THE PIE-MAKING PARTY LESSON PLAN

Thanksgiving Multiplication Adventure for 2nd-3rd Grade

This Month™

ACTIVITY OVERVIEW

Age/Grade Level: 2nd-3rd Grade

Time: 20-40 minutes

Theme/Season: Thanksgiving preparation, fall harvest baking traditions

LEARNING OBJECTIVES

Students will be able to:

- Solve multiplication problems within 100 using repeated addition and equal groups strategies
- Understand multiplication as "groups of" through visual models
- Apply multiplication to real-world contexts (recipe scaling)
- Develop computational fluency with basic multiplication facts (×2, ×3, ×4, ×5, ×10)
- Explain their mathematical thinking using equations and visual representations

MATERIALS NEEDED

For Classrooms: ✓ Computer, tablet, or interactive whiteboard with internet access ✓ Interactive game link (provided at end of lesson plan) ✓ Optional: Graph paper for drawing equal groups ✓ Optional: Multiplication fact reference charts ✓ Optional: Real measuring tools for hands-on extension

For Families: ✓ Computer, tablet, or smartphone with internet ✓ 20-30 minutes of focused learning time together ✓ Optional: Paper and pencil for solving alongside the game ✓ Optional: Calculator for checking answers ✓ Optional: Real recipe cards for extension activities

STANDARDS/DEVELOPMENTAL ALIGNMENT

Common Core 2.OA.C.4: Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends

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

Common Core 3.OA.A.3: Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities

Common Core 3.OA.C.7: Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division

Mathematical Practices MP.2: Reason abstractly and quantitatively

Mathematical Practices MP.4: Model with mathematics

Mathematical Practices MP.7: Look for and make use of structure

INSTRUCTIONS

STEP 1: WARM-UP - MULTIPLICATION AS EQUAL GROUPS (5 minutes)

✓ Begin by activating prior knowledge: "Who has helped multiply a recipe? What happens when we need to double or triple ingredients?"

✓ **For Educators:** Review multiplication as repeated addition on the board. Show: 4 pies × 3 apples = 3 + 3 + 3 + 3 = 12 apples. Connect to the multiplication equation: 4 × 3 = 12. Ask: "Which method is more efficient?"

✓ **For Families:** Use household items to demonstrate: "If we're making sandwiches for 4 people and each sandwich needs 2 slices of bread, how many slices do we need total? Let's count: 2, 4, 6, 8! That's 4 groups of 2, which we write as 4 × 2 = 8."

STEP 2: INTRODUCE THE GAME SCENARIO (3 minutes)

✓ Explain the challenge: "We're catering a Thanksgiving party and need to make 4 pies! Each pie requires specific amounts of different ingredients. We need to calculate the total amount of each ingredient."

✓ Show the game interface and highlight: • The number of pies being made (changes based on grade level selected) • The multiplication equation displayed (4 pies × 3 apples = ?) • Visual groups showing equal amounts per pie • The mixing bowls that fill as ingredients are completed

✓ **For Educators:** Emphasize mathematical vocabulary: "Notice how each pie has the SAME amount of each ingredient. These are equal groups. When we multiply, we're finding the total of equal groups."

✓ **For Families:** Make it concrete: "Each pie is like a team, and each team needs the same supplies. We're figuring out how much we need for ALL the teams combined!"

STEP 3: GUIDED PRACTICE - SOLVE TOGETHER (10 minutes)

Work through the first ingredient as a whole class or family.

For Educators:

- Project the game and read the problem aloud: "We're making 4 pies. Each pie needs 3 apples. How many apples do we need in total?"
- Guide students to identify the multiplication structure: "What are we multiplying? (4 pies × 3 apples)"
- Show multiple solution strategies on the board:
    - **Skip counting:** "3, 6, 9, 12"
    - **Repeated addition:** "3 + 3 + 3 + 3 = 12"

    - **Visual groups:** Count each pie's apples shown in the game
    - **Multiplication fact:** "4 × 3 = 12"
- Have students write the complete equation: 4 × 3 = 12 apples
- Enter the answer in the game and celebrate when the mixing bowl fills!

For Families:

- Read the problem together and identify what you know: "4 pies, 3 apples each"
- Ask your child: "How could we solve this? What strategy works best for you?"
- Support their chosen method—whether they skip count, draw pictures, or use a multiplication fact
- Write the equation together: "4 × 3 = 12"
- Check the answer in the game and celebrate success!

