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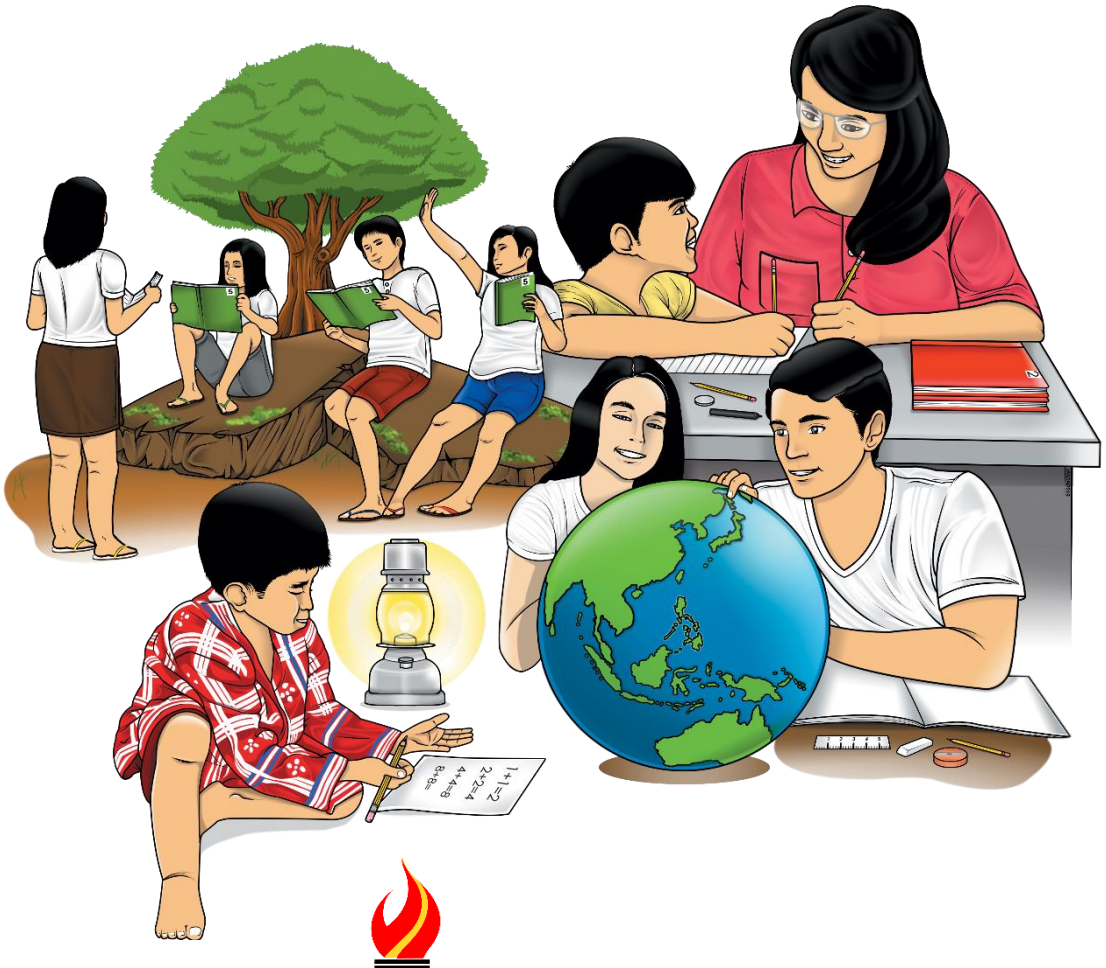
Mathematics

Quarter 1 – Module 12: Adding Fun in Routine and Non-Routine Problems



ALTERNATIVE DELIVERY MODE
ADM

Mathematics – Grade 3
Alternative Delivery Mode
Quarter 1 – Module 12: Adding Fun in Routine and Non-Routine Problems
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Mathematics

Quarter 1 – Module 12: Adding Fun in Routine and Non-Routine Problems

Introductory Message

For the facilitator:

Welcome to the Grade 3 Mathematics Alternative Delivery Mode (ADM) Module on **Adding Fun in Routine and Non-Routine Problems**!

