

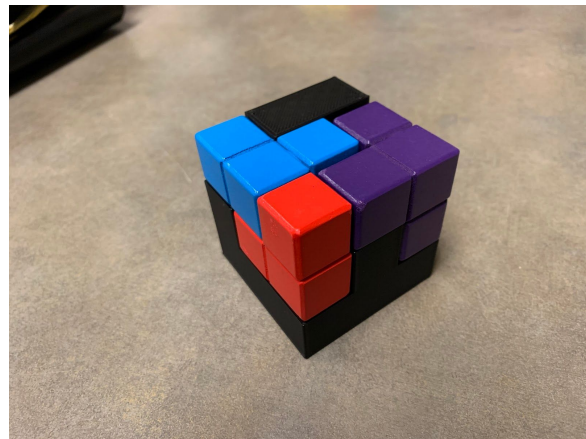
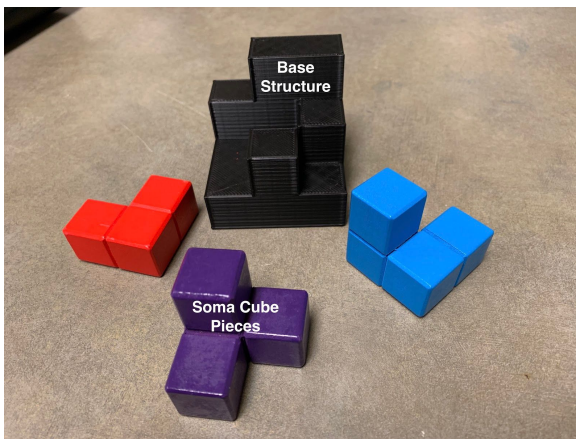
# Hands On Activity

## Lesson 9: Assembly

### Preparation Before Class

#### Items Needed:

- 3D printed **base** structures
  - CAD of all cubes can be obtained through this link  
<https://cad.onshape.com/documents/f1890620a28771a22cfc505d/w/199c00febb96f59b1d5bcd87/e/6d3335aed6bdd1b258fbd347>
- [Soma Cubes](#), one set per group.



### Part 1:

- Divide students into groups (no more than 4 students per group)
- Distribute the **base** structures at random so that each group receives 2-3 base structures.
  - Suggested base combinations: (2, 7, 16), (3, 6, 18), (4, 13, 17), (5, 10, 12), (8, 9, 15)
- Distribute one soma cube set (7 unique pieces) to each group.
- Have the students complete each of their base structures using the 7 soma cube pieces to create a 3x3x3 cube.
- *Many times there can be more than one solution to the problem.*

### Part 2: **Team to complete this challenge first is the winner**

- Distribute **base** structures **11**, **12**, and **21** and **one soma cube set** to each group.
- Students must work together to find the way in which all 3 base assembly structures can be completed without leaving any empty spaces and using only one soma cube set.
- *There is only one solution to this problem.*