

JANUARY	<i>Makugihon</i>
FEBRUARY	<i>Mahigugmaon</i>
MARCH	<i>Matinabungen</i>
APRIL	<i>Matinahuron</i>
MAY	<i>Mahapsay og Malimpyo</i>
JUNE	<i>Maabtik og Masunod sa Dihaklong Oras</i>
JULY	<i>Maantigo og Maabilidad</i>
AUGUST	<i>Maginhuhunoon para sa Uban</i>
SEPTEMBER	<i>Madaginoton</i>
OCTOBER	<i>Matinud-anon</i>
NOVEMBER	<i>Masaligan</i>
DECEMBER	<i>Maalampon</i>



Republic of the Philippines
Department of Education
Regional Office IX, Zamboanga Peninsula



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Zest for P rogress
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MATHEMATICS

4th QUARTER – Module 3: CONVERTING COMMON UNITS OF MEASURE



Name of Learner: _____

Grade & Section: _____

Name of School: _____

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What I Need to Know

When you want to know how tall you are, how long your pencil is, or how heavy is the pack of rice you buy, you **measure** these things. We use measurement in our daily lives – in buying a new pair of shoes, in cooking, in taking medicine, and many other activities. We commonly measure the length, the mass (weight) and the volume of objects.

In this module, you will be able to:

- Visualize, represent, and convert common units of measure from larger to smaller units and vice versa: meter and centimeter, gram and kilogram, liter and milliliter (M3ME-IVb-39); and
- Solve routine and non-routine problems involving conversions of common units of measure (M3ME-IVb-40)



What I Know

A. Directions: Read and answer the following problems. Write your answer on a separate sheet of paper.

1. Which is longer, object A or object B? _____



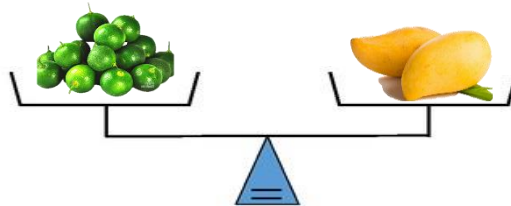
Object A - 10 centimeters

Object B - 10 meters

2. Which is heavier 1 kg calamansi or 1000 g mango? _____

Kalamansi
1 kilogram

Mango
1000 grams



3. Which has greater amount of liquid? _____



A - 1 liter



B - 30 milliliters

B. Directions: Choose the letter of the correct answer. Write on a separate sheet of paper.

1) A big rubbing alcohol holds 2 liters. How many milliliters is this?

A. 1000ml

B. 1 500ml

C. 2 000ml

- 2) I weigh 33 kilograms. How many grams are needed to make it 35 kilograms?
 A. 1 000g B. 2 000g C. 3 000g

LESSON
1

CONVERTING COMMON UNITS OF MEASURE FROM LARGER UNITS TO SMALLER UNITS AND VICE VERSA



What's In

What are the common units of measure for length, mass, and capacity?



What's New

Directions: Study and analyze the given figures. Answer the questions that follow.



1 meter (wood A)



1 centimeter (wood B)



1 meter = _____ centimeters (wood C)

Questions:

- Which of the pieces of wood is the shortest?
- Are wood A and wood C of the same length?
- How many centimeters are there in wood C?



What is It

A. Meter (m) is the fundamental unit of length in metric system equal to 100 centimeters.

- To convert meter to centimeter, **multiply the number of meters by 100.** (1m=100cm)

EXAMPLE: 3 m = _____ cm 3m x 100 = **300 cm**

B. Centimeter (cm) is the unit of length in metric system equals to one hundred of a meter.

- To convert centimeter to meter, **divide the number of centimeters by 100.** (100 cm= 1m).

EXAMPLE: 300 cm = _____ m 300 cm ÷ 100 = **3 m**

C. Gram (g) is used to measure the weight or mass of very light objects.

- To convert gram to kilogram, **divide the number of grams** by 1000. (1 kg = 1000g)

EXAMPLE: 5000 g = ____ kg

$$5000 \text{ g} \div 1000 = \mathbf{5kg}$$

D. Kilogram (kg) is used to measure the weight or mass of heavier objects.

- To convert kilogram to gram, **multiply the number of kilogram** by 1000. (1 kg = 1000g)

Example: 5 kg = ____ g

$$5 \text{ kg} \times 1000 = \mathbf{5000 \text{ g}}$$

E. Liter (L) is used to measure volume of liquid.

- To convert liter to milliliter, **multiply the given number by 1 000.** (1000 milliliters = 1 liter).

Example: 7L = ____ ml

$$7\text{L} \times 1000 = \mathbf{7\ 000 \text{ ml}}$$

F. Milliliter (mL) is used to measure small amount of liquid.

- To convert milliliter to Liter, **divide the given number by 1 000.** (1 liter=1000milliliter).

Example: 7000 ml = ____ L

$$7\ 000\text{mL} \div 1\ 000 = \mathbf{7 \text{ L}}$$



What's More

Directions: Convert the following units of measure. Match Column A to Column B. Write the answer on a separate sheet of paper.

