JANUARY
Makugihon
FEBRUARY
Mahigugmaon
MARCH
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APRIL
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MAY
Mahapsay og Malimpyo
JUNE
Maabtik og Musunod sa Ihsaktong Orus
JULY
Maantigo og Maabilidad
AUGUST
Maginhunahunaon para sa Uban
SEPTEMBER
Madaginoton
OCTOBER
Matinud-anon
NOVEMBER
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DECEMBER
Maalampuon

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

3

Zest for Progress
Zeal of Partnership

MATHEMATICS

4th QUARTER – Module 4:
SOLVING PROBLEMS INVOLVING CAPACITY MEASURE

Name of Learner: _____

Grade & Section: _____

Name of School: _____

Mathematics – Grade 3
Alternative Delivery Mode
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Introductory Message

This Self – Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you can proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. Read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you!

What I Need to Know

LEARNING COMPETENCY:

The learner solves routine and non-routine problems involving capacity measure.

What I Know

Directions: Choose the letter that corresponds to your answer. Write it on a separate sheet of paper.

1. Anton sold 46L of fresh milk in 3 days and 32L of milk in the next 2 days. How much fresh milk did he sell in 5 days?

   A. 65 L B. 68L C. 75L D. 78L

2. Sara bought 500 ml of mustard oil, 250 ml of coconut oil and 200 ml of refined oil. What is the total quantity of the 3 kinds of oil?
   A. 950 ml B. 900 ml C. 850 ml D. 800 ml
3. Alex consumed 15 L of water in 2 days and 27 liters of water in the rest of the days. How much more water did he consume in the rest of the days?
   A. 10L B. 12L C. 14L D. 15L
4. Mary purchased 500 ml bottle of apple juice, 300 ml can of orange juice and 400 ml of pineapple juice. What quantity of cold drinks did Mary purchase altogether?
   A. 1000 ml B. 1100 ml C. 1 200ml D. 1500ml
5. A liter of fresh milk costs Php56. How much does 6 liters cost?
   A. Php336 B. Php326 C. Php263 D. Php62

LESSON 1 **SOLVING ROUTINE AND NON-ROUTINE PROBLEMS INVOLVING CAPACITY MEASURE**

What's In

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

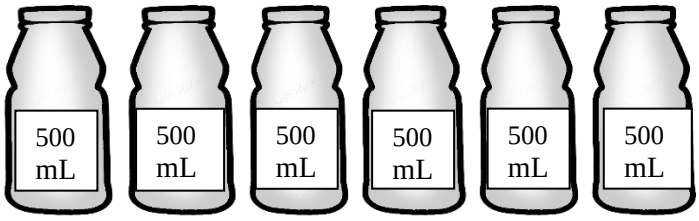
1. What unit is used to measure the amount of juice inside the pitcher?
   A. centimeter B. meter C. liter D. kilogram
2. Which of the following appropriate measurement for a sprinkler that contains water?
   A. 5 mL B. 15 mL C. 5 L D. 15 L
3. What operation is used to convert milliliters to liters?
   A. addition B. division C. multiplication D. subtraction
4. how many milliliters are there in seven (7) liters?
   A. 7 mL B. 70 mL C. 700 mL D. 7 000 mL
5. How many milliliters are there in a liter?
   A. 500ml B. 1000ml C. 1500ml D. 1800ml

What's New

Take a closer look at the problems below.

Let us illustrate the problem to know the answer to the question given. We need 6 empty bottles (500 mL each).

1. Lorna drinks 3 liters of water every day. How many milliliters does she drink in 3 days?



1 000 mL 1 000 mL 1 000 mL = 3 000 mL

1 liter 1 liter 1 liter = 3 liters

This shows that there are 3 000 mL in 3 liters. Now, multiply 3000 ml for 3 days. So, that makes 9000 milliliters.

What is It

Study another problem.

Eric prepared 4L of water to make pitchers of calamansi juice for the workers in a day. How many milliliters of water did he prepare in 5 days?

This time let us solve this problem using Polya's step.

