

Building 3-D Figures

Materials: Interlocking or snap cubes (50 per pair)
Copy of worksheet (1 copy per pair)

Procedure:

Introduction:

1. Show the class a rectangular prism made with interlocking cubes (3 x 2 x 2).
2. Point out the length, the width, and the height of the prism.
3. Ask the students to estimate the volume (number of cubes) of this three-dimensional figure.
4. Take the figure apart, count the number of cubes, and record the volume on the board.

Part 1

1. Give each pair of students a set of interlocking cubes and a copy of the worksheet.
2. Have each pair complete Part I on the worksheet.
3. Have student pairs share their results from Part I with the class.

Part 2

1. Have each pair of students complete Part II on the worksheet.
2. Have student pairs share their results from Part II with the class.

Part 2

1. Have each pair of students complete Part III on the worksheet.
2. Have student pairs share their results from Part III with the class.
3. Discuss how different pairs may have found different prisms for the given volume on #1.
4. Discuss how different pairs may have found different prisms for the given volume on #2.

Student Names _____

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PART I

For each of the following problems:

- First use the cubes to build the rectangular prism having the given length, width, and height.
- Then determine the volume of the rectangular prism and record your answer.

1. Length = 3
Width = 3
Height = 2
Volume = _____

2. Length = 4
Width = 2
Height = 2
Volume = _____

3. Length = 5
Width = 2
Height = 3
Volume = _____

4. Length = 3
Width = 4
Height = 3
Volume = _____

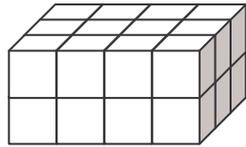
5. Length = 2
Width = 2
Height = 5
Volume = _____

PART II

For each of the following problems:

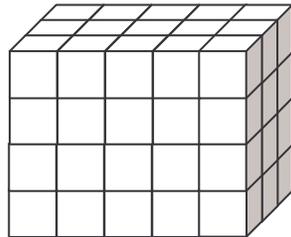
- Determine the length, width, and height of the rectangular prism pictured and record your answers.
- Build the rectangular prism using the cubes.
- Find the volume of the rectangular prism and record your answer.

1.



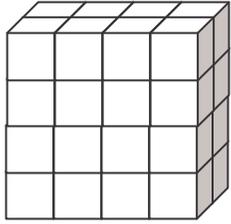
Length = _____ Width = _____ Height = _____ Volume = _____

2.



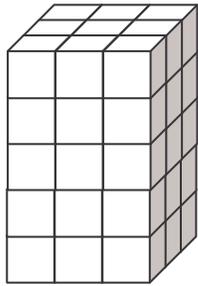
Length = _____ Width = _____ Height = _____ Volume = _____

3.



Length = _____ Width = _____ Height = _____ Volume = _____

4.



Length = _____ Width = _____ Height = _____ Volume = _____

PART III

1. Take 32 cubes.
 - Build a rectangular prism using all 32 cubes.
 - Record the length, width and height of your prism.
 - Record the volume of your prism.

Length = _____

Width = _____

Height = _____

Volume = _____

2. Take 36 cubes.
 - Build a rectangular prism using all 36 cubes.
 - Record the length, width and height of your prism.
 - Record the volume of your prism.

Length = _____

Width = _____

Height = _____

Volume = _____