A

1. 10,000 ml of water is _____ liter
2. 5 meters is _____ centimeters
3. 19 000 grams is _____ kilograms
4. 700 centimeters is _____ meters
5. 20 liters is _____ milliliters

B

- a. 19 kg
- b. 7m
- c. 20 000 ml
- d. 10 L
- e. 500 cm

LESSON

2

Routine and Non-Routine Problem Involving Conversion Common Units Measure



What's New

Directions: Choose the letter that corresponds to your answer.

My mom sent 2 packages of Philippine products to my uncle in Australia. One package weighed 1 450 g and the other weighed 1 275 g. How much did the 2 packages weigh in grams?

A. 2 725 g

B. 2 700 g

C. 275 g



What is It

To solve a one-step word problem involving the conversion of common units of measure, follow the four steps plan in problem-solving: This time let us solve this problem using Polya's step.

A. Understand

- What are given?
- What is being asked?

C. Solve

B. Plan

- What operation will solve the problem?
- What mathematical sentence will solve the problem?

D. Look Back



What's More

Directions: Read, analyze, and solve. Write the answers on a separate sheet.

- The perimeter of a house lot is 78 meters. How many centimeters is that?
A. 7 800 cm B. 780 cm C. 78 cm
- Laura can consume $2\frac{1}{2}$ liters of water, 500mL of lemon juice, and 250mL of malunggay juice in one day. How many milliliters of liquid drinks can she consume in one day?
A. 3000 mL B. 3 750 mL C. 3 250 mL
- What is the height of the school gate in meters if it is 300 centimeters?
A. 2 meters B. 3 meters C. 6 meters
- Aling Perla bought $7\frac{1}{4}$ kg of buko to make a buko pie. How many grams of buko did she buy?
A. 7 500 grams B. 7250 grams C. 7 000 grams
- Marites bought $\frac{1}{2}$ kilo of beef and $\frac{1}{2}$ kilo of chicken. How many grams of meat did Marites buy in all?
A. 1000 grams B. 1 200 grams C. 1500 grams



What I Have Learned

- What is routine problem-solving?**
 - Is a type of problem with an immediate solution.
- What is a non-routine problem?**
 - Non-routine problems typically do not have an immediately apparent strategy for solving them.

TO CONVERT:

1. Meter to Centimeter, Centimeter to Meter

- ❖ To convert meter to centimeter, multiply the number of meters by 100.

- ❖ To convert centimeter to meter, divide the number of centimeters by 100.

2. Kilogram to Gram, Gram to Kilogram

- ❖ To convert kilogram to gram, multiply the number of kilograms by 1000.
- ❖ To convert gram to kilogram, divide the number of grams by 1000.

3. Liter to Milliliter, Milliliter to Liter

- ❖ To convert liter to milliliter, multiply the given number by 1000.
- ❖ To convert ml to L, divide the given number by 1000.



What I Can Do

Directions: Read and answer the following questions. Write on a separate sheet of paper.

- Luz drinks 3 liters of water in one day. How many milliliters of water does she drink in a day?
A. 3 ml B. 30 ml C. 300 ml D. 3 000 ml
- Rommel bought 30 000 grams of potatoes. How many kilograms of potatoes did he buy?
A. 40 kg B. 30 kg C. 20 kg D. 10 kg
- Our school playground is 10 meters wide. How wide is it in centimeters?
A. 10 cm B. 100 cm C. 1000 cm D. 10 000 cm



Assessment

Directions: Solve the following problems. Choose and write the letter of the correct answer on a separate sheet of paper.

- Jamby weighed 37 kg last year. His weight increased by 8 kg this year. What is the weight of Jamby in grams this year?
A. 29 000g B. 37 000g C. 45 000g D. 48 000g
- The distance of our house from school is 7 meters. What is the distance in centimeters?
A. 7 000 cm B. 700 cm C. 70 cm D. 7 cm
- A water container can hold 5 000 ml of liquid. How many liters can the water container hold?
A. 5 L B. 4 L C. 3 L D. 2 L
- Mario put 20 liters of water in the washing machine. How many milliliters of water did he put in the washing machine?
A. 20 ml B. 200 ml C. 2 000 ml D. 20 000 ml
- Nica jogs 4500 meters each day. How many kilometers does she jog each day?
A. 4500 kilometers B. 450 kilometers C. 45 kilometers D. 4.5 kilometers



Answer Key

What I Know:
 A. (1) Object B (2) Same weight (3) A
 B. (1) C (2) B

What's In:
 A.
 a. linear – centimeters and meter
 b. mass- grams and kilograms
 c. capacity- liters and milliliters

What's New:
 Lesson 1
 Lesson 2
 • Wood B
 • Yes
 • 100 cm
 1. A

What's More:
 Lesson 1 (1) D (2) E (3) A (4) B (5) C
 Lesson 2 (1) A (2) C (3) B (4) B (5) A

What I Can Do:
 1. D 2. B 3. C

Assessment 1
 1. C 2. B 3. A 4. D 5. D

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