This module was collaboratively designed, developed and reviewed by educators both from public and private institutions to assist you, the teacher or facilitator in helping the learners meet the standards set by the K to 12 Curriculum while overcoming their personal, social, and economic constraints in schooling.

This learning resource hopes to engage the learners into guided and independent learning activities at their own pace and time. Furthermore, this also aims to help learners acquire the needed 21st century skills while taking into consideration their needs and circumstances.

As a facilitator, you are expected to orient the learners on how to use this module. You also need to keep track of the learners' progress while allowing them to manage their own learning. Furthermore, you are expected to encourage and assist the learners as they do the tasks included in the module.

For the learner:

Welcome to the Grade 3 Mathematics Alternative Delivery Mode (ADM) Module on **Adding Fun in Routine and Non-Routine Problems**!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. It was made easy for you to process the contents of the learning resource while being an active learner.

This module has the following parts and corresponding icons:

 *What I Need to Know*	This will give you an idea of the skills or competencies you are expected to learn in the module.
 *What I Know*	This part includes an activity that aims to check what you already know about the lesson to take. If you get all the answers correct (100%), you may decide to skip this module.
 *What's In*	This is a brief drill or review to help you link the current lesson with the previous one.
 *What's New*	In this portion, the new lesson will be introduced to you in various ways such as a story, a song, a poem, a problem opener, an activity or a situation.
 *What is It*	This section provides a brief discussion of the lesson. This aims to help you discover and understand new concepts and skills.

 *What's More*	This comprises activities for independent practice to solidify your understanding and skills of the topic. You may check the answers to the exercises using the Answer Key at the end of the module.
 *What I Have Learned*	This includes questions or blank sentence/paragraph to be filled in to process what you learned from the lesson.
 *What I Can Do*	This section provides an activity which will help you transfer your new knowledge or skill into real life situations or concerns.
 *Assessment*	This is a task which aims to evaluate your level of mastery in achieving the learning competency.
 *Additional Activities*	In this portion, another activity will be given to you to enrich your knowledge or skill of the lesson learned.
 *Answer Key*	This contains answers to all activities in the module.

At the end of this module you will also find:

References	This is a list of all sources used in developing this module.

The following are some reminders in using this module:

1. Use the module with care. Do not put unnecessary mark/s on any part of the module. Use a separate sheet of paper in answering the exercises.
2. Don't forget to answer *What I Know* before moving on to the other activities included in the module.
3. Read the instruction carefully before doing each task.
4. Observe honesty and integrity in doing the tasks and checking your answers.
5. Finish the task at hand before proceeding to the next.
6. Return this module to your teacher/facilitator once you are through with it.

If you encounter any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator. Always bear in mind that you are not alone.

We hope that through this material, you will experience meaningful learning and gain deep understanding of the relevant competencies. You can do it.

What I Need to Know

This module was designed and written with you in mind. In the previous lesson, you learned to add whole numbers. In this module, you will apply the concept that you have learned in adding whole numbers in solving routine and non-routine problems involving addition of whole numbers with sums up to 10 000 including money using appropriate problem solving strategies and tools. This will be a learning experience that will help you establish connections between addition concept and real life context. You will enjoy solving situations in life using different strategies and tools.

After going through this module, you are expected to:

1. Solve routine and non-routine problems involving addition of whole numbers with sums up to 10 000 including money using appropriate problem solving strategies and tools (M3NS-If-29.3).

Enjoy your journey. Good luck!

What I Know

Answer the problems.

1.) In the field, I saw 45 boys and 36 girls playing. How many children did I see?

2.) Every birthday, I put peso coins in a jar representing my age. I now have 36 peso coins in the jar. How old am I?

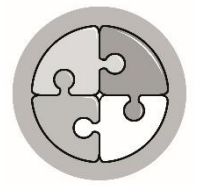
3.) The population of Matiao Central Elementary School is 5 300 while that of Don Luis Rabat Sr. Memorial School is 4 100. What is the total population of the two schools?

4.) Harold has ₱980. Jane has ₱130 more than Harold. How much do they have altogether?

5.) Revin and Sophia went to the bank to deposit their savings. Revin deposited ₱1 500 while Sophia deposited twice as much. How much did Sophia deposit?

