MULTIPLICATION OF DECIMAL BY DECIMAL

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Subject
Mathematics

Prepared By
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Grade Level
5

Overview
This lesson plan covers teaching content for;

1. Solving problems involving multiplication of decimal by decimal.

Objectives
Students should be able to;

1. Multiply decimals using the standard algorithm.
2. Understand the concepts of how to multiply with decimals.
3. Solve problems involving multiplication of decimal by decimal.

Activity Starter/Instruction

1. To multiply decimals, multiply as if the numbers were whole numbers.
2. To correctly place the decimal point, first count the total number of decimal places in the factors.
3. Then place the decimal point that many places from the right in the product.
4. 5.43 x 3.7

    5.43 ⟵ 2 decimal places
   × 3.7 ⟵ 1 decimal place
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    3 801
  16 290

   20.091 ⟵ 3 decimals places

5. The placement of the decimal point can also be explained by using fractions.

$3.7 \times 5.43 = 37/10 \times 543/100$
$= 20{,}091/1000 = 20{,}091$

Teacher Guide

Day 1/ Lesson 1: 15Mins

1. Teacher explains the steps for multiplying decimals by decimals.
2. Teacher writes on the board 2.4×1.2
   Teacher explains that the first step is to estimate the product.
   $2.4 \times 1.2 = 2.5 \times 1 = 2.5$
3. Teacher tells the pupils that the next step is to stack the numbers vertically and multiply.

    2.4
  × 1.2

     48
   240

   288

4. Teacher then inserts decimal point into product.
   $2.4 \times 1.2 = 2.88$

Materials Required
- White Board
- Marker
- Game board
- Spinner

Additional Resources
- https://www.cpalms.org/Public/PreviewResourceLess
- https://www.mathsisfun.com/multiplying-decimals.ht
- https://www.thoughtco.com/adding-and-multiplying-plan-4082472
- https://www.oercommons.org/courseware/lesson/93
- https://betterlesson.com/lesson/544209/multiplying-

Additional Notes

Guided Practice

Day 2/ Lesson 2: 15 Mins

1. Teacher puts pupils in groups of three, arranging their desks so that the students are facing each other and will be able to communicate easily.
2. Assign each pupil in the group a job to perform during the activity based on order of their birthdays.
3. The student with the birthday closest to the beginning of the year (January 1st) is the "Recorder" and will be in charge of writing on chart paper for the group (although each student may also work to explain their thinking to the group on individual paper.)
4. The student with the next birthday will be the "Material Manager" and will be in charge of manipulating the activity. The student with the next birthday will be the "Group Leader" and will be in charge of the keeping the group on task, time keeping, and getting teacher assistance when necessary.
5. Pass out an index card to each group and have student write names of who will be in charge of each job and keep that visible for the teacher as he/she is walking around the room. Teacher will monitor whether students are completing tasks for the job they were assigned.

Guided Practice

Day 3/ Lesson 3: 20mins

1. For this activity, each player need their own game board and game markers (pupils can easily cross answer out with a dry erase marker, erase after the game and use it to plat again.)
2. Paper clip and pencil can be used as spinner, the tip of the pencil can serve as the pointer of the spinner.
3. Game board (containing various decimal numbers can be printed out or improvised.)
4. On a sheet of paper, decimal numbers can be written in circular form and the improvised spinner placed in the center.
5. Pupils spin twice to get two decimal number. They then multiply it.
6. Players take turns spinning and multiplying decimals and writing down the solutions.
7. The first player to get 4 correct answer in a row wins.

6. Each group will be posed with different problems to work on, on a piece of chart paper and students are given an estimated time.

7. Say, "Each student in the group must be able to explain to the class how the group arrived at their answer, and if an agreement is not reached, the "Group Leader" should raise a hand to let me know that the group needs help." This will require each pupil to communicate their thinking to the group, and if the group does not agree they must explain how their thinking is different.

Summary
Pick pupils randomly to answer questions to the problems.

Assessment Activity
Assess if pupils can:

1.Multiply decimals by decimals correctly.

Assessment Activity
Pupils need to be familiar with how to correctly place decimal point after multiplying. Make sure that pupils understand how to multiply decimal numbers.