Republic of the Philippines

**Department of Education**

Region V (Bicol)

DIVISION OF CATANDUANES

Virac, Catanduanes

**Lesson Plan in Mathematics 5**

**Week 7 (Day 1)**

**LESSON 13:**

Visualizing Multiplication of Fractions Using Models

**I. Objective:** Visualizes multiplication of fractions using models

**Value Focus:** Cooperation and Industry

**Prerequisite Concept and Skills:**

* Multiplying whole numbers
* Reducing fraction to lowest terms

**Materials:** Flash cards, strips of paper, cartolina

**References:** K to 12 Grade 5 Curriculum

**II. Instructional Procedure**

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

Drill on multiplying mentally.

Examples:

1. 12 b. 10 c. 15 d. 11 e. 12

 x 4 x10 x 2 x 3 x 6

1. **Motivation**
2. What is $\frac{1}{2}$ of a whole? Will you show it through your piece of pad paper?

If you find $\frac{1}{2}$ of that part again what answer will you get? (Let them fold the paper once more in half and shade the part.)

**Ask**: How is the result compared with$ \frac{1}{2}$ ?

1. Do you love to eat pechay? Does your family have a vegetable garden at home? What benefits can we get from gardening?
2. **Developmental Activities**
3. **Presentation**

Father owns a $\frac{3}{4}$ hectare land. He planted $\frac{1}{3}$ of it with pechay. What part of his land was planted with pechay?

 **Ask:** Who has a piece of land? What does father do with his land? Is it good to

 have a garden at home? Why? How big is father’s land? What part of the

 land was planted with pechay? Can you visualize the part of the land that

 was planted with pechay? (Note: Teacher will connect the objective of the

 lesson for the day.)

1. **Performing the Activities**

Group Work

Group the pupils into three teams.

Distribute strips of paper.

Let the pupils use the strips of paper to visualize the part of the land that was planted with pechay.

Guide Questions:

1. What are given in the problem?
2. What is asked?
3. What operation should be used to solve the problem?
4. What is the number sentence?
5. Let a whole sheet of paper represents a hectare of land.

If this is 1 hectare, fold the paper to represent $\frac{3}{4}$ hectare land owned by father? Then, shade the part/s which show/s the solution.

1. Guide the pupils in showing $\frac{1}{3}$ of the $\frac{3}{4}$ shaded part through paper folding and shade the part/parts which show/s the solution.
2. What do you think is represented by the double shaded part?

What fraction name can you give?

1. What is the value of N in the number sentence?

Expected Answer:

$\frac{ 3}{4}$ of a hectare $\frac{1}{3}$ of a $\frac{ 3}{4}$ of a hectare = $\frac{3}{12}$ of a hectare

1. **Processing the Activities**

After all groups have presented their answers, look back at the given problem.

**Ask:** What are given in the problem? ($\frac{ 3}{4} and \frac{1}{3}$)

 What is asked? (the part of land planted with pechay)

 What operation should be used to solve the problem? (multiplication)

 What is the number sentence? $\frac{ 3}{4} x $ $\frac{1}{3}$ = N

 Represent $\frac{ 3}{4}$ of a hectare of the land using the strips of paper.

 Represent $\frac{1}{3}$ of $\frac{ 3}{4}$ of a hectare of land which planted with pechay.

 What do you think is represented by the double shaded part? ($\frac{3}{12})$

 What fraction name can you give? ($\frac{3}{12})$

 What is the value of N in the number sentence? $\frac{3}{12})$

 Through the visual representation, guide the pupils in finding the answer to the

 problem without using actual computation.

**Ask:** Which group/s was/were able to give the correct answers?

 Which group/s missed an answer? Which group/s was/were not able to give the

 correct answer?

 Provide immediate feedback/remedial measures to those with incorrect answers?

 **Ask:** How did you find the activity? Why? What did you do to work cooperatively?

 Why?

 Was using paper folding helpful to you in visualizing multiplication of fractions?

1. **Reinforcing the Concept and Skill**
2. Present and discuss the problem below.

**Explore and Discover!**

 A recipe calls for $\frac{4}{5}$ cup of milk. How many cups are needed for $\frac{2}{3}$ of the recipe?

 How will you visualize or illustrate the number of cups for the recipe?

 We can use drawings, illustrations, or paper folding to find the answer.

 $\frac{4}{5}$ of a cup of milk $\frac{2}{3} $of $\frac{4}{5}$ of a cup of milk = $\frac{8}{15}$

 Let the pupils answer the exercises under **Get Moving.**

**Get Moving!**

Illustrate the product of the following.

1. $\frac{1}{2}$ of $\frac{1}{3}$ x =
2. $\frac{3}{4}$ of $\frac{3}{5}$ x =

Check after a period of time.

 Ask the pupils to answer the exercises under **Keep Moving.**

 **Keep Moving!**

Illustrate and find the product.

1. $\frac{1}{2}$ of $\frac{3}{4}$ 2. $\frac{2}{3}$ of $\frac{5}{6}$ 3. $\frac{3}{4}$ of $\frac{2}{5}$

Check pupils’ answer after the given period of time.

1. **Summarizing the Lesson**

Multiplication of fractions can be visualized by paper folding, drawing

and the like.

1. **Applying to New and Other Situations**

Ask the pupils to solve the problems under **Apply Your Skills.**

 **Apply Your Skills!**

Read and solve. Use drawings to help you.

1. Junjun found $\frac{3}{4}$ of a pie in the refrigerator. He ate $\frac{1}{2}$ of it. What fraction of the whole pie did he eat?
2. Karen had $\frac{5}{9}$ of a box of red candies. She sold $\frac{2}{5}$ of the candies last Monday. What part of the entire box of candies did she sell?
3. Kimberly has $\frac{5}{6}$ of a cake left after her party. If she gives $\frac{2}{3}$ of the remaining cake to her cousins, what part of the whole cake will she give away?
4. **Assessment**
5. Write the multiplication equation for each illustration and find the answer.
6. x =
7. x  **=**
8. x =
9. Illustrate and give the product.
10. $\frac{2}{3}$ x $\frac{5}{6}$ = 2. $\frac{3}{4}$ x $\frac{1}{5}$ =

 **D. Home Activity**

 **Remediation**

Create a mathematical sentence for each figure below.

1. x =
2. x =

**Enrichment**

Prepare an album showing the following equations. Use paper-folding methods.

1. $\frac{3}{5}$ x $\frac{3}{7}$ = 4. $\frac{3}{4}$ x $\frac{6}{7}$
2. $\frac{4}{5}$ x $\frac{3}{6}$ = 5. $\frac{7}{8 }$ x $\frac{1}{2}$
3. $\frac{2}{3}$ x $\frac{7}{10}$ =

**Prepared by:**

**JAYSON A. VARGAS**

 **Teacher II – VPES**

**Noted by:**

**ROMEL G. PETAJEN**

 **EPS I- MATHEMATICS**