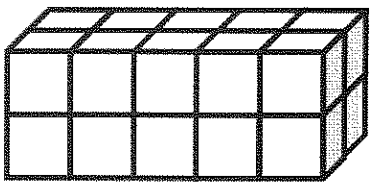
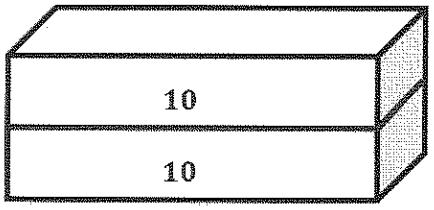
G5-M5-Lesson 3

1. Use the prisms to find the volume.
   - Build the rectangular prism pictured below to the left with your cubes, if necessary.
   - Decompose it into layers in three different ways, and show your thinking on the blank prisms.
   - Complete the missing information in the table.

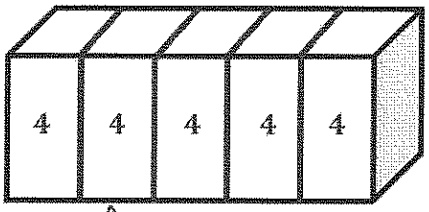


Number of Layers	Number of Cubes in Each Layer	Volume of the Prism
2	10	20 cubic cm
5	4	20 cubic cm
2	10	20 cubic cm

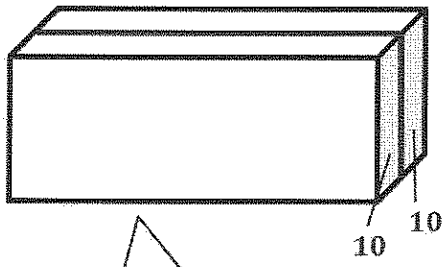
I can look at the rectangular prism above or the ones I cut below to help me record the information in the table.



I will cut it horizontally (top and bottom like layers in a cake). I have 2 layers, and there are 10 cubes in each layer.



I will cut it vertically (left to right like slices of bread). I have 5 layers, and there are 4 cubes in each layer.



I will cut it into 2 layers, front and back. There are 10 cubes in each layer.

I can visualize a prism that is $5 \text{ in} \times 5 \text{ in} \times 1 \text{ in}$. When looking at the prism from the top, it would look like a square since the length and the width are equal. The prism is also just one inch tall, so it looks like the bottom layer of a cake.

2. Joseph makes a rectangular prism 5 inches by 5 inches by 1 inch. He then decides to create layers equal to his first one. Fill in the chart below, and explain how you know the volume of each new prism.

To find the volume in 3 layers, I will multiply 3 times 25 in^3. The answer is 75 in^3.

Number of Layers	Volume	Explanation
3	75 in^3	*1 layer:* 25 in^3 *3 layers:* $3 \times 25 \text{ in}^3 = 75 \text{ in}^3$
5	125 in^3	*1 layer:* 25 in^3 *5 layers:* $5 \times 25 \text{ in}^3 = 125 \text{ in}^3$

To find the volume of 5 layers, I will multiply 5 times 25 in^3. The answer is 125 in^3.