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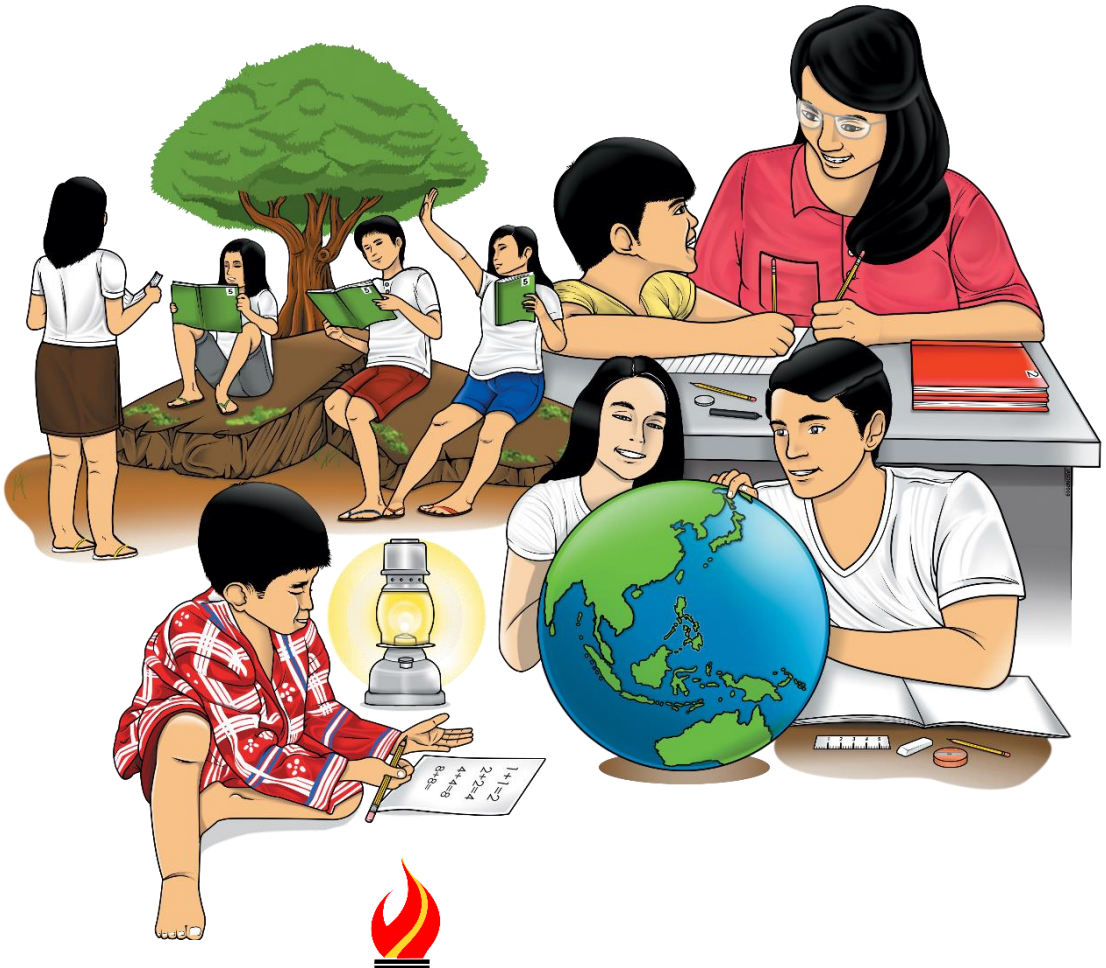
Mathematics

Quarter 1 – Module 11:
Fun in Multiplying Fractions and a Whole Number and Another Fraction



ALTERNATIVE DELIVERY MODE
ADM

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Mathematics – Grade 5
Alternative Delivery Mode
Quarter 1 – Module 11: Fun in Multiplying Fractions and a Whole Numbers and Another Fractions.
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Mathematics

Quarter 1 – Module 11: Fun in Multiplying Fractions and a Whole Number and Another Fraction

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Introductory Message

For the Facilitator:

Welcome to the Mathematics Grade 5 Alternative Delivery Mode (ADM) Module 11 on Fun in Multiplying Fractions and a Whole Number and Another Fraction!

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 to 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.

In addition to the material in the main text, you will also see this box in the body of the module:

Notes to the Teacher

This contains helpful tips or strategies that will help you in guiding the learners.

