MULTIPLICATION OF WHOLE NUMBERS BY 2-DIGIT NUMBERS.

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Subject

Mathematics

Prepared By

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Grade Level

3

Overview

This lesson plan covers teaching content for;

1. Understanding and memorizing most parts of the multiplications table
2. Multiplying whole numbers by 2-digit numbers
3. Using multiple strategies for multiplying 2-digit numbers
4. Solving word problems and quantitative reasoning on multiplications.

Objectives

Students should be able to;

1 Multiply a whole number by 2-digit Numbers

2 Solve quantitative reasoning problems multiplying whole numbers.

3 Use multiple strategies for multiplying two-digit numbers.

4 Solve word problems involving multiplication of 2-digit whole numbers.

Activity Starter/Instruction

1. Write out test multiplication questions for the students to solve.
2. Ask pupils to solve the multiplication questions you have written on the board.
3. Give them three minutes to complete as many questions as they can.
4. After the time is up, check how many questions the pupils answered correctly.
5. This will help you identify how strong your pupils are with multiplication. Sample questions include:

   Solve:

   7 * 8

   10 *5

   12 * 6

   8 * 6

   10 * 20

Teacher Guide

Day 1/ Lesson 1: 15 Mins

1 Provide pupils who are struggling with a times table reference sheet so that they can look up the relevant multiplication facts.

2 Have them spend a short amount of time every day practicing times tables.

3 Some pupils learn best from seeing information, some from hearing it, some from reading it, and others from carrying out physical actions.

4 It is best to include a variety of different approaches to times table practice, But most importantly, indulge the students to recite it (as a poem every morning).

5 Teach the children shorter methods of finding these product of numbers (e.g. 5 times table, 3 times table, etc.).

Guided Practice

Day 3/ Lesson 3: 15 Mins

1 Remind students of basic multiplication facts

Materials Required

- White Board
- Blank sheets
- Pencils
- Multiplication table/Times table

Additional Resources

- https://www.education.com/lesson-plan/multiplying-
- http://rightstartmath.com/wp-content/uploads/2015082016.pdf
- https://za.pearson.com/content/dam/region-growth/africa/TeacherResourceMaterial/9781447978411_ngr
- https://www.thoughtco.com/two-digit-multiplication-

Additional Notes

Guided Practice

Day 2/ Lesson 2: 15 Mins

1 Write 45 x 32 on the board or overhead. Ask students how they would begin to solve it.

2 As you model this problem for them, ask them to draw and write what you present. This can serve as a reference for them when completing problems later.

3 Begin this process by asking students what the digits in our introductory problem represent (i.e. the place value of the numbers). For example, "5" represents 5 ones (or units). "2" represents 2 ones. "4" is 4 tens, and "3" is 3 tens (or units).

4 You can begin this problem by covering the numeral 3. If students believe that they are multiplying 45 x 2, it seems easier.

- Begin with the ones:

  4**5**

  x 3**2**

  = **10** (5 x 2 = 10)

- Then move on to the tens digit on the top number and the ones on the bottom number:

  45

  x 3**2**

  10 (5 x 2 = 10)

  = **80** (40 x 2 = 80. This is a step where students naturally want to put down "8" as their answer if they aren't considering the correct place value. Remind them that "4" is representing 40, not 4 ones (as unit)).

2 Offer students suggestions for this quick questions by reviewing the patterns found in each row.

3 Use the table to work on problems in which double-digit numbers are multiplied by single-digit numbers using problems from the Multiplication with Regrouping

4 Next, give problems regarding double digit multiplication. Use place value when multiplying multi-digit numbers by two-digit numbers.

Write these three problems:

312	312	312
x 2	× 30	× 32
624	9360	

5 Say: You have been multiplying problems like the first one for a long time now.

6 Today you will multiply numbers with two digits like the third problem.

7 Ask: How do you think you could do it? Tell the children to share their thoughts with a neighbor and then ask someone to share with the class.

Two solutions are below.

312	312
× 32	× 32
624	9360
9360	624
9984	9984

8 Explain to the students that 0 could be appended to the 'units' part when you want to add the products. This to prevent confusion amongst the students.

9 The 'units' column could also be left blank if you do not want to append a '0'.

So we could have:

	• Now we need to uncover the numeral 3 and remind students that there is a 30 there to consider: 4**5** x **3**2 10 80 =**150** (5 x 30 = 150) • And the last step: **4**5 x **3**2 10 80 150 =**1200** (40 x 30 = 1200) 5 The important part of this lesson is to constantly guide students to remember what each digit represents. The most commonly made mistakes here are place value mistakes. 6 Add the four parts of the problem to find the final answer. **10+80+150+1200 = 1440**	312 312 × 32 × 32 624 9360 936 624 9984 9984 Make sure students notice the difference between the two methods of representing the calculations
Assessment Activity	Assessment Activity 1 At the end of the lesson, give students three examples to try on their own. 2 Let them know that they can do these in any order; if they want to try the harder one (with larger numbers) first, they are welcome to do so. 3 As students work on these examples, walk around the classroom to evaluate their skill level. 4 You will probably find that several students have grasped the concept of multi-digit	Assessment Activity

	multiplication fairly quickly, and are proceeding to work on the problems without too much trouble. Other students are finding it easy to represent the problem, but make minor errors when adding to find the final answer. 5 Help the students make correction where necessary. Sample questions include: Solve - 38 x 26 - 49 x 18 - 123 x 42	
Summary	Review and Closing 1 The teacher discusses some or all of the assessment questions. 2 Ensure pupils can multiply 2-digit whole numbers by multiples of ten up to 90. 3 Mark the exercise, taking note of where individual pupils have not met the unit objectives, in order to give these pupils additional teaching input where required.	