

5.MD Review (5th Grade EOG)

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Green IBIS research

(Standard 5.MD.1)

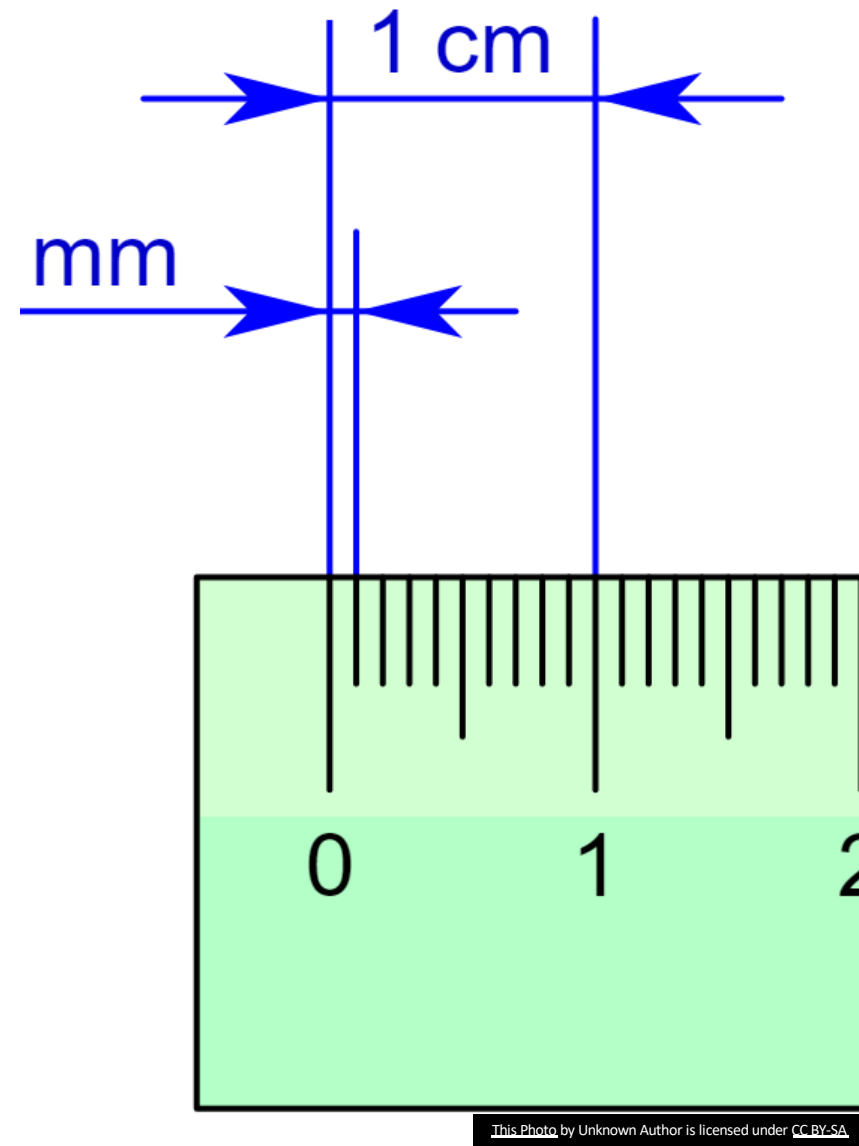
1. **Converting Lengths Problem 1:** Convert 2500 millimeters to meters.

Solution:

1. Understand the conversion factor: 1 meter = 1000 millimeters.
2. Divide the number of millimeters by 1000 to convert to meters:

$$2500\text{mm} \div 1000 = 2.5\text{m}$$

So, 2500 millimeters is equal to 2.5 meters.



(Standard 5.MD.1)

- **Problem 2:** Convert 3.75 meters to centimeters.
- **Solution:**
 1. Understand the conversion factor: 1 meter = 100 centimeters.
 2. Multiply the number of meters by 100 to convert to centimeters:

$$3.75\text{m} \times 100 = 375\text{cm}$$

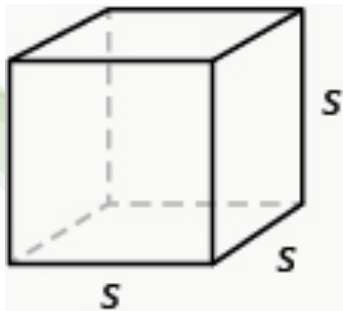
So, 3.75 meters is equal to 375 centimeters.



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Cent is French for 100
Milli from Latin mille meaning 1000
Meter is French for measure.
1 meter is approximately 39.37 inches

Understanding Volume (Standard 5.MD.3)



Volume: $V = s^3$
Surface Area: $S = 6s^2$

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Problem 3: A cube has a side length of 4 cm.
What is its volume?