Lesson Solve Routine and Non-Routine problems Involving Addition of Whole Numbers

There are situations in life when you need to solve problems involving addition of whole numbers. In playing, you count the toys that you have or the friends who join the game. If you intend to buy something, you count your money to know if it is enough to buy the things that you need. Hence, in your day to day life you apply your problem-solving skills. The problems that you encounter can be routine or non-routine problems.



What's In

Activate the concept of addition that you have learned in the previous lessons by answering the following questions.

1.) What is the sum of 450 and 681?

2.) What is the sum of 2 130 and 6 150?

3.) Find the value of 715 added to 596.

4.) Combine 2 100 and 3 500. What is the sum?

5.) Find the sum of 5 125 and 976.

What's New

In the previous lesson, you performed addition. You mastered adding numbers with and without regrouping. For this lesson, you will focus on solving routine and non-routine problems involving addition.

Study carefully the examples below. Take note how are answers being obtained. Remember that the process of obtaining the answer is as important as the answer itself.

Example 1: Josephine sold 50 pieces of rice cake. Letecia sold 65 pieces of rice cake. How many pieces of rice cake were sold?

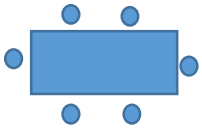
The table below provides a systematic way of analyzing the problem.

What you have	What you want to find out	What you need to do
1. Josephine sold 50 pieces of rice cake. 2. Letecia sold 65 pieces of rice cake.	The number of pieces of rice cake that were sold	Add to get the total number of pieces of rice cake sold. 50 + 65 115 Therefore, **115** pieces of rice cake were sold.

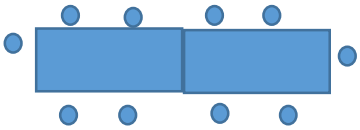
The table above shows a systematic way of answering the problem. You identified what you have, what you want to find out, and what you need to do. You used addition to get the total number of pieces of rice cake sold. You were able to determine that there were 115 pieces of rice cake sold.

Example 2: A rectangular table can seat 6 persons. If two tables are placed side by side, it can seat 10. If three tables are placed side by side, it can seat 14. How many persons can be accommodated if there are 5 rectangular tables placed side by side?

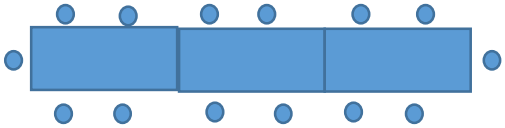
Solving the problem using illustrations.



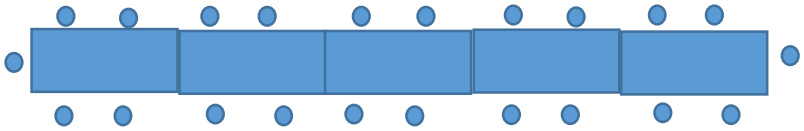
One table can seat 6 persons



Two tables can seat 10 persons.



Three tables can seat 14 persons.



Answer: Five tables can seat 22 persons.

What is It

It is important to study mathematics because we need to solve problems involving numbers. In solving routine and non-routine problems, remember to do the following.

1. Understand the problem
   Make sure that you understand the words used and that the problem is clear to you. Determine what is given and what is asked. You should have all the information that you need to solve the problem.

2. Make a plan
   You can use different strategies and tools in solving problems. You can draw figures, diagrams, and illustrations. You can use tables and representations. You can guess and test when needed to check if your plan will help you obtain the answer to the problem.

3. Carry out the plan
   Use the plan to check if it works. If it does not, try another strategy.

4. Look back
   You need to check if your answer is correct that satisfies the condition of the problem.

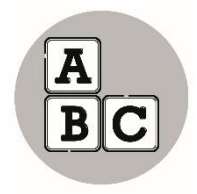
Read and understand the problem. Use the list of food in the canteen in solving the problem.

Snacks		Meals	
Sandwich	Php 15.00	Fried fish and rice	Php 30.00
Banana Cue	Php 10.00	Munggo and Rice	Php 25.00
Fruit Juice	Php 25.00	Beef Steak and Rice	Php 50.00
Fruit Salad	Php 25.00	Vegetable Salad and Rice	Php 35.00
Bottled Water	Php 10.00		

Rhean has Php 50.00 for her meal allowance in school. What can she buy with this amount? Compute the total amount of each set of food ordered.

