

Project Guide: Multi-Digit Multiplication

Lesson: Multi-Digit Multiplication

Common Core Standard: 4.NBT.B.5

Objective:

Students will apply multi-digit multiplication skills to calculate and solve real-world problems, such as determining total costs or materials needed for a group project.

Materials:

- Graph paper
 - Worksheets with multi-digit multiplication problems
 - Colored pencils or markers
 - Example project scenarios (e.g., planning materials for a school event, building a small model)
 - Calculators (for verification purposes only)
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Safety Precautions:

While working on the project, ensure students handle all materials (e.g., pencils, paper) responsibly. There are no hazardous materials involved in this activity.

Procedures:

1. Introduction to the Project:

- Present a scenario to the students. For example:
"Your class is organizing a STEM Day event. You need to calculate the total cost of supplies for 12 tables, where each table requires 34 markers and 25 sheets of paper."
- Discuss how multiplication can be used to solve this problem efficiently.

2. Step-by-Step Calculation:

- Break down the problem into smaller steps:
 - a. Multiply to find the total number of markers (e.g., 34×12).
 - b. Multiply to find the total number of sheets of paper (e.g., 25×12).
- Demonstrate these calculations using the standard algorithm and confirm the results with estimation.

3. Group Work:

- Divide students into small groups and provide each group with a unique scenario, such as organizing snacks for a class party, determining materials for a group art project, or calculating the total cost for team T-shirts.
- Groups will identify the numbers to multiply and complete the calculations using graph paper or their preferred method.

4. Presentation:

- Each group presents their scenario, their calculations, and the final answer to the class.
- Discuss the accuracy of their solutions and review any errors as a learning opportunity.

5. Extension Activity:

- Challenge students to create their own real-world problem for classmates to solve, reinforcing the application of multi-digit multiplication.

Note: Clean-Up

Ensure all materials, such as graph paper and markers, are collected and organized. Encourage students to neatly store their worksheets in their folders for future reference.