

**Please use the following resources to learn about measuring volume.**

**Watch this Video:** <https://www.youtube.com/watch?v=rOs3acfnLww>

**Answer these questions:**

- What is volume?
- How do we measure volume for a regular shaped object like a rectangular prism?
- How do we measure volume for irregular shaped objects like a rock?

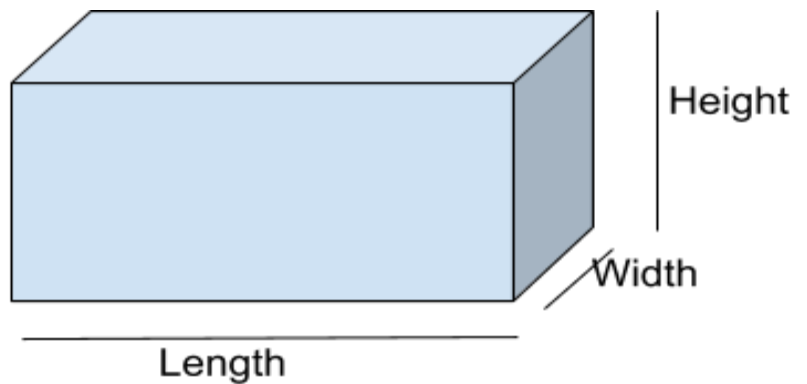
**Activities:** Follow these directions to find the volume of objects.

**Activity 1:** (3-5th grade) Follow these directions to compare the volume of regular objects.

You will need:

|   |  |   |
|---|--|---|
| <ul style="list-style-type: none"> <li>• 3 rectangular prism shaped objects, like a box.</li> </ul> | <ul style="list-style-type: none"> <li>• Ruler (cm)</li> </ul> | <ul style="list-style-type: none"> <li>• Paper</li> <li>• Pencil</li> </ul> |
|---|--|---|

1. For the first object, measure the length, width, and height in cm. Write them down. in a table like the one at the bottom of this page.
2. Use the formula by multiplying:
  - a. length x width x height = volume
  - b. Your answer should be labeled with  $\text{cm}^3$ .
3. Find the volume of the next 2 objects.
4. Did any of your objects have the same (or almost the same) volume but look very different from each other? Why?



| Object | Length (cm) | Width (cm) | Height (cm) | Volume ( $\text{cm}^3$ ) |
|--------|-------------|------------|-------------|--------------------------|
|        |             |            |             |                          |
|        |             |            |             |                          |

**Activity 2:** (6-8th grade) Follow these directions to compare the volume of irregular objects.

You will need:

|   |  |
|---|--|
| <ul style="list-style-type: none"><li>• A glass measuring cup with milliliters (ml)</li></ul> | <ul style="list-style-type: none"><li>• Water</li><li>• 3 small, waterproof, solid objects</li></ul> |
|---|--|

1. Fill your measuring cup with water to the 100 milliliter (ml) line.
  - a. Make sure you always look at the measuring cup from water level, not above or below it.
2. Gently place your waterproof object into the measuring cup.
3. Read the height of the water with the object submerged. This is your ending measurement.
  - a. Calculate how many ml the water in your cup rose.
  - b. Reminder: [ending measurement] - [starting measurement (100 ml)] = [total volume]
  - c. This is the volume of the object you placed into the measuring cup.



4. If your object displaced 50 ml of water, it's volume is 50 cm<sup>3</sup>
5. Repeat for 2 more objects.

**Make observations & use Claims, Evidence, and Reasoning!**

1. **Claim:** Larger objects have larger volumes.
  - **Evidence:**
  - **Reasoning:**
2. **Claim:** Measuring cups and home rulers are not precise enough to measure small volumes.
  - **Evidence:**
  - **Reasoning:**