

MALLORY WILLIAMSON: I was surprised that a lot of the students didn't choose to actually interact with the visual when they were doing their final presentation. A lot of the students didn't interact with the picture or visual that they were given. They just kind of put an estimate down on the paper, based on what they just see or what they notice with their eyes, and instead of actually using more accurate reasoning to kind of struggle through that, a lot of the students then, after—through several conversations or really trying to them, not necessarily force them, but require them to interact, they were able then to come up with some strategies that were accurate or on on line. Once we got past the second act and we started to show them the face or the layer, first layer of the sugar cubes, students then—some groups were able to reason through that there's multiple layers and so they could create an estimate. If I think the height is 10, that means I'm going to have 10 layers.

But oftentimes a group would just use the 18, which was the total of the layer, but we had to go back and remind them that, that layer was made up of a three-by-six array. So when they drew their strategy to find the total amount of sugar cubes, they actually drew the 18 by one by 18. So going back to that group and explaining that if you're drawing one by 18, you're then changing the shape of the box. So it'll get you the same solution because you're trying to make the connection between how do I go from 18 to my final answer of 180 or 216. However, they then change the dimensions of the box when they change the array.

So making that connection that you cannot necessarily change the row by column because that is the layer, the first layer that takes up the shape of that box, a lot of the students decided to do the repeated addition and go layer by layer when drawing a model. One group attempted to do the actual three-dimensional model, that one—so I really thought that was a great challenge for them, that was great with reasoning and spatial. However, they would need more time. So I think giving them more time to continue to try to attempt that would have been great.

But I think the really hard part today wasn't necessarily that there was a major misconception that I need to reteach. It was more, so how can I start off with the reasoning that volume is—appears in several different ways, like layers or a base times the height, and having them draw that out so they can reason through; maybe this is the stuff I don't see and this is what was given to me, versus just plugging in a formula, length times width times height, and then getting it done. I think when you follow a formula, you're not able to actually understand what's happening within the space that's provided.