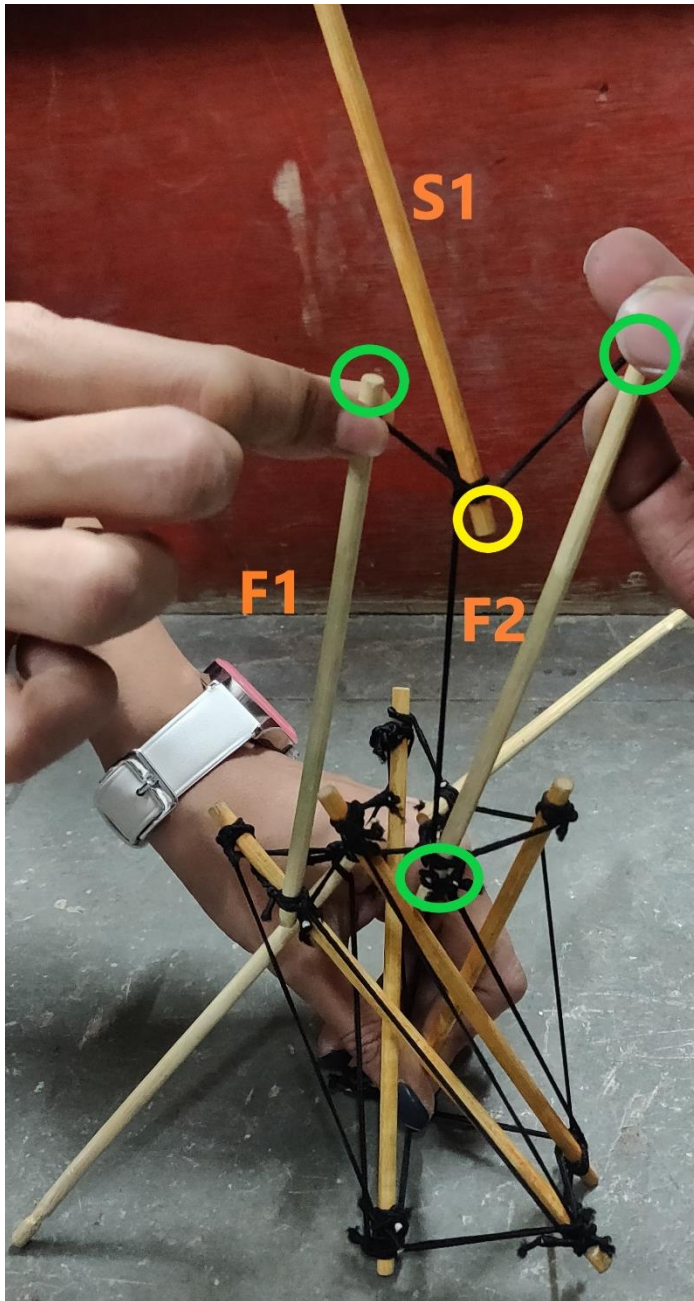

fig 4

fig 7 (3D view)

After step 4, the tower looks like fig 7. Make sure bottom node (in green) of each member of first floor is connected to 2 top nodes and 1 bottom node (in yellow) of adjacent members of ground floor as highlighted in fig 7. Hold the members of first floor in opposite direction (i.e. in clockwise direction) to the ground floor

fig 8

5.Now make connections between the second floor member S1 and the first floor members F1 and F2 in the same fashion as we did in step 4 (fig 8).

fig 9

After making all the 4 connections the model will look like fig 9
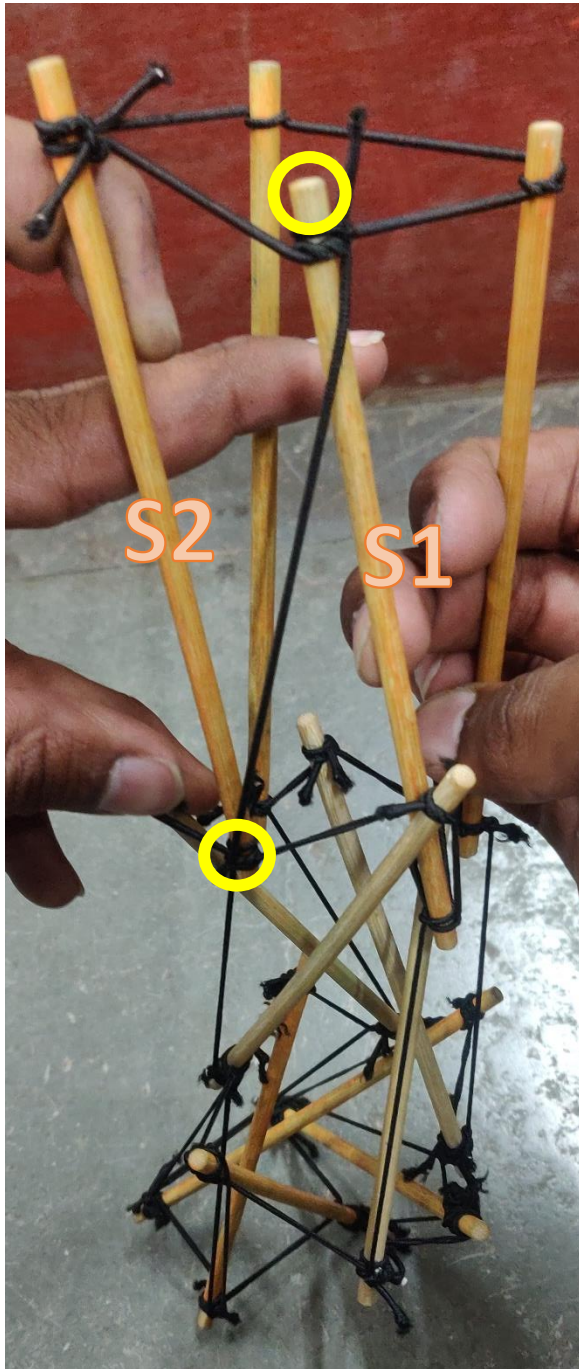
fig 10

6.Now connect top 4 nodes of the 2nd floor(fig 10).

Fig 11

7.Connect top node of member S1 to bottom node of member S2.

Repeat the same procedure for all the 4 sticks of 2nd floor.

Now model will look like fig 12 .

fig 12

8. Now Increase tension in strings uniformly. This can be achieved by increasing no. of loops at each node.

(To know how to increase tension in the strings check out this video Link:-

https://www.youtube.com/watch?v=9qEstAxkbLM)

For any queries regarding model making by this procedure,

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