• **Solution:**

1. The formula for the volume of a cube is

$$V = \text{side length}^3$$

$$V = \text{side length}$$

• $V = 4\text{cm} \times 4\text{cm} \times 4\text{cm} = 64\text{cm}$

(16×4)

So, the volume of the cube is 64 cubic centimeters.

Understanding Volume (Standard 5.MD.3)

- If a solid figure can be packed without gaps using 120 unit cubes, what is its volume?

- **Solution:**

1. By definition, if a solid figure can be packed without gaps using n

n unit cubes, its volume is n

n cubic units.

2. Therefore, the volume is:
cubic units

$$V=120\text{unit cubes}=120\text{cubic units}$$

So, the volume of the solid figure is 120 cubic units.

Measuring Volumes (Standard 5.MD.4)

- **Problem 5:** Measure the volume of a rectangular prism with dimensions 6 cm, 4 cm, and 3 cm.
- **Solution:**
 1. The formula for the volume of a rectangular prism is V

$$V=l \times w \times h.$$

2. Plug in the dimensions: V

$$V=6\text{cm} \times 4\text{cm} \times 3\text{cm}=72\text{cm}$$

Definition of Cubic Meter

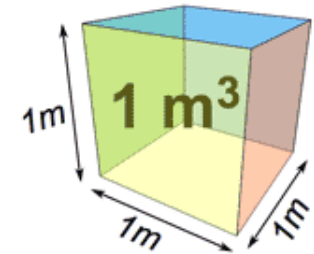
[more ...](#)

A volume that is made by a cube that is 1 meter on each side.

Its symbol is m^3

It is equal to 1000 (one thousand) liters.

Example: A box that is 2 meters wide, 2 meters long and 0,25 meters deep has a volume of $2 \times 2 \times 0,25 = 1 \text{ m}^3$



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Relating Volume to Multiplication and Addition (Standard 5.MD.5)

- **Problem 6:** Find the volume of a rectangular prism with dimensions 5 cm, 7 cm, and 2 cm using the formula

$$V=l \times w \times h.$$

- **Solution:**

1. Use the formula

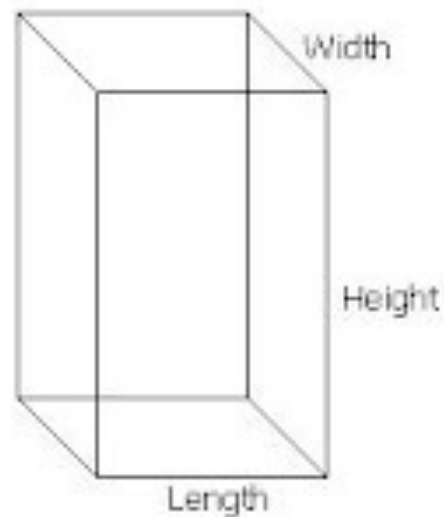
$$V=l \times w \times h.$$

2. Calculate the volume:

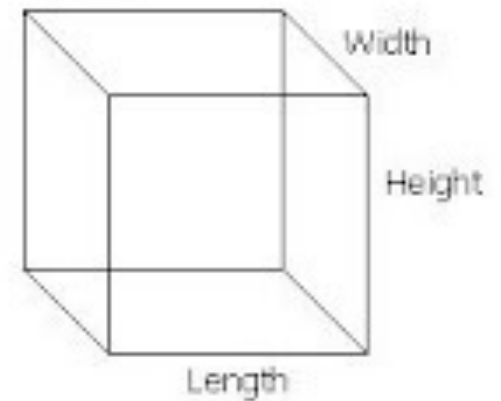
$$V=5\text{cm} \times 7\text{cm} \times 2\text{cm}=70\text{cm}^3$$

So, the volume of the rectangular prism is 70 cubic centimeters.

rectangular prism



cube



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If you have an odd shape, try to visualize them as smaller regular Shapes (like a cube and a cuboid stuck together, and add their volumes. Length x width x height.

Relating Volume to Multiplication and Addition (Standard 5.MD.5)

- **Problem 7:** A solid figure is composed of two non-overlapping right rectangular prisms. The first prism has dimensions 3 cm, 4 cm, and 5 cm, and the second prism has dimensions 2 cm, 3 cm, and 6 cm. Find the total volume.

- **Solution:**

1. Calculate the volume of the first prism:

$$V_1 = 3\text{cm} \times 4\text{cm} \times 5\text{cm} = 60\text{cm}^3$$

2. Calculate the volume of the second prism:

$$V_2 = 2\text{cm} \times 3\text{cm} \times 6\text{cm} = 36\text{cm}^3$$

3. Add the two volumes together:

$$60\text{cm}^3 + 36\text{cm}^3$$

So, the total volume is 96 cubic centimeters.