

# Finding the Volume of Irregular Objects

We have been learning how to measure length, mass, temperature and volume. We have learned that we can measure the volume of a liquid with a graduated cylinder. Remember that volume is the amount of space an object or liquid takes up. In math class you have probably found the volume of a regular solid by multiplying its length x width x height. But what happens if a solid is irregular?

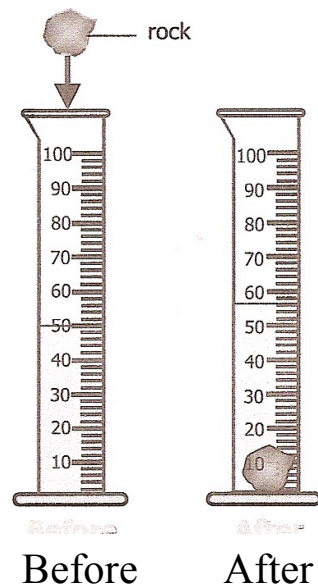
We can find the volume of an irregular object by placing it in water and measuring the difference in volume. This is called water displacement. Think about when you sit in a bathtub. You are displacing the water, so it goes up the sides of the bathtub. The same thing happens in the graduated cylinder.

Look at the graduated cylinders below very closely. Answer the questions.

1. What is the volume in the Before graduated cylinder? \_\_\_\_\_
2. What is the volume in the After graduated cylinder? \_\_\_\_\_
3. What made the volume in the After graduated cylinder increase? \_\_\_\_\_
4. What is the difference between the Before and After graduated cylinders? \_\_\_\_\_

\_\_\_\_\_

This is the volume of the rock!



**Materials:** water, plastic graduated cylinder, marble, rock, hex nut and medicine dropper

## What To Do:

1. Place 30 mL of water in the graduated cylinder.  
Don't forget to use the dropper for accuracy.
2. Gently roll the marble down the side of the tilted graduated cylinder so that you don't splash water out of the cylinder.
3. Record the new volume.
4. Find the difference by subtracting the ending volume from the beginning volume, as shown below.
5. Pour out the water and marble.
6. Refill the graduated cylinder to 30 mL.
7. Find the volume of the rock.
8. Repeat and find the volume of the hex nut.

Ending volume	_____
Beginning volume	- <u>30 mL</u>
Volume of marble	_____

Ending volume	_____
Beginning volume	- <u>30 mL</u>
Volume of rock	_____

Ending volume	_____
Beginning volume	- <u>30 mL</u>
Volume of hex nut	_____

You are given a graduated cylinder; water, a medicine dropper and a door key explain how you would find the volume of the door key.

[illegible]

1. Watch the video “ How Taking a Bath . . .” from [www.missdoctorbailer.com](http://www.missdoctorbailer.com).

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5. What is the technique for using water to find the volume of an irregular solid called?



Name \_\_\_\_\_

period \_\_\_\_\_

## EXIT TICKET

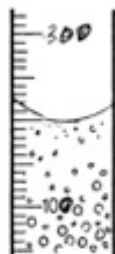
Finding the Volume of an Irregular Solid

Read the following volumes.

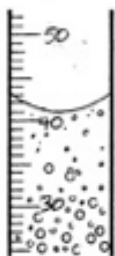
1. \_\_\_\_\_ ml



3. \_\_\_\_\_ ml



2. \_\_\_\_\_ ml



4. \_\_\_\_\_ ml



**Conclusion:** (mL, space, difference, displacement ending, bottom)

To find the volume of an irregular object you must find the

\_\_\_\_\_ between the beginning and \_\_\_\_\_ volume. The

technique of using water to find the volume is called

\_\_\_\_\_. The unit for volume is \_\_\_\_\_.

Volume is defined as the amount of \_\_\_\_\_ an object takes up. When

reading the amount of liquid in a glass graduated cylinder you

must read at the \_\_\_\_\_ of the meniscus.



Name \_\_\_\_\_

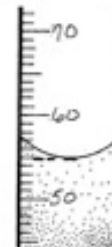
period \_\_\_\_\_

## EXIT TICKET

Finding the Volume of an Irregular Solid

Read the following volumes.

1. \_\_\_\_\_ ml



3. \_\_\_\_\_ ml



2. \_\_\_\_\_ ml



4. \_\_\_\_\_ ml



**Conclusion:** (mL, space, difference, displacement ending, bottom)

To find the volume of an irregular object you must find the

\_\_\_\_\_ between the beginning and \_\_\_\_\_ volume.

The technique of using water to find the volume is called

\_\_\_\_\_. The unit for volume is \_\_\_\_\_.

Volume is defined as the amount of \_\_\_\_\_ an object

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the meniscus.

