

Name: _____

Grade 5

MEASUREMENT: VOLUME

Don't forget to play *Cubes*. Go to mathfrog.ca for the link.

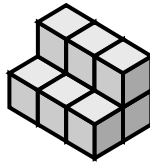
1. Determine the volume of each 3-dimensional figure. (Each small cube has a volume of 1 cm^3).

a)



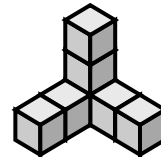
_____ cm^3

b)



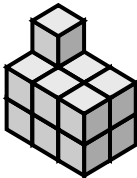
_____ cm^3

c)



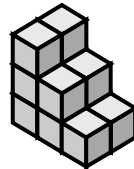
_____ cm^3

d)



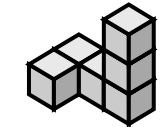
_____ cm^3

e)



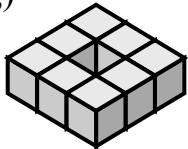
_____ cm^3

f)



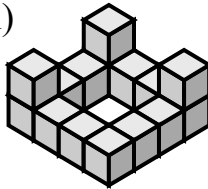
_____ cm^3

g)



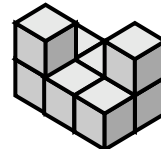
_____ cm^3

h)



_____ cm^3

i)



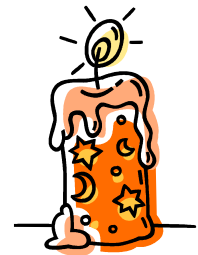
_____ cm^3

2. Neatly draw a rectangular prism (use centicubes as above) with a volume of:

a) 14 cm^3

b) 16 cm^3

3. Justin wishes to build a rectangular box to hold 100 candles. Each candle is in a cube-shaped container. He is able to place 20 candles on the bottom of the box. How many layers will Justin need to fit all the candles in the box?



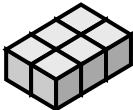

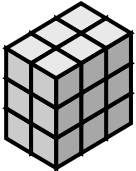


Did You Know?

After tomatoes, bananas are the world's most popular fruit. In western countries, bananas account for about 3% of groceries sold.

Expectations: i) estimate, measure, and record volume, and relate volume to the space taken up by an object.
ii) determine the relationship between height, the area of the base, and the volume of a rectangular prism.

4. Complete the table. (Each small cube has a volume of 1cm^3 .)

Figure	Length (L)	Width (W)	Height (H)	Volume (V)
	_____ cm	_____ cm	_____ cm	_____ cm^3
	_____ cm	_____ cm	_____ cm	_____ cm^3
	_____ cm	_____ cm	_____ cm	_____ cm^3
	_____ cm	_____ cm	_____ cm	_____ cm^3
	_____ cm	_____ cm	_____ cm	_____ cm^3

5. Use the results from the table in question 4 to discover a connection between the length(L), width(W), height(H), and volume(V). Write an equation that connects L, W, H, and V. Test your equation on other rectangular prisms.



6. A cardboard box has a volume of 72cm^3 . It is 3cm wide and 6cm long. How tall is this box?



Try This!

A box, with a volume of 200cm^3 , fell into a river and shrank. Each dimension (length, width, and height) of the resulting box is exactly half of what it was. (eg. A length of 4cm would become a length of 2cm.) What is the volume of the new box?

What is the ratio of the volume of the original box to the volume of the new box?

Try finding more volumes at <http://www.fun4child.com/math/3dboxes.html>.

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