

Miles Jones Foundation Before/Afterschool Education Program Lesson Plan

Subject: Mathematics

Grade Level: 4th Grade

Lesson Duration: 1 Hour

Objective/Standard:

Objective: Students will be able to understand and apply the concept of multiplication with multi-digit numbers by solving problems using various strategies.

Standard:

- **CCSS.MATH.CONTENT.4.NBT.B.5** – Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations.
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Activity:

Activity Title: Multiplication Mastery with Arrays

Materials Needed:

- Whiteboard and markers
- Multiplication chart
- Grid paper
- Pencils and erasers
- Small manipulatives (e.g., counters, blocks)

Instructions:

1. **Introduction (10 minutes):**
 - Begin with a brief review of multiplication concepts, focusing on the place value and the distributive property. Use the multiplication chart to demonstrate how these strategies work.
2. **Guided Practice (15 minutes):**

- **Modeling (5 minutes):** On the whiteboard, demonstrate how to multiply a two-digit number by a one-digit number using the array method. For example, calculate 23×4 by drawing an array grid and filling in the rows and columns.
 - **Group Activity (10 minutes):** Divide students into small groups and provide each group with grid paper and manipulatives. Ask them to create arrays for different multiplication problems, such as 34×6 and 57×3 . Each group will then explain their process to the class.
3. **Independent Practice (20 minutes):**
- Provide students with a worksheet containing a set of multiplication problems involving multi-digit numbers. Problems should include both two-digit by one-digit and two-digit by two-digit multiplications. Students will complete the worksheet individually.
4. **Application (10 minutes):**
- **Real-World Problem:** Present a word problem involving multiplication. For example, "If you are organizing a charity event and need to set up 12 tables with 8 chairs each, how many chairs do you need in total?" Students will solve the problem using their preferred strategy and discuss their solutions.
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Assessment of Understanding:

1. **Formative Assessment:**
 - **Observation:** Monitor students during the group activity and independent practice to assess their understanding of the multiplication strategies. Note their ability to use arrays and other methods effectively.
 2. **Worksheet Review:**
 - Collect and review the worksheets to evaluate students' accuracy in solving multiplication problems. Check for correct application of multiplication strategies and proper use of place value.
 3. **Exit Ticket:**
 - At the end of the lesson, ask each student to solve a quick multiplication problem (e.g., 46×7) on a small piece of paper and submit it as an exit ticket. This will provide a quick check of their individual understanding.
 4. **Class Discussion:**
 - Facilitate a brief class discussion where students can share their problem-solving methods for the real-world problem and reflect on the strategies they used. This will help gauge their comprehension and ability to apply multiplication concepts in different contexts.
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Notes:

Follow-Up:

- Review common errors or difficulties in the next lesson and reinforce multiplication strategies through additional practice and games.