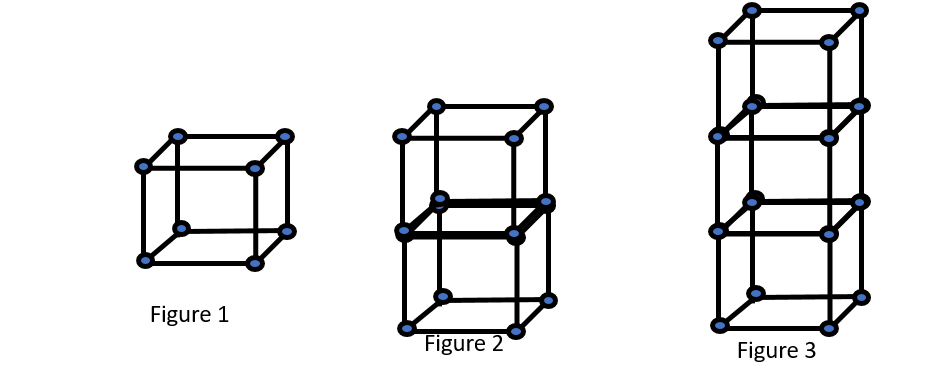
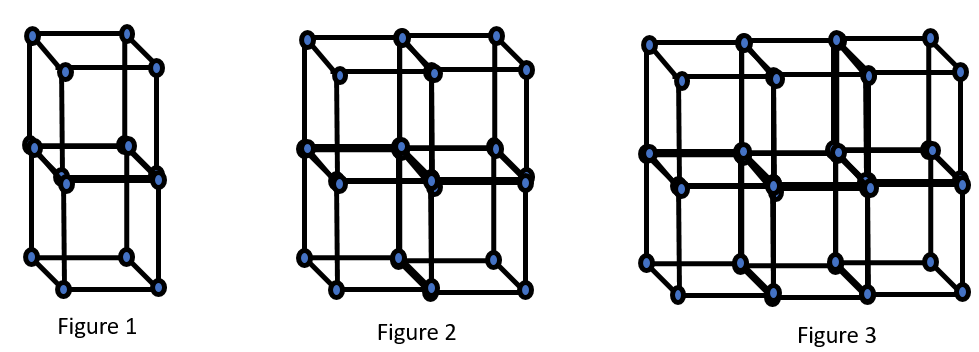
**Straws and Connectors I**



**What do you notice?**

**What do you wonder?**

**Straws and Connectors II**



**What do you notice?**

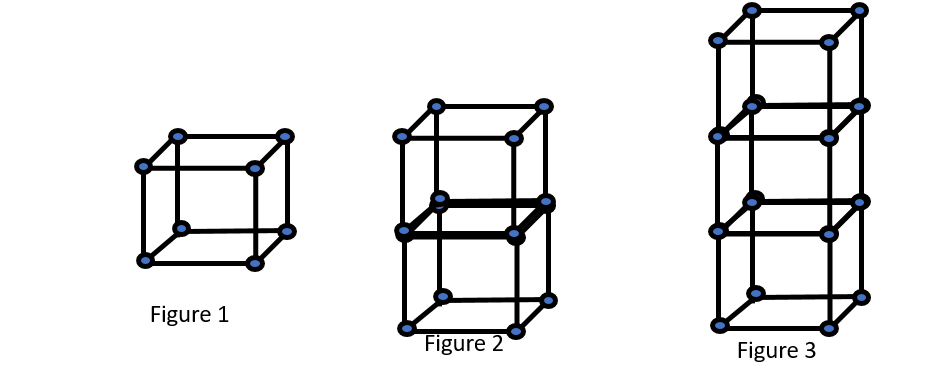
**What do you wonder?**

**Interlocking Panels**

Jamal is planning to buy interlocking panels and connectors to be used as square divider between kitchen and living room. If he wants to have 25 cubic shelves, how many connectors and panels will he need?

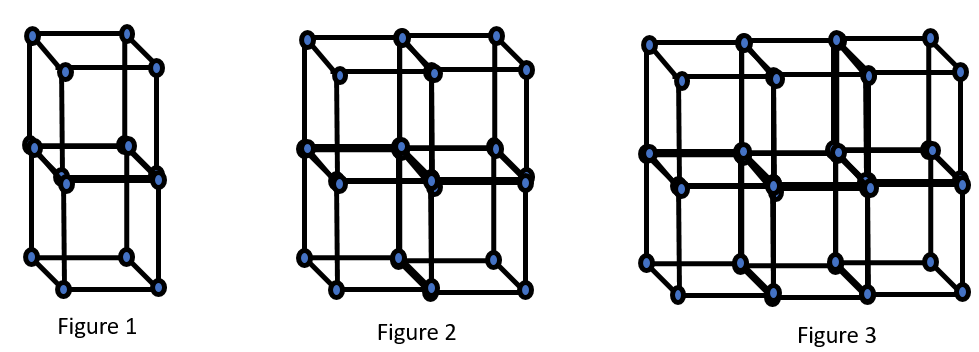


**Straws and Connectors I**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Figure Number (n)** | **Number of Connectors(c)** | **Number Of straws(s)** | **Number of cubes (b)** | **Number of square Faces(f)** |
| 1 | 8=4(2) | 12=4(3) | 1 | 6=2(3) |
| 2 | 12=4(3) | 20=4(5) | 2 | 10=2(5) |
| 3 | 16=4(4) | 28=4(7) | 3 | 14=2(7) |
| 4 | 20=4(5) | 36=4(9) | 4 | 18=2(9) |
| n | C=4(n+1)  C=4n+4 | S=4(2n+1)  S=8n+4 | B=n | F=2(2n+1)  F=4n+2 |

**Straws and Connectors II**



|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Figure Number (n)** | **Number of Connectors(c)** | **Number Of straws(s)** | **Number of cubes (b)** | **Number of square Faces(f)** |
| 1 | 12=6(0)+12 | 20=13(2)+20 | 2=2(1) | 10=6(0)+10 |
| 2 | 18=6(1) + 12 | 33=13(1)+20 | 4=2(2) | 16=6(1)+10 |
| 3 | 24=6(2)+12 | 46=13(2)+20 | 6=2(3) | 22=6(2)+10 |
| 4 | 30=6(3)+12 |  | 8=2(4) | 28=6(3)+10 |
| n | 6(n-1)+12  6n+-6+12  6n+6  6(n+1) | 13(n-1)+20  13n-13+20  13n+7 | 2n | 6(n-1)+10  6n-6+10  6n+4 |