STEP 4: INDEPENDENT/PARTNER PRACTICE (15 minutes)

Allow students to work through remaining ingredients independently or with a partner.

For Educators:

- Students can work on tablets, at the interactive whiteboard in pairs, or individually at computers
- Provide recording sheets where students write equations for each ingredient before entering answers
- Circulate and ask:
    - "What multiplication equation represents this problem?"
    - "Can you show me another way to solve it?"
    - "How did you check your answer?"
- Encourage students to use different strategies for different problems (skip counting for ×5, repeated addition for ×2, etc.)
- For students who finish early: Challenge them to create their own word problems using the game's numbers

For Families:

- Sit nearby while your child works, available for help but encouraging independence
- If they're stuck, prompt with questions: "How many pies? How many ingredients per pie? What operation do we use for equal groups?"
- Encourage them to write equations on paper before entering answers digitally
- Celebrate multiple strategies: "I see you skip counted for that one and used repeated addition for this one. Great flexible thinking!"
- If they make a mistake: "The game says to try again. Let's look at the groups together. Can we recount?"

STEP 5: REFLECTION & EXTENSION (7 minutes)

After completing all ingredients, watch the victory animation and debrief.

For Educators: Gather students and discuss:

- "What multiplication facts did you use most? Which were trickiest?"
- "Did anyone discover a shortcut or pattern?" (e.g., multiplying by 10 is just adding a zero)
- "How is multiplication different from addition? When is it more useful?"
- Have students share their written equations on the board

- Create a class chart: "Multiplication Strategies We Used Today"

For Families: Celebrate and extend:

- "You solved all those multiplication problems! I'm so proud of how you tackled the challenge!"
- "Which ingredient was hardest to calculate? Why?"
- "Can you think of times you've seen grown-ups multiply? (Shopping, cooking, sports scores)"
- "Want to try again on a harder level?"

EXTENSIONS/VARIATIONS

For Students Who Need Support:

- Start with 2nd grade level (3 pies) before advancing to 4 pies
- Use graph paper to draw arrays representing each problem
- Provide multiplication charts as reference
- Work in pairs with a stronger student
- Focus on one strategy at a time (start with repeated addition, then move to skip counting)
- Use manipulatives alongside the game (counters, blocks) to model equal groups

For Advanced Students (3rd Grade+):

- Switch to 4th-5th grade level (5 pies) for more complexity (see This Month™ 4th-5th grade lesson plan)
- Solve using multiple strategies and compare efficiency
- Create word problems for each ingredient that a partner must solve
- Calculate inverse problems: "If we need 20 apples total and we're making 4 pies, how many apples per pie?"
- Introduce division as the inverse: "20 apples ÷ 4 pies = 5 apples per pie"
- Research real Thanksgiving recipes and scale them up or down mathematically

Cross-Curricular Connections:

- **Social Studies:** Research harvest festivals and gratitude celebrations across different cultures (such as Mid-Autumn Festival, Sukkot, Pongal, or Crop Over); explore how different families celebrate Thanksgiving in the United States with diverse food traditions; compare ingredient amounts in family recipes from different cultural backgrounds
- **Science:** Investigate measurement conversions (teaspoons to tablespoons, cups to quarts)
- **Language Arts:** Write a procedural text explaining how to scale a recipe mathematically
- **Economics:** Calculate the cost of ingredients if each ingredient has a price per unit
- **Art:** Create visual representations of multiplication using arrays or area models with fall themes

Hands-On Extensions:

- **Recipe Scaling Project:** Bring in simple recipes and practice multiplying ingredients for different numbers of servings
- **Classroom Bakery:** Set up a pretend bakery where students take "orders" and calculate ingredient needs

- **Real Cooking:** Make a simple recipe together (in class or at home) that requires measuring and multiplying
- **Multiplication Games:** Use ingredients as manipulatives for other multiplication activities (sorting, grouping, creating arrays)
- **Graphing Activity:** Create bar graphs comparing amounts of different ingredients needed

FOR EDUCATORS: CLASSROOM MANAGEMENT TIPS

Whole-Class Instruction:

- Use the interactive whiteboard for guided practice with the first 1-2 ingredients
- Have students come up to enter answers while class discusses strategies
- Create anchor charts: "Multiplication Strategies for Equal Groups" with student examples
- Display equations on the board as students solve them in the game

