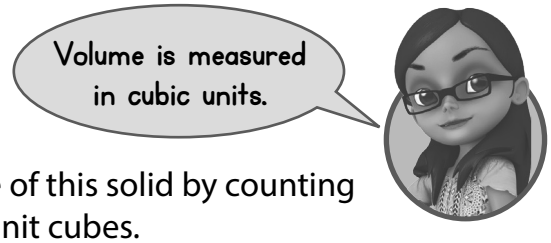
Name _____

Practice Video Tools Games

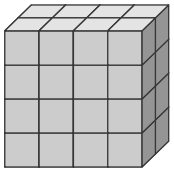
Additional Practice 11-1
Model Volume

Another Look!

Volume is the measure of space inside a solid figure.



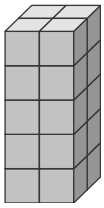
Find the volume of this solid by counting the number of unit cubes.



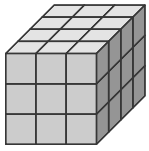
There are 8 cubes in the bottom layer and there are 4 layers. The total number of unit cubes is 32.

So, the volume is 32 cubic units.

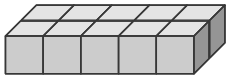
In **1–9**, find the volume of each solid. Use unit cubes to help.

1. 

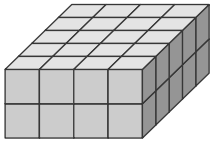
20 cubic units

2. 

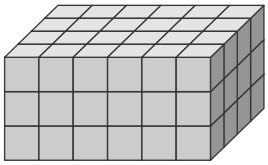
36 cubic units

3. 

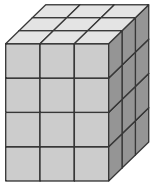
10 cubic units

4. 

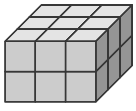
40 cubic units

5. 

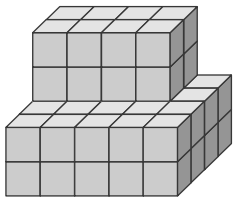
72 cubic units

6. 

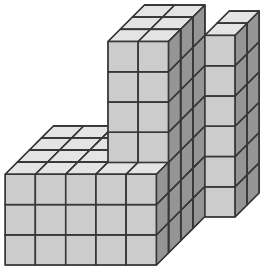
36 cubic units

7. 

18 cubic units

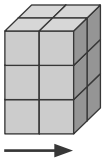
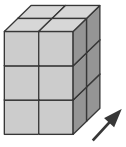
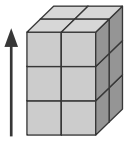
8. 

56 cubic units

9. 

96 cubic units

In **10–12**, use the table.

Number of Cubes Long 	Number of Cubes Wide 	Number of Cubes Tall 
1	1	12
2	2	3
2	3	**2**
2	**6**	1
3	1	**4**
3	2	**2**
3	**4**	1
4	1	**3**
6	**2**	1

10. **Higher Order Thinking** Complete the table. Show some different ways that a rectangular prism can have a volume of 12 cubic units.

11. **Look for Relationships** Look across each row of the table. What pattern do you see?

Sample answer: If you multiply the values in any row, the product is 12.

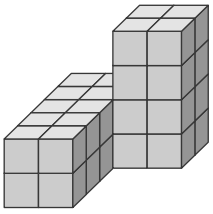
12. Use the table to help. How many unit cubes are needed to make a model of a rectangular prism that is 4 units long, 3 units wide, and 2 units tall?

24 unit cubes

13. **Number Sense** A building is 509 feet tall. Each floor is about 14 feet tall. About how many floors does the building have?

Sample answer: about 36 floors

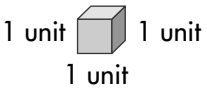
14. Velma and Bruce combined their model buildings to make one building. How can they change each building part to make the parts equal in volume? Explain your reasoning.

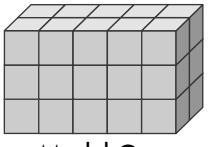


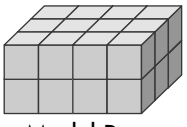
Sample answer: Take away 2 cubes from the part with 20 cubes and put them on the part with 16 cubes.

Assessment Practice

15. Both of the models shown are made up of 1-inch cubes. Which statement about these models is true?




Model Q


Model R

Ⓐ Model Q and Model R have the same volume.

Ⓑ Model R has a greater volume than Model Q.

Ⓒ The volume of Model Q is 7 cubic inches greater than the volume of Model R.

Ⓓ The volume of Model Q and Model R combined is 54 cubic inches.