

Overall lesson topic/title: Choose Your Own Adventure with Multiplication and Division

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Grade: 3

Subject: Math

Date: Wednesday, January 16th

CCSS(s):

3.OA.1 Interpret products of whole numbers, e.g., interpret 5×7 as the total number of objects in 5 groups of 7 objects each.

3.OA.2 Interpret whole-number quotients of whole numbers, e.g., interpret $56/8$ as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.

3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.

3.OA.5 Apply properties of operations as strategies to multiply and divide.

3.OA.6 Understand division as an unknown-factor problem.

3.OA.7 Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows that $40/5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.

3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.

Learning Target/Objective(s):

- Students will be able to understand and apply strategies to assist in learning and solving multiplication and division problems with products or dividends within 100.
- Students will be able to use applicable vocabulary in discussing math concepts, such as inverse operations, Identity Property, known fact, and Zero Property.
- Students will be able to sustain independent work for several minutes.
- Students will be able to make sense of problems and persevere in solving them.
- Students will be able to reason abstractly and quantitatively.
- Students will be able to use appropriate tools strategically, such as counters, number lines, multiplication tables, fingers, etc.

Materials:

- Fluency Practice Test, pg. 415
- review pg. 417
- pencils
- individual bags of counters
- timer
- math strategy half sheets
- teacher copy of pages
- ELMO
- screen

Rationale: This is the students' second chapter that deals with strategies that help assist in the learning of multiplication and division facts with products and dividends within 100. The first chapter focused upon multiplying and dividing by 2, 5, and 10, so the students became accustomed to skip-counting to solve simple multiplication and division problems. Multiplying

and dividing by 3, 4, 0, and 1, as this chapter covers, involves a different set of strategies and skills.

Each student learns and retains math differently, and each student will respond differently to different strategies. By introducing, practicing and making the students cognizant of the strategy they are using to solve problems, students become their own pilot to their math learning when given open-ended tasks and story problems.

Since we have done so much work with story problems and giving the students freedom to solve a problem using what strategy works best for them, the pilot math program requires that students take a test that asks them to use specific strategies for specific problems. In order to not only help them succeed on this test, but also gain a broader knowledge bank of strategies, I decided to use a day to review and apply the strategies for multiplying and dividing numbers by 3, 4, 0, and 1.

Procedures and approximate time

LAUNCH (15 minutes)

Students will tear out pages 415 and 417.

Students will have 10 minutes (timed) to complete as much as they can of the Fluency Practice page.

EXPLORE (40 minutes)

Students will be given 5 minutes to complete the Vocabulary Check portion of page 417 with a partner. We will discuss the answers and their mathematic thinking together as a class, using the ELMO. The students will then write "homework" at the top of this page, and complete the rest of the review with their families at home.

Students will be given the problem 6×7 . They will come up to the front of the classroom and choose a half sheet of paper labeled with the math strategy to use to solve the problem. We will go through the different ways of solving the problem by having students show their work on the ELMO, and explain.

The students will repeat this procedure with $18/3$.

SUMMARIZE (5 minutes)

Students will help me list the strategies on the board, and will be reminded that they could be asked to use any of these strategies on the test.

Academic, Social and Linguistic support:

I will encourage students to share ideas and be respectful of their classmates when sharing ideas, and to all work together to come to conclusions or redirect misconceptions.

I will use whiteboards and posters to visually supplement their oral language, to help students who may struggle with English, or who are more visual learners.

Formative Assessment: I will use the Fluency Practice to gauge the effectiveness of the review, as it will have been given before we review the strategies as a class. I will compare these results with the results of the test the next day, to see if the students who may be getting answers wrong are doing so because they do not have fact fluency, or because they are struggling to read and comprehend the question.

These strategies are ultimately designed to help with fluency, and giving these fluency assessments regularly throughout the year show where students are growing or need support in fact fluency.