Math Center Activity:

- Load the game on classroom tablets for independent or partner practice
- Provide recording sheets where students must show their work before checking answers in the game
- Create a "Multiplication Fact Helper" station with arrays, number lines, and multiplication charts
- Rotate students through: digital game, manipulative practice, and written word problems

Formative Assessment:

- **Observe:** Are students using efficient strategies? Do they understand the structure of multiplication?
- **Listen:** Can students explain their thinking? Do they use vocabulary like "groups of" and "times"?
- **Ask:** "Show me two different ways to solve this problem. Which is more efficient?"
- **Collect:** Recording sheets showing student equations and strategies
- **Exit Ticket:** Give a similar word problem and have students solve independently

Differentiation:

- **Support:** Provide multiplication charts, allow calculator use for checking, work in small groups with teacher support
- **On Level:** Complete game independently with recording sheet
- **Challenge:** Solve on 4th-5th grade level, create original word problems, explain multiple solution strategies

FOR FAMILIES: CREATING JOYFUL LEARNING AT HOME

Setting the Scene:

This game is perfect for November family learning! As you prepare for Thanksgiving, involve your child in real meal planning. Show them recipes and practice calculating ingredient amounts together.

Learning Conversation Starters:

- "Let's plan Thanksgiving dinner together. If each person eats 2 rolls and we're having 8 guests, how many rolls should we make?"
- "This recipe serves 4, but we need to serve 12. What do we multiply by? How do we adjust the ingredients?"
- "Can you help me at the grocery store? If apples come in bags of 6 and we need 18, how many bags do we buy?"

Making It Concrete:

- Use real recipe cards and highlight where multiplication is needed
- When grocery shopping, point out package quantities: "5 yogurts per pack, we need 3 packs, how many total?"
- During meal prep, let your child measure ingredients and calculate amounts
- Play estimation games: "About how many green beans do you think we need for 6 people?"

Building Real-World Connections:

- **Daily routines:** "We need to set the table for 5 people. Each person gets 3 utensils. How many total?"
- **Shopping:** Practice with money: "If one box costs $4 and we buy 3, how much do we spend?"
- **Sports:** "Each team has 9 players. There are 4 teams. How many players total?"
- **Nature:** "Each flower has 5 petals. You picked 7 flowers. How many petals altogether?"

Celebrating Growth:

Focus on mathematical thinking, not just correct answers:

- "I love how you drew a picture to represent the problem!"
- "You tried a different strategy that time. That's flexible thinking!"
- "Even though you got it wrong at first, you kept trying and figured it out. That's what mathematicians do!"
- "You explained your thinking so clearly. I understand exactly how you solved it!"

Managing Frustration:

If your child struggles:

- Break problems into smaller steps: "First, let's figure out what we're multiplying."
- Use physical objects: "Let's use these crackers to make groups."
- Try a different strategy: "Skip counting wasn't working? Let's try drawing a picture."
- Take a break: "Let's come back to this after a snack. Sometimes our brains need rest!"
- Celebrate effort: "Math can be challenging, and I'm proud of you for sticking with it!"

WHY THIS ACTIVITY WORKS

Multiplication is a cornerstone of mathematical thinking in grades 2-5. By situating practice within a meaningful, relatable context (Thanksgiving meal preparation), students see mathematics as purposeful and applicable to real life.

The visual equal groups representation in the game directly supports the conceptual understanding of multiplication as "groups of," which is essential before moving to abstract algorithms. The scaffolded design allows students to see the structure of multiplication problems while practicing computational fluency.

For second graders, this activity bridges repeated addition to formal multiplication concepts. For third graders, it reinforces multiplication fluency within 100 and provides practice with real-world application. The immediate feedback loop helps students self-correct and try different strategies, building both skills and confidence.

Research shows that students who understand multiplication conceptually (not just memorize facts) develop stronger algebraic reasoning and problem-solving skills. This game balances conceptual understanding with procedural fluency—both critical for mathematical success.

ACCESS THE GAME

Play The Pie-Making Party at: https://month.thence.us/pie-making-party-math-k-5th-thanksgiving-fun/

Access the activity on any computer, tablet, or smartphone with internet connection.

Select "2nd-3rd Grade" from the grade level buttons at the top of the game.

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