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 Mathematics 5 Alternative Delivery Mode (ADM) Module 11 on Fun in Multiplying Fractions and a Whole Number and Another Fraction!

This module was designed to provide you with fun and meaningful opportunities for guided and independent learning at your own pace and time. You will be enabled 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 is composed of a 10-item 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: 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 fill in the blank sentence/paragraph to process what you have learned from the lesson.
What I Can Do	This section provides an activity that will help you transfer your new knowledge or skill in real-life situations or concerns.
Assessment	This is another 10-item task that 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 instructions 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 a deep understanding of the relevant competencies. You can do it!

What I Need to Know

Hi, Mathletes**!**

In this module, you will be dealing with multiplication of a fraction by a fraction and a whole number.

At the end of this module, you will be able to:

- multiply a fraction and a whole number and another fraction.

What I Know

Now, answer the questions below:

Directions: Choose the letter of the correct answers and write them in your Activity Notebook.

1) If $\frac{2}{3}$ x $\frac{1}{2}$ = N, what is the value of N?

A. $\frac{1}{4}$ B. $\frac{1}{3}$ C. $\frac{1}{2}$ D. $\frac{1}{5}$

2) If you multiply $\frac{1}{4}$ by $\frac{2}{3}$, what will be the product?

A. $\frac{1}{5}$ B. $\frac{1}{6}$ C. $\frac{1}{7}$ D. $\frac{1}{12}$

3) What is $\frac{3}{4}$ of 20?

A. 5 B. 10 C. 15 D. 25

4) In a class of 40, $\frac{4}{5}$ are boys. How many are boys?

A. 40 B. 32 C. 45 D. 35

5) What is $\frac{3}{7}$ of 35?

A. 5 B. 15 C. 25 D. 30

6) Find the product of 3 and $\frac{5}{8}$.

A. $2\frac{7}{8}$ B. $\frac{7}{8}$ C. $1\frac{7}{8}$ D. $\frac{8}{8}$

7) If you multiply 10 by $\frac{6}{10}$, the product is _____.

A. 6 B. $10\frac{6}{8}$ C. $\frac{6}{100}$ D. $\frac{60}{100}$

8) What is $\frac{3}{10}$ multiplied by 5?

A. $\frac{1}{2}$ B. $1\frac{1}{2}$ C. $1\frac{1}{4}$ D. $\frac{1}{5}$

9) What is the value of N in the expression $\frac{4}{5} \times \frac{5}{8} = N$?

A. $\frac{1}{2}$ B. $\frac{1}{5}$ C. $\frac{1}{4}$ D. $\frac{1}{3}$

10) Multiplying $\frac{1}{3}$, $\frac{2}{5}$ and $\frac{1}{3}$ will give a product of _____.

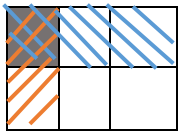
A. $\frac{2}{15}$ B. $\frac{2}{35}$ C. $\frac{2}{45}$ D. $\frac{2}{11}$

Lesson 1 Fun in Multiplying Fractions

What's In

Directions: Answer each question below as stated. Write your correct answers in your Math Activity notebook.

1) Which is the correct illustration of the product of the fraction $\frac{1}{3}$ of $\frac{1}{2}$?

A. 

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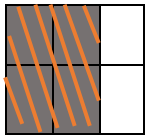
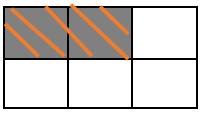
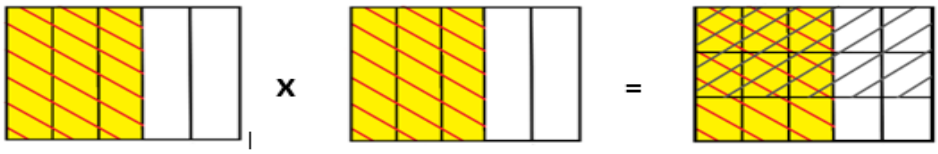
C 

D 

2) Which is the correct number sentence of the illustration below?



