3rd Grade Math: Meters and Centimeters

What Are Meters and Centimeters?

- **Meters** and **centimeters** are units of length used in the metric system. We use these units to measure how long or tall something is.
    - **Meters (m)**: A meter is a larger unit of length.
    - **Centimeters (cm)**: A centimeter is a smaller unit of length.
- **1 meter = 100 centimeters.**

How to Measure Length in Meters and Centimeters

1. **When to Use Meters**:

2. Use **meters** to measure larger objects or distances, such as the height of a door or the length of a classroom.

3. **When to Use Centimeters**:

Use **centimeters** to measure smaller objects, like the length of a pencil or the width of a book.

Converting Between Meters and Centimeters

- To convert meters to centimeters, multiply the number of meters by 100.

$$1 \, \text{meter} = 100 \, \text{centimeters}$$

- To convert centimeters to meters, divide the number of centimeters by 100.

$$100 \, \text{centimeters} = 1 \, \text{meter}$$

Example 1: Converting Meters to Centimeters

Problem:

How many centimeters are in 5 meters?

Solution:

To convert meters to centimeters, multiply by 100:

$$5 \, \text{meters} \times 100 = 500 \, \text{centimeters}$$

Answer:

5 meters = 500 centimeters.

Example 2: Converting Centimeters to Meters

Problem:

How many meters are in 250 centimeters?

Solution:

To convert centimeters to meters, divide by 100:

$$250 \, \text{centimeters} \div 100 = 2.5 \, \text{meters}$$

Answer:

250 centimeters = 2.5 meters.

Example 3: Measuring Objects

Problem:

Your classroom whiteboard is 3 meters long, and your notebook is 25 centimeters long. How long are both objects together in centimeters?

Steps:

1. Convert the whiteboard's length to centimeters:

$$3 \, \text{meters} \times 100 = 300 \, \text{centimeters}$$

2. Add the lengths together:

$$300 \, \text{centimeters} + 25 \, \text{centimeters} = 325 \, \text{centimeters}$$

Answer:

The total length is 325 centimeters.

Example 4: Adding Meters and Centimeters

Problem:

If a rope is 2 meters 50 centimeters long and another rope is 1 meter 75 centimeters long, how long are they together?

Steps:

1. Convert both ropes to centimeters:

$$2 \, \text{meters} \, 50 \, \text{centimeters} = 250 \, \text{centimeters}$$

$$1 \, \text{meter} \, 75 \, \text{centimeters} = 175 \, \text{centimeters}$$

2. Add the lengths together:

$$250 \, \text{centimeters} + 175 \, \text{centimeters} = 425 \, \text{centimeters}$$

3. Convert back to meters:

$$425 \, \text{centimeters} \div 100 = 4 \, \text{meters} \, 25 \, \text{centimeters}$$

Answer:

The total length is 4 meters 25 centimeters.

Conclusion:

- **Meters** and **centimeters** are important units for measuring length. Remember that **1 meter = 100 centimeters**.
- You can easily switch between meters and centimeters by multiplying or dividing by 100.

By practicing, you'll get better at measuring and comparing lengths using meters and centimeters!