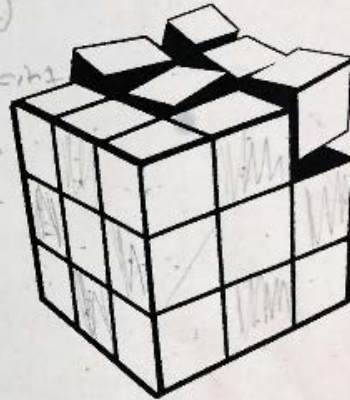


# Nanette

## The Painted Cube

Using 1-inch red cubes, Sally builds a  $3 \times 3 \times 3$  cube. Then, she paints all of the faces of the big cube with yellow paint. After she does this she wonders if every side of each 1-inch cube is also painted yellow. So, she breaks it back down into 1-inch cubes to find out. What do you think?

54 faces  
12 cubes have 4 sides painted  
6 cubes only have one side painted  
and the cube in the middle  
isn't painted it's hidden  
8 corner cubes  
.. painted

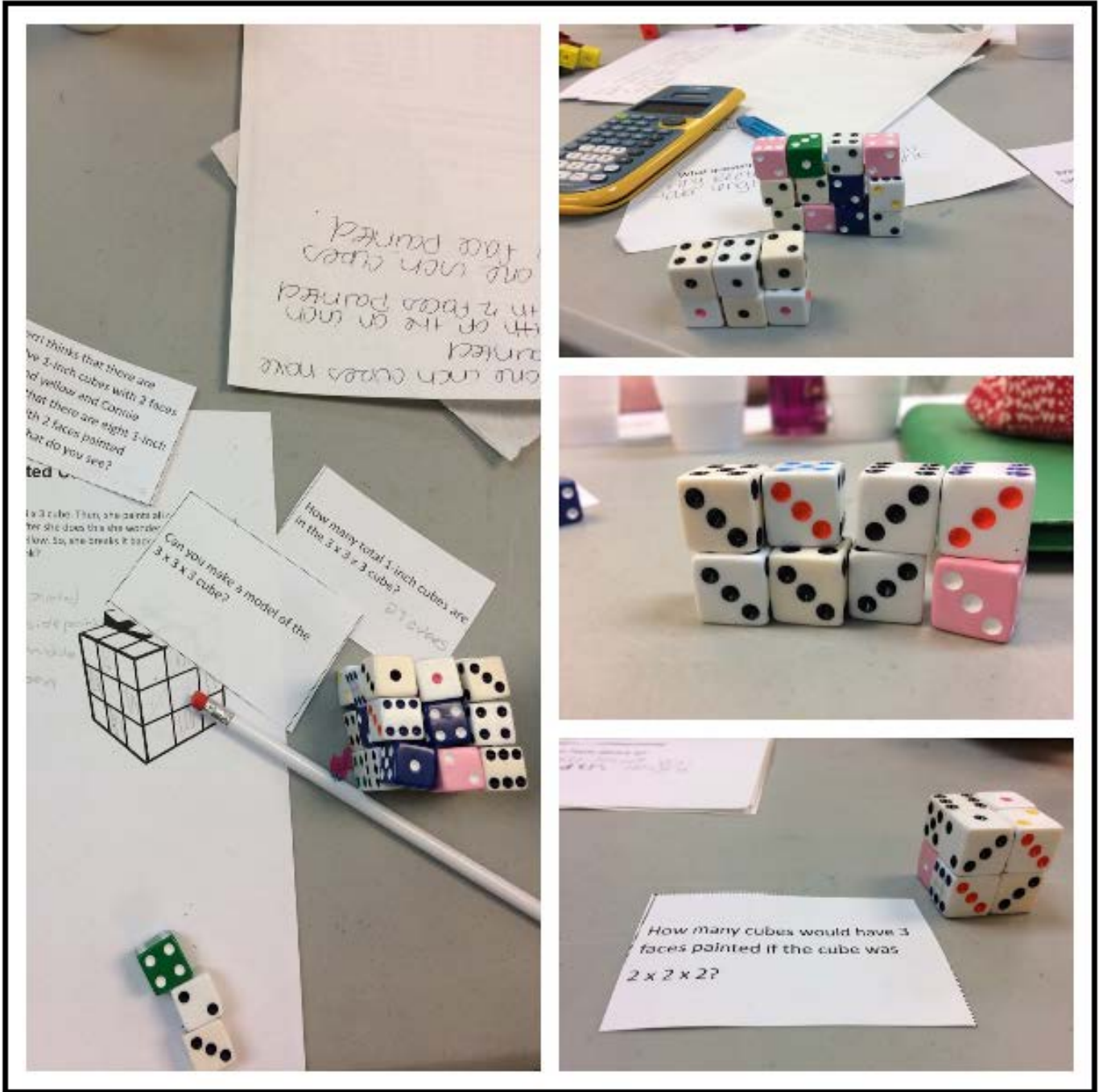


How do you know?

27

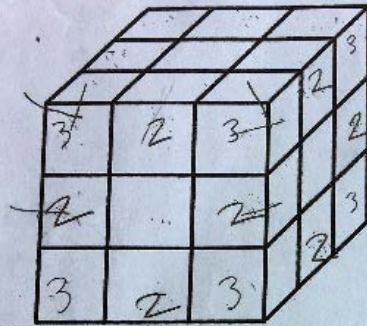


Alyssa



# Zachary

Write down everything you can about this  $3 \times 3 \times 3$  cube. What do you see?



$8 \times 3 = 24$  8 are painted on 3 sides  
 $12 \times 2 = 24$  12 cubes are painted on 2 sides  
 $6 \times 1 = 6$  6 are painted on one face

$$\begin{array}{r} 24 \\ 24 \\ + 6 \\ \hline 54 \end{array}$$

Surface Area = 54 cubes  
 Volume = 27 cubes

6 Sides 9 cubes on each side.