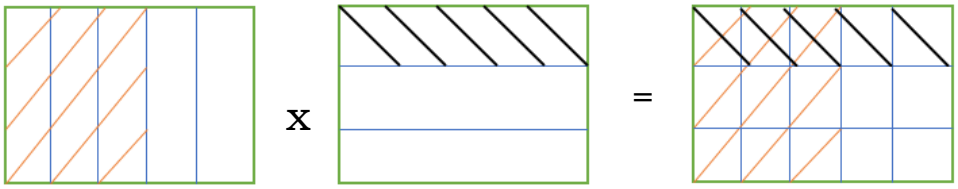
A. $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12}$ or $\frac{1}{2}$

C. $\frac{1}{3} \times \frac{2}{5} = \frac{2}{15}$

B. $\frac{3}{5} \times \frac{5}{9} = \frac{15}{45}$ or $\frac{1}{3}$

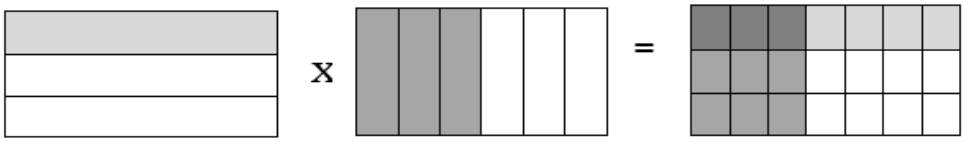
D. $\frac{2}{3} \times \frac{1}{4} = \frac{2}{12}$ or $\frac{1}{6}$

3. Illustrate the fraction $\frac{3}{5} \times \frac{1}{3}$.

A 

B.

C.

D. 

What's New

Are you ready for the next? Let us read and analyze the problem below.

Robert has 3 gallons of paint. He used $\frac{3}{4}$ of the paint. How many gallons of paint did he use?

What is asked in the problem?

What facts are given?

What operation are we going to use?

How to solve the problem?

What is the correct answer?

What Is It

Robert has 3 gallons of paint. He used $\frac{3}{4}$ of the paint. How many gallons of paint did he use?

What is asked in the problem?

The gallons of paint Robert used.

What are the facts given?

3 gallons of paint, $\frac{3}{4}$ *of the paint*

What operation are we going to use?

Multiplication

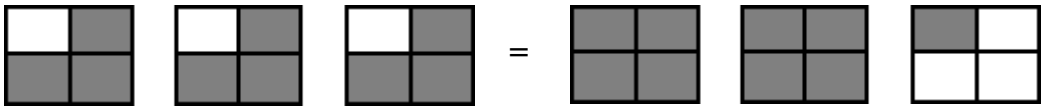
How to solve the problem?

One way to think and solve the problem is to rewrite the problem.

In words: What is $\frac{3}{4}$ *of 3?*

As a number sentence: $\frac{3}{4} \times 3 = N$

An illustration can help you to solve this problem:



How many fourths are there in total?

There are nine-fourths in total. So, $\frac{3}{4} x\ 3 = \frac{3 \text{ X } 3}{4} = \frac{9}{4}$.

What is the correct answer?

Therefore, Robert used $\frac{9}{4}$ *gallons of paint or* $2\ \frac{1}{4}$ *gallons of paint.*

To multiply fractions to fractions, simply multiply the numerator to numerator and denominator to denominator, then if the product is not in the lowest term, it is necessary to simplify to lowest or simplest term.

Consider the following examples.

A. Multiply: $\frac{2}{3} \text{ x } \frac{4}{5}$

Solution:

$$\frac{2}{3} \text{ x } \frac{4}{5} = \frac{2 \text{ x } 4}{3 \text{ x } 5} = \frac{8}{15}$$

B. What is $\frac{1}{4}$ of 24?

Solution:

$\frac{1}{4}$ of 24 means $\frac{1}{4} \text{ x } 24$.

$$\frac{1}{4} \text{ x } 24 = \frac{1}{4} \text{ x } \frac{24}{1}$$

$$= \frac{1}{4} \text{ x } \frac{24}{1} = \frac{24}{4} = 6$$

What's More

Let us practice!

Directions: Multiply the following fractions. Choose the answer from the box.

