

# Measuring Volume

NCTM Standards 1, 3, 4, 6, 7, 8, 9, 10

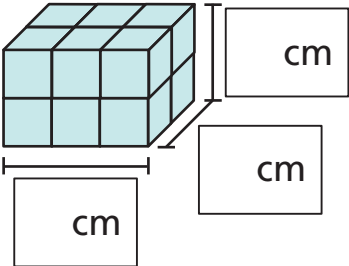
**Dana built a box with centimeter cubes that measured 3 cm from left to right, 5 cm from front to back, and 3 cm from top to bottom. Build a model of Dana's box.**

1 How many cubes did Dana need to make her box?  cubes

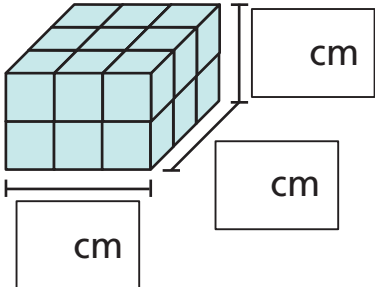
2 What was the volume of Dana's box?  cubic cm

3 Dana added more cubes to her box, so she had a new box that was 4 cm from top to bottom. The other measurements stayed the same. How many more cubes did she need?  cubes

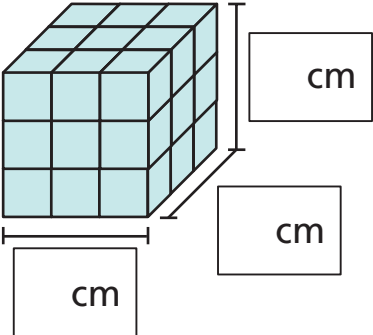
**Fill in the measurements and the volume for each box.**

4 

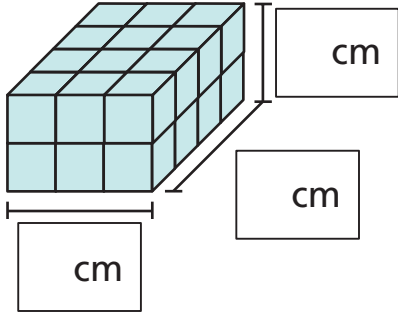
Volume:  cubic cm

5 

Volume:  cubic cm

6 

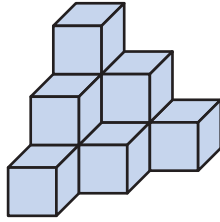
Volume:  cubic cm

7 

Volume:  cubic cm

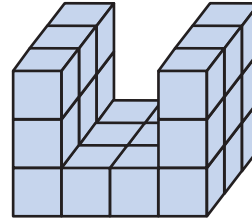
**Build each model and find its volume.**

8



Volume:  cubic cm

9



Volume:  cubic cm



10 Seth built a rectangular box with centimeter cubes. He started by building a square. Then he built five more identical levels. The volume of his box was 54 cubic cm. What were its measurements? Explain.

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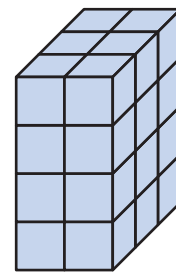
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**Challenge** This box was built with centimeter cubes. Amy wants to cover it with wrapping paper.

How many square centimeters of paper will Amy need to cover . . .



Front

11 just the front face?  sq cm

12 just the top?  sq cm

13 just the right side?  sq cm

14 the entire box?  sq cm