A. Understand

What are given? **4 liters and 5 days**

What is being asked? **The amount of water to prepare milliliters**

B. Plan

What operation will solve the problem? **Multiplication**

What mathematical sentence will solve the problem? **4 x 1000 = N , N x 5 = N**

C. Solve

4 x 1000 = 4000 ml,
4000X 5 = 20 000ml

D. Look Back

The answer makes sense because there are 1 000 milliliters in 1 liter. This makes 4000 milliliters in 4 liters multiplied by 5 days.

COMPLETE ANSWER

Eric prepared 20 000 milliliters of water for calamansi juice in 5 days.

What's More

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

1. There are 478 liters and 360 milliliters of water in the tank. 239 liters and 125 milliliters of water are consumed. How much water is left in the tank?
   A. 239L and 235 ml C. 220L and 130 ml
   B. 180L and 240 ml D. 200L and 180mL
2. The capacity of the milk boiler is 2 L 500 mL of milk. If 1L 200 mL of milk is put into the vessel then how much more quantity of milk can be filled in the vessel?
   A. 9 00 ml B. 1L 300 ml C. 1L 500 ml D. 1L 000 ml
3. An oil can accommodate 5 L of oil. How much oil is left in the can if 2L 750 ml of oil is used?
   A. 2L 500ml B. 3L500 ml C. 2L 250 ml D. 3L 250 ml
4. A car was filled up with 35L of fuel in a month and 29L of fuel was already used. How much fuel was left in the car?
   A. 5L B. 6L C. 7L D. 8L
5. In 1 ½ liter of cold drink bottle, only 320 ml of cold drink is left. How much cold drink is consumed?
   A. 1000 ml B. 1050 ml C. 1100 ml D. 1180 ml

What I Have Learned

How do we solve routine and non-routine problems involving capacity measure?

- In solving routine and non-routine problems involving capacity measures, we use the steps of George Polya.
- These are the following steps:
  a. Understand
  b. Plan
  c. Solve
  d. Check or Look back.
- Sometimes, drawing or illustration and making a pattern are used. We add, subtract, multiply, or divide depending on the problems.

What I Can Do

Directions: Read carefully and solve the following problems.

1. Harry had 3 buckets of different capacity which could hold 9 257 ml,12 420 ml and 30 100 ml of water. How much water could be stored in all?
2. A school bus gas tank holds 30 L of gasoline. Last Friday, 8 L of it was used. How much gasoline was left in the tank?
3. Nardo has an aquarium that holds 12 000 mL of water. The water capacity now 10 000 mL. How much more water is needed to fill up the aquarium in liters?
4. The consumption of diesel in truck A in one day is 102L and the consumption of diesel in truck B is 105 L. Whose consumption is less and by how much?
5. Clara made 500 ml of mango shake on Saturday and 700 ml on Sunday. On which day mango shake was prepared in more quantity and by how much?

Assessment

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

1. Miss Raiza Santos, a P.E. teacher went jogging with her 9 students. Each of them carried 500 mL water bottle. How many liters of water did they bring in all?
   A. 4.5 L B. 5 L C. 5.5 L D. 6 L
2. A caterer put 10 small vases on the table. Each holds 200 mL of water. How much water is needed for all the vases?
   A. 200 mL B. 2 000 mL C. 2 500 mL D. 3 000 mL
3. Joseph and Trisha drink 2 ½ liters of milk every week. How many milliliters of milk do they consume each week?
   A. 2 250 mL B. 2 300 mL C. 2 500 mL D. 3 000 mL
4. A can contains 1.5 liters of water. The teacher asks you to put the water in a 250 mL bottle. How many bottles do you need?
   A. 6 bottles B. 5 bottles C. 4 bottles D. 3 bottles
5. A liter of fresh milk costs Php53.00. How much do 5 liters cost?
   A. Php256 B. Php258 C. Php265 D. Php625

Answer Key

What I Know:
(1) B (2)A (3) B (4) C (5)A

What's In:
(1) C (2) D (3) B (4) D (5) B

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

What I Can Do:
(1) 51,777ml (2) 22L
(3) 2L (4) truck A less by 3L (5) Sunday by 200 ml

Assessment:
(1) B (2) B (3) C (4)A (5) C

References:

Teachers Guide Pages 358 - 361

Mathematics – Grade 3
Learner's Material
First Edition, 2013(Pages 278 - 281)