



GRADE 4 SUPPLEMENT

Set D7 Measurement: Volume

Includes

Independent Worksheet 1: Building for a Bug	D7.1
Independent Worksheet 2: Fabulous Flea Circus!	D7.3
Independent Worksheet 3: Find the Volume	D7.5

Skills & Concepts

- ★ estimate and find the volume of cubes and rectangular prisms
- ★ determine volume by finding the total number of same-sized units of volume that fill a 3-dimensional shape without gaps or overlaps
- ★ understand that the standard unit for volume is a cube whose edge is one unit of length

Bridges in Mathematics Grade 4 Supplement

Set D7 Measurement: Volume

The Math Learning Center, PO Box 12929, Salem, Oregon 97309. Tel. 1 800 575–8130.

© 2013 by The Math Learning Center

All rights reserved.

Prepared for publication on Macintosh Desktop Publishing system.

Printed in the United States of America.

P201304

The Math Learning Center grants permission to classroom teachers to reproduce blackline masters in appropriate quantities for their classroom use.

Bridges in Mathematics is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

The Math Learning Center is a nonprofit organization serving the education community. Our mission is to inspire and enable individuals to discover and develop their mathematical confidence and ability. We offer innovative and standards-based professional development, curriculum, materials, and resources to support learning and teaching. To find out more, visit us at www.mathlearningcenter.org.

NAME _____

DATE _____

Set D7 ★ Independent Worksheet 1



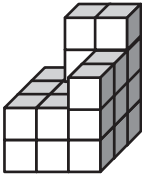
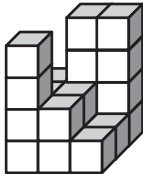
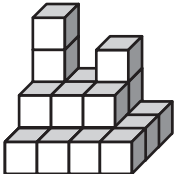
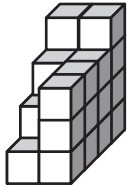
INDEPENDENT WORKSHEET

Building for a Bug

1 Bobby Bug's little family is growing, with new baby bugs hatching each day. Bobby must find the biggest possible home for his family. Which of the buildings on these 2 sheets has the greatest volume and could offer the most space to the bug family?

For each building:

- Look at the picture and estimate the volume in cubic centimeters.
- Build the structure with centimeter cubes.
- Find the volume. Try to find a way that's faster than counting every cube one by one.
- Use numbers, labeled sketches, and/or words to explain how you found the volume. (Hint: It might help to draw loops around some of the groups of cubes in the picture.)

<p>a</p>  <p>Volume Estimate _____</p> <p>Volume _____</p>	<p>b</p>  <p>Volume Estimate _____</p> <p>Volume _____</p>
<p>c</p>  <p>Volume Estimate _____</p> <p>Volume _____</p>	<p>d</p>  <p>Volume Estimate _____</p> <p>Volume _____</p>

(Continued on back.)

Independent Worksheet 1 Building for a Bug (cont.)

2 Which bug building should Bobby Bug choose for his family? Why?



CHALLENGE

3 What is the total volume of all the buildings?

NAME _____

DATE _____

Set D7 ★ Independent Worksheet 2



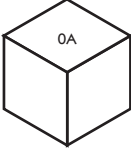
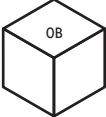
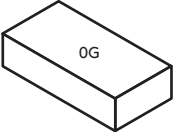
INDEPENDENT WORKSHEET

Fabulous Flea Circus!

You'll need the geoblocks and the centimeter cubes to do these sheets.

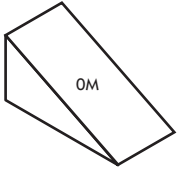
The Fabulous Flea Circus is coming to town! The circus owners need tents with a volume of 60–70 cubic centimeters each. The available tents have the same volume as the geoblocks shown below.

1 Use the centimeter cubes to estimate and then measure the volume of each of the geoblocks below. Try to find ways that are faster than counting every cube. Then decide which tents (geoblocks) the circus owners should choose for their Flea Circus.

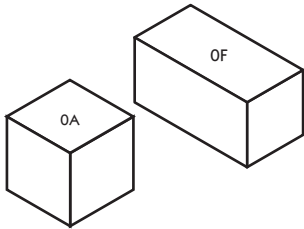
Geoblock	Volume Estimate (in cubic cm.)	Actual Volume (in cubic cm.)	Does this tent have a volume of 60–70 cubic cm? (Yes/No)
a 			
b 			
c 			

(Continued on back.)

Independent Worksheet 2 Fabulous Flea Circus! (cont.)

Geoblock	Volume Estimate (in cubic cm.)	Actual Volume (in cubic cm.)	Does this tent have a volume of 60–70 cubic cm? (Yes/No)
<p>1d</p>  <p>Hint Use another geoblock to help find the volume of OM.</p>			

2a Find geoblocks OA and OF. If you need to select a tent with the greatest volume, which of these two tents would you choose? Use labeled sketches, numbers, and/or words to show how you found the volume of each.



b What is the difference between the volume of OA and OF?

NAME _____

DATE _____

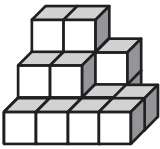
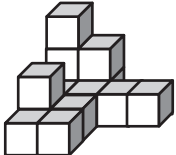
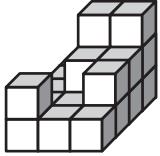
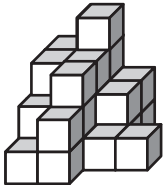
Set D7 ★ Independent Worksheet 3



INDEPENDENT WORKSHEET

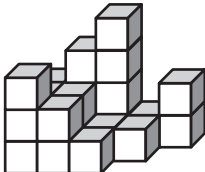
Find the Volume

1 Estimate the volume of the following structures in cubic centimeters. Build each structure using centimeter cubes. Find the volume. Then find the difference between your estimate and the actual volume.

	Volume Estimate (in cubic cm.)	Actual Volume (in cubic cm.)	Difference between estimate and actual volume (in cubic cm.)
a 			
b 			
c 			
d 			

(Continued on back.)

Independent Worksheet 3 Find the Volume (cont.)

	Volume Estimate (in cubic cm.)	Actual Volume (in cubic cm.)	Difference between estimate and actual volume (in cubic cm.)
<p>1e</p> 			
<p>f</p> 