Republic of the Philippines

**Department of Education**

Region V (Bicol)

DIVISION OF CATANDUANES

Virac, Catanduanes

Lesson Plan in Mathematics 5

Week 5

**LESSON 13:**

Solving Real-life Problems Involving GCF and LCM of 2 – 3 given numbers.

**I – OBJECTIVES:**

 Solves real-life problems involving GCF and LCM of 2 – 3 given numbers.

Write the solution to problems involving GCF and LCM

 Appreciate creativity and industry

**Solving Real-life Problems Involving GCF and LCM of 2 – 3 Given Numbers**

*Pre- requisite skills:*

 *Finding the GCF and LCM*

*References:* Curriculum Guide M5NS-Ic-70.2

Soaring 21st Century Mathematics V pages

*Materials: Meta cards, activity cards*

 *Value Focus: Creativity and Industry*

**II – INSTRUCTIONAL PROCEDURE:**

1. ***Preliminary Activities:***
2. *Drill/Review:*
3. *Find the GCF of each set of numbers.*
4. *4, 6 and 8*
5. *8, 12 and 24*
6. *15, 30, and 60*
7. *Give the LCM of the following set of numbers using continuous division.*
8. *6, 4, and 12*
9. *9, 8, and 6*
10. *Motivation:*

Who has chickens at home? What does chicken give us? What benefits can we get from poultry raising?

1. ***Developmental Activities:***
2. *Presentation:*

*Group Activity*

GROUP 1

 Anthony’s father gathered 16 chicken eggs in the morning and 24 chicken eggs in the afternoon from his poultry. He wants to put the eggs he gathered in baskets. What is the largest number of eggs that can be put in the baskets if there should be the same number in each basket?

GROUP 2

 Kateleen rides her bicycle every 10 minutes while Irish rides her bicycle every 15 minutes. If both ride at the same time, how long will it be before they will ride together again?

1. Performing the Activities:

Answering the Group Activity

Group Reporting

1. *Processing the Activities:*
* Discussion

How did you solve the problems?

What are the steps you applied to solve the problems?

What are given?

What is being asked?

What skill is involved in group 1’s problem? Group 2’s problem?

What have you observed in a problem involving the GCF? How about problems involving LCM?

Can you easily identify problems involving GCF? How about LCM? How?

In what daily experiences can we use our knowledge in finding the GCF? How about LCM? Can you site examples?

1. *Reinforcing the Concept and Skill*

Let the pupils solve the following problems.

1. Virac Town Center offers a discount coupon for every 6th customer and free t-shirt for every 8th customer. When can a customer get both a discount coupon and a free t-shirt? (24th)

Note: The teacher will discuss the process of solving the given problem,

Solve:

1. Arnold has 8 blue marbles, 16 white ones and 20 red marbles. If he wants to place them in identical groups without any marbles left over, what is the greatest number of groups can he makes? (4)
2. *Summarizing the Lesson*

How do we solve problems involving Greatest Common Factor? How about the Least Common Multiple?

(Let the pupils give the steps in solving word problems in math)

* We Use the 4-step plan in solving problems involving GCF and LCM of two given numbers. Understand, Plan, Solve, and Check and Look Back.
* We solve for the answers by listing method, prime factorization, or continuous division.

In what daily experiences can you use your knowledge about GCF? How about LCM? Will you cite a situation?

*Applying to New Other Situations:*

Give the answer to each.

1. Add the GCF of 16 and 8 to the LCM of 6 and 4.
2. Subtract the GCF of 15 and 30 from the LCM of 5 and 8.
3. Divide the LCM of 27 and 3 by the GCF of 9 and 15.
4. Multiply the GCF of 18 and 27 by the LCM of 4, 8, and 12.
5. ***Assessment:***

*I – Solve the problems below.*

1. The Youth Ministry shared 36 notebooks, 48 pencils and 60 erasers. They want to divide it among them so that each of the pupil gets an equal number of each kind. What is the largest possible number of pupils who can receive them? (12)
2. Joshua and Vincent start packing meat at the same time. Joshua takes 9 minutes per pack. Vincent takes 6 minutes. If they begin at 9:00 a.m. What time are they next starting together? (9:18 a.m.)
3. *Remediation:*
4. Carl plays basketball every 4th day, Matt has one every 5th day. When will they have a game on the same day? (20th day)
5. Gerry has 48 marbles, John has 40 marbles, and Kent has 20 marbles. They want to put them in a box with the same number of marbles in each box. What is the most number of marbles that they can put in each box? (4)
6. *Enrichment:*

*Solve.*

1. Myla, a stamp collector is arranging his stamps in rows in her album. If he puts 8 in a row there are 6 extra stamps. If he puts 10 in a row there is none left. What is the smallest number of stamps that will allow her to do this? (30)

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*Noted:*

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 *EPS I – Mathematics*

 ***Something for teachers…***

**Four Steps to Solve Math Problems**

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| The followingproblem solving outline was first given by George Pólya in his famous book *How To Solve It*. The list is useful for both students and teachers. For teachers, the outline can help teach problem solving in terms of providing hints to help guide students through the problem solving process. Students benefit from knowing the list because it helps them focus on the right questions.**Step 1. Understand the problem.** Four key questions to ask:                 What is the unknown? What problem must I solve?            What is the data given? Write out what is given.            What conditions must be satisfied?What type of problem is it? Can you relate it to a certain Chapter or Section in your textbook?Do not proceed until you can answer these questions. Remember, you can not solve a problem until you know what the problem is!**Step 2. Devise a plan**Inexperienced students do not realize that mathematics involves a small set of tools and methods that are used to solve problems. Here are the most common approaches (i.e. the tool box).      Relate the given problem to a similar problem.             Use direct reasoning starting from a hypothesis and ending with a conclusion.             Use indirect reasoning or work backwards. Use an equation. Many problems require equations. Create a diagram. This is often used with other methods.              Assume the existence and obtain a contradiction.              Make a list of all possibilities by constructing a table.              Look at similar problems with a smaller size. Gradually increase the size and see if you can find a pattern.             Construct a counterexample to demonstrate the impossible.**Step 3. Carry out the plan**             Organize all data collected and look at it several different ways.             Always create a diagram if possible. This will help guide your calculations. Solve any equations if necessary.            Use a spreadsheet or a calculator to carry out calculations.             Make a list of all steps and try to give reasons for each step.**Step 4. Looking back** Good students always check the answer to see if it satisfies all of the necessary conditions. Try to estimate the answer without using a calculator. Does the answer you obtained in step 3 come close to your estimate? Can the problem be solved a different way? If so, try it. Do you get the same answer?  |