Possible answer:

Sandwich	Php 15.00
Banana Cue	Php 10.00
Fruit Juice	Php 25.00
Total	Php 50.00



What's More

Solve the following routine and non-routine problems.

1. Fred was given 35 yellow marbles and 18 green marbles. How many marbles does Fred have in all?

2. In a farm, there are twice as many chickens as cows. If there are 104 legs altogether, find the number of chickens in the farm.

3. Jerry has 128 pieces of cubes. Sonnie has 176 pieces of cones. How many objects do they have in all?

4. A chocolate and two biscuits cost Php 84. The chocolate costs Php 12 more than the biscuit. Find the cost of the chocolate.

5. Nanay Malou's birthday gifts to Rona are notebook and colored pencil. The notebook costs Php 178.00 while the colored pencil costs Php 10.00 more than the notebook. How much is the total amount of Nanay Malou's gift?

What I Have Learned

In solving routine and non-routine problems, remember to do the following.

1. **Understand the problem.** Make sure that you understand the words used and that the problem is clear to you. Determine what is given and what is asked.

2. **Make a plan.** You can use different strategies and tools in solving problems. You can draw figures, diagrams, and illustrations. You can use tables and representations. You can guess and test when needed.

3. **Carry out the plan.** Use the plan to check if it works. If it does not, try another strategy.

4. **Look back.** You need to check if your answer is correct that satisfies the condition of the problem.

What I Can Do

Answer the problems.

1. Neil wants to buy three books from the bookstore. How much money does he need if the prices of the books are listed as follows:

Book A	Php 450.00
Book B	Php 620.00
Book C	Php 560.00

2. During a garage sale, Maylene bought the following items

T-Shirt	Php 70.00
Jeans	Php 150.00
Shoes	Php 200.00

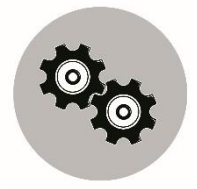
How much did it cost her to buy all three items?

3. A mango, an apple, and an orange together cost Php 73. An apple costs Php 5 more than an orange, while a mango costs Php 3 more than an apple. How much is the cost of a mango?

Assessment

Solve the following routine and non-routine problems.

1. Merly picked 14 red roses and 16 white roses in her flower garden. How many roses were picked in all?
2. Nurse Joan worked at Davao Provincial Hospital for 180 hours last month and the same number of hours this month. How many hours would that be in all?
3. Gary and Lery worked during the summer vacation. Gary earned Php 2 800.00 while Lery earned twice that amount. How much did Lery earn?
4. Jar A contains 60 pieces of marbles. Jar B contains twice the number of marbles in Jar A. How many pieces of marbles are there altogether?
5. In a parking lot, there are thrice as many motorcycles as cars. If there are 120 wheels altogether, find the number of motorcycles.



Additional Activities

Perform as indicated.

1. Jane is a fruit vendor at Mati Market. She sold 90 pomelos, 786 oranges, and 158 apples during the holiday season. What was the total number of fruits she sold?
2. Find a four-digit number such that the sum of its digits is 23. The sum of the ones digit and the hundreds digit is 7. The tens digit is two more the thousands digit.

Answer Key

What I Know

1. 81 children
2. 8 years old
3. 9 400 total population of the two schools
4. Php 2 090
5. Php 3 000

What's In

1. 1 131
2. 8 280
3. 1 311
4. 5 600
5. 6 101

What's More

1. 53 marbles
2. 26 chickens
3. 304 objects
4. Php 36
5. Php 366

What I Can Do

1. Php 1 630
2. Php 420
3. Php 28

Assessment

1. 30 roses
2. 360 hours
3. Php 5 600
4. 180 marbles
5. 36 motorcycles

Additional Activity

1. 1 034 fruits
2. Possible answers:
   7 493, 7 394, 7 196, 7 691, 7 592, 7 295, 7 790, 7 097

References

K to 12 Curriculum Guide in Math 3
K to 12 Teacher's Guide in Math 3, pages 66-73

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