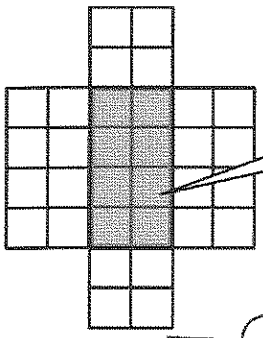
G5-M5-Lesson 2

1. Shade the following figures on centimeter grid paper. Cut and fold each to make 3 open boxes, taping them so they hold their shapes. Pack each box with cubes. Write how many cubes fill the box.

a.



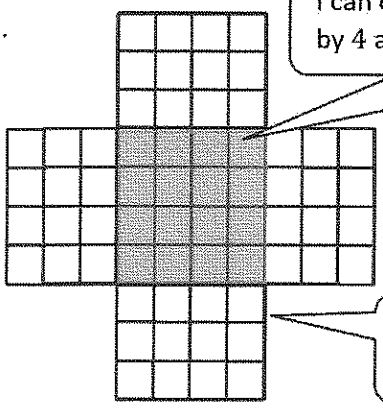
I can count the shaded area or the base. It would take 8 cubes to cover the base.

Number of cubes: 16

I can imagine folding all of the flaps up to form an open rectangular prism. There are 2 layers (top and bottom), so I can multiply $8 \times 2 = 16$.

b.

I can count the shaded area or the base. It is a 4 by 4 array, and $4 \times 4 = 16$.

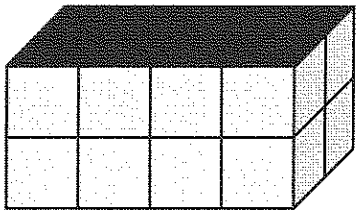


Number of cubes: 48

I can imagine folding all of the flaps up to form an open rectangular prism. There are 3 layers, so I multiply $16 \times 3 = 48$.

2. How many centimeter cubes would fit in each box? Explain your answer using words and diagrams on the box. (The figures are not drawn to scale.)

a.



My prediction was accurate. It would take 16 cm cubes to fill the box.

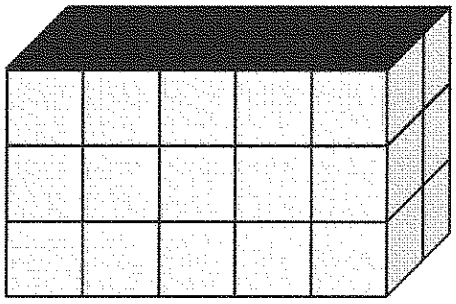
Prediction: *16 centimeter cubes*

Actual: *16 centimeter cubes*

There are 2 layers like layers of a cake (top and bottom). There are 8 cubes in each layer. $8 \times 2 = 16$

There are 2 layers: top and bottom. Each layer has 8 cubes, and 8 cubes $\times$ 2 = 16 cubes.

b.



This box looks like it might hold twice as many cubes as the first one, so my prediction is 32 cubes.

Prediction: *32 centimeter cubes*

Actual: *30 centimeter cubes*

There are 3 layers: top, middle, and bottom.

Each layer has 10 cubes, and 10 cubes $\times$ 3 = 30 cubes.