1) $\frac{4}{5}$ x 30 =____

2) $\frac{3}{5}$ of 15 = ____

3) 3 x $\frac{2}{12}$ = _____

4) $\frac{2}{8}$ x 40 = _____

5) $\frac{4}{5}$ of 20 = _____

6) $\frac{2}{5}$ x $\frac{3}{6}$ = ____

7) $\frac{4}{7}$ x $\frac{5}{6}$ = ____

8) $\frac{2}{3}$ of $\frac{3}{5}$ = ____

9) $\frac{5}{12}$ x $\frac{3}{4}$ = ____

10) $\frac{6}{20}$ x $\frac{5}{7}$ = ____

24	16	$\frac{2}{5}$	$\frac{3}{14}$	$\frac{5}{16}$
9	$\frac{1}{2}$	10	$\frac{1}{5}$	$\frac{10}{21}$

What I Have Learned

Directions: Supply the missing term:

In multiplying a whole number by a fraction:

Multiply the whole number by the (1) _____ of the fraction to get the numerator of the (2) _____.

Copy the (3) _____ of the fraction to get the denominator of the product.

Express the obtained product in (4) _____.

In multiplying fraction by a fraction:

(5) _____ the numerators of the fraction to get the numerator of the product.

Multiply the denominators of the (6) _____ to get the denominator of the product (7) _____ the answer in lowest terms.

What I Can Do

Now you can do this independently. Good luck!

Directions: Find the product of the following fractions in lowest terms.

1) $\frac{3}{4}$ x 60 = _____

2) $\frac{1}{4}$ x 80 = _____

3) $\frac{5}{6}$ x 120 = ____

4) $\frac{4}{7}$ x $\frac{3}{4}$ = _____

5) $\frac{9}{10}$ x $\frac{2}{15}$ = ____

6) 14 x $\frac{5}{6}$ = _____

7) 25 x $\frac{3}{5}$ = _____

8) $\frac{4}{5}$ x $\frac{2}{3}$ = _____

9) $\frac{3}{8}$ of $\frac{5}{6}$ = ____

10) $\frac{7}{8}$ x $\frac{2}{3}$ = ____

Assessment

Time to find out what you have learned.

Directions: Read and understand the items carefully. Then write your answers in Activity Notebook.

1) If you multiply $\frac{1}{4}$ and $\frac{2}{3}$, what will be the product?

2) What is $\frac{2}{7}$ of $\frac{3}{5}$?

3) What is the value of N in $\frac{4}{7}$ x $\frac{7}{8}$ = N?

4) Multiply $\frac{5}{6}$ by $\frac{4}{5}$. What will be the product?

5) What is $\frac{4}{5}$ of 40?

6) Find the product of 6 and $\frac{5}{8}$. The answer is _____.

7) If you multiply 12 and $\frac{6}{10}$, the answer would be _____.

8) What is $\frac{3}{7}$ multiplied by 5.

9) What is the value of N? $\frac{4}{7} \times \frac{7}{8} = N$

10) What Multiply $\frac{2}{5}$, $\frac{3}{4}$ and $\frac{4}{5}$. It will give a product of _____.

Additional Activities

Practice more!

Directions: Multiply. Write each answer in lowest term if possible.

1) What is $\frac{1}{4}$ of 80?

2) Find $\frac{5}{6}$ of 15.

3) How many is $\frac{2}{7}$ of 12?

4) Get $\frac{3}{7}$ of 35.

5) Show the 45 is $\frac{3}{4}$ of 60

Assessment

1. 16
2. 635
3. ½
4. 3 ¾

Continuation Assessment

5. Xxx
6. 3
7. 7 1/5
8. 2 1/7
9. ½
10. 6/25

Additional Activities

1. B
2. C
3. A
4. A
5. C

What's New

1. The gallons of paint. Robert use.
2. 3 gallons, ¾ of paint
3. Multiplication
4. 3 x ¾ = 3 x 3 = 9 or 2 1/4

4 4

2 ¼ gallons of paint used

What I have Learned

Numerator
Product
Denominator
Lowest Term
Multiply
Fraction
reduce

What I can Do

1. 45
2. 20
3. 100
4. 3/7
5. 3/25
6. 35/3
7. 15
8. 8/15
9. 5/16
10. 7/12

What I Know

1. B
2. B
3. C
4. Xx
5. …
6. C
7. A
8. B
9. A
10. C

What's In

1. A
2. A
3. A

What's More

1. 24
2. 9
3. 1/12
4. 10
5. 16
6. 1/5
7. 10/21
8. 2/5
9. 5/16
10. 3/14

Answer Key

Reference

DepEd Bureau of Elementary Education. 2010. *Lesson Guide in Mathematics*

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