LESSON PLAN IN

MATHEMATICS – V

Code: M5NS – Id – 68.2

**Lesson no. 11**

 Finding the common factors and the greatest common factor (GCF) of 2-4 numbers using continuous division.

**Objective**

1. Give the common factors of 2 – 4 numbers.
2. Find the GCF of 2 – 4 numbers.

**Value Focus**: Productivity and Helpfulness

**Prerequisite Concept and Skills:**

* Mastery of the basic Multiplication / Division Basic Facts
* Identifying prime and composite numbers

**Suggested Materials:** Flash cards, manila paper

**References:** K to 12 Grade 5 Curriculum, LM Math Grade 4 pages 93, TG Math Grade 4 pages 118-121, LG Grade 5 Math pages 33-36.

**Instructional Procedure:**

1. **Preliminary Activities**
2. **Drill**

Have drill on the basic multiplication / division facts using flash cards

1. **Review**

Review on identifying prime and composite numbers

Give examples and exercises for this.

1. **Motivation**

Show a picture of a girl / boy helping her mother in household chores. Let the pupils say something about the picture.

Elicit value of helpfulness.

 **Ask:**

How do you show helpfulness at home, in school? Is it good to be helpful? Why?

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

Problem

 Enso helps his father in the garden. They harvested 48 pieces of pine apples, 60 pieces of guavas and 72 pieces of water melons. They plan to put them separately in small baskets. What is the biggest possible number of pine apples and water melonsthat can be placed in baskets if these are the same number?

Have the pupils read the problem. Then ask: How many pine apples were picked? How many guavas were picked? How many water melons were picked? What do Enzo and his father plan to do with the fruits? How will you solve for the answer to the problem?

1. **Performing the Activities**

Group the pupils into different working teams & have them perform the tasks.

* Guide the pupils to write the numbers horizontally and find a prime number that will divide the numbers, if possible.
* Lead the discussion for the pupils to see that both numbers have common factors and the product of these is there Greatest Common Factor. (GCF).

Solution: Finding the common factors and GCF of 48, 60, and 72 using continuous division.

2 48 60 72

2 24 30 36

3 12 15 18

 4 5 6

 GCF: 2 x 2 x 3 =12

1. **Processing the activities:**

Ask the group to present & discuss their answer on the board.

Expected answers:

* We solved problems by first finding the common factors & then the greatest common factors (GCF) by continuous division.
* Emphasize that prime factors are factors which are prime numbers?
1. **Reinforcing the Concept and Skill**
2. Discuss the following presentation.

Allen has 22 guavas, Aira has 28 guavas, Lina has 36 guavas, and Al has 40 guavas, each of them will share the guavas to their friends. What is the greatest number of guavas each of their friends get if they will give the same number of guavas?

1. Have the pupils do the following activities.

Find the common factors & greatest common factors (GCF) of the following set of numbers using continuous division.

1. 8 and 12 b) 18 & 24

c) 20, 30, 40 d) 36, 54, 62

e) 16, 36, 42

1. **Summarizing the Lesson**

Summarize the lesson by asking:

* What are common factors?
* What is the Greatest Common Factor(GCF) of the given numbers?
* How do we find Greatest Common Factor (GCF) of given numbers using continuous division?
* Common factors are factors common to the given numbers.
* GCF is the greatest factor common to the given numbers.
* Continuous division is done following the steps below.
* Write the numbers horizontally & find a prime number that will divide the number’s if possible
* Divide by that number & write the quotient below the dividends. Copy any number not divided below them.
* Continue the process until no two numbers have a common prime divisor.
* Multiply all the prime divisors common to thegiven numbers to get the GCF.
1. **Applying to New and Other Situations**

Have the pupils do the following exercise.

1. A group of 45 dancers will March behind a group of 30 clowns in a parade. You want to arrange the two groups in rows with the same number of peopleon each row but without mixing of group. What is the greatest number of people you can have in each group?
2. Mr. Torres has 4 pieces of wood for his scrabble board. Each has a width of 18 cm, 20 cm, 24 cm& 30 cm. If all sizes of woods are to be cut into scrabble tiles of the same width without wasting any wood. What is the greatest width into which the wood can be cut?
3. **Assesment**

Find the GCF of each set of number using continuous division.

1. 36 and 45 2. 26, 20, and 24 3. 120, 180, and 360

4. 32, 40, 48, 56 5. 18, 27 and 63 6. 25, 50, and 45

 7. 12, and 16 8. 20, 30, and 60 9. 9, 18, 36, and 72

 10. 18, 24, 30, and 56

1. **Home Activities**

**Remediation**:

Find the Common Factors and GCF of the given set of number using continuous division.

1. 16 & 24 3. 20, 30 & 36 5. 30, 75, 120
2. 18 & 27 4. 75, 120, 210, & 300

 **Enrichment:**

 Ask the pupils to answer the following operation.

1. What is the GCF of 2x3x3x5 and 2x3x5x5?
2. What is the GCF of 2x3x5x5 and 2x3x3x5x7?
3. What is the GCF of 100, 120, 160, and 200?