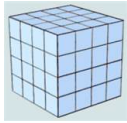
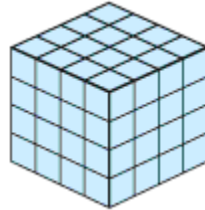


Name \_\_\_\_\_



**Painted Cube:** If I take a cube and dip it in a bucket of paint how many unit cubes will be painted on 0 faces? 1 face? 2 faces? 3 faces? 4 faces? 5 faces? 6 faces?



Size	Number of unit cubes	Number of unit cubes with exactly zero faces painted	Number of unit cubes with exactly one face painted	Number of unit cubes with exactly two faces painted	Number of unit cubes with exactly three faces painted
$2 \times 2 \times 2$					
$3 \times 3 \times 3$					
$4 \times 4 \times 4$					
<b><u>CHECK POINT: Call a teacher over BEFORE you move on!</u></b>					
$5 \times 5 \times 5$					
$100 \times 100 \times 100$					
$n \times n \times n$					

Each unit cube has six faces. Why aren't "Number of unit cubes with exactly four/five/six faces painted" columns in our chart?

How do you figure out the number of unit cubes in a cube?  
 \_\_\_\_\_

How are you counting the number of cubes with one side painted?  
 \_\_\_\_\_  
 \_\_\_\_\_

How are you counting the number of cubes with two faces painted?  
 \_\_\_\_\_  
 \_\_\_\_\_

How are you counting the number of cubes with three faces painted?  
 \_\_\_\_\_  
 \_\_\_\_\_