# The Great Dessert Share-Off: A Hands-On Division Adventure

## Materials Needed

- **"Desserts" (Manipulatives):** At least 60 small, identical items. Ideas include:
  - LEGO bricks
  - Dried beans or pasta
  - Buttons or beads
  - Small snacks like Goldfish crackers, M&Ms, or Skittles (makes it extra fun!)
- **"Plates" (Grouping Tools):** 10-12 small bowls, paper cups, or even circles drawn on a piece of paper/whiteboard.
- **Problem Cards:** Index cards or slips of paper with division story problems written on them (see examples below).
- **Blank Cards:** A few blank index cards for the student to create their own problems.
- **Worksurface:** A large, clear table or floor space.
- **Optional:** A small whiteboard and marker for writing down the equations.

## Learning Objectives

- **Conceptual Understanding:** The student will demonstrate an understanding of division as "fair sharing" or separating a whole into equal groups.
- **Application:** The student will be able to model and solve 1- and 2-digit division problems (e.g., 24 ÷ 4) using manipulatives.
- **Problem-Solving:** The student will interpret and solve simple division word problems.
- **Creativity:** The student will create and solve their own division story problem, demonstrating mastery of the concept.

## Alignment with Curriculum Standards

This lesson aligns with common 4th-grade math standards, such as CCSS.MATH.CONTENT.4.NBT.B.6, focusing on finding whole-number quotients and remainders by using strategies based on place value and the properties of operations. It emphasizes a concrete, visual strategy essential for building foundational understanding before moving to abstract algorithms.

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## Lesson Activities (Approximately 45-60 minutes)

### 1. The Warm-Up: You're the Head Chef! (5 minutes)

**Goal:** To engage the student and introduce the core concept of "fair sharing."

**Instructions:**

1. Set the scene: "Welcome to your very own dessert shop! You are the Head Chef, and your most important job is to make sure every customer gets a fair share of the delicious desserts you make. Today, we're going to practice sharing."
2. Start with a simple, direct problem. Say: "Here are 12 fresh cookies (count out 12 'dessert' manipulatives). Three friends are here to buy them. Can you share these 12 cookies fairly among the 3 friends (place 3 'plates'/bowls on the table)?"
3. Let the student distribute the "cookies" one by one into the bowls until none are left.

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4. Ask guiding questions: "How many cookies did each friend get? Is it a fair share? Did everyone get the same amount?" This introduces the idea of equal groups.

## 2. Instructional Strategy: "I Do, We Do" - Learning the Chef's Method (10 minutes)

**Goal:** To model the process of turning a story problem into a hands-on division task and then connect it to a mathematical equation.

**"I Do" (Modeling):**

1. Take the first Problem Card: "*A customer ordered 15 mini cupcakes to share equally among 5 family members. How many cupcakes does each person get?*"
2. Think aloud as you solve it: "Okay, my total number of desserts is 15. I'll count out 15 'cupcakes' (manipulatives). The problem says they need to be shared among 5 people, so I need 5 'plates' (bowls)."
3. Distribute the manipulatives one at a time into the 5 bowls, saying, "One for you, one for you..." until they are all gone.
4. State the answer clearly: "Now I can see that each plate has 3 cupcakes. So, each family member gets 3. On my whiteboard, I can write this as **15 ÷ 5 = 3**."

**"We Do" (Guided Practice):**

1. Take the next Problem Card: "*You baked 24 chocolate chip cookies for a party. You want to put them onto 4 platters. How many cookies will be on each platter?*"
2. Ask the student to lead: "You're the Head Chef. What's the first thing we should do?" (Guide them to identify the total number of "desserts" - 24).
3. "Great! Now, how many groups do we need to share them into?" (Guide them to identify the number of "plates" - 4).
4. Let the student distribute the items. Work together to solve the problem and then write the equation: **24 ÷ 4 = 6**.

## 3. Independent Practice: "You Do" - Running the Dessert Shop (15 minutes)

**Goal:** To allow the student to apply their new skills independently.

**Instructions:**

1. Give the student a stack of 3-4 new Problem Cards. Let them choose which "order" to fill first. This provides a sense of choice and ownership.
2. **Example Problem Cards:**
    - "*A batch of 30 donut holes needs to be packed into 6 boxes. How many donut holes go in each box?*" (30 ÷ 6)
    - "*You have 28 brownie bites. If 7 friends want to share them, how many does each friend get?*" (28 ÷ 7)
    - ***Challenge Card (Introducing Remainders):*** "*14 muffins need to be shared by 4 people. How many muffins does each person get? Are there any extra muffins left over?*" (14 ÷ 4)
3. Observe the student as they work. Let them problem-solve on their own but be ready to ask guiding questions if they get stuck, such as "What is your total?" or "How many groups are you sharing with?"
4. For the remainder problem, help them understand that the "leftovers" are called a **remainder**. Explain that sometimes, things can't be shared perfectly equally.

## 4. Assessment & Creative Application: Create Your Own Dessert Problem! (10-15 minutes)

**Goal:** To assess the student's understanding by having them create a division problem, which requires a higher level of thinking than simply solving one.

**Instructions:**

1. Tell the student: "You've done such a great job as Head Chef! Now it's your turn to invent a new dessert order for our shop."
2. Give them a blank card and the pile of manipulatives. Say, "First, decide on a total number of desserts you want to make (have them grab a handful of manipulatives and count them). Then, decide how many people you want to share them with."
3. Have the student write (or dictate) their own story problem on the blank card. For example: "*I made 42 mini cheesecakes and I want to share them with my 6 favorite customers. How many cheesecakes will each customer get?*"
4. Finally, have the student solve their own problem using the manipulatives and write the matching equation.

## Differentiation and Inclusivity

- **For Extra Support:** Use smaller numbers (under 20). Pre-draw the circles on a whiteboard to provide a clear visual structure. Focus only on problems with no remainders until the concept is solid.
- **For an Advanced Challenge:** Introduce two-step problems ("You bake 20 cookies and your friend gives you 4 more. Now, share them all among 6 people."). Or, have them create problems with remainders and explain what could be done with the "leftovers" (e.g., "The chef eats them!").
- **Learning Styles:** The lesson caters to **kinesthetic/tactile** learners (manipulating objects), **visual** learners (seeing the groups form), and **auditory** learners (through the storytelling and think-aloud process).

## Simple Rubric for "Create Your Own Problem" Assessment

- **Excellent Understanding (3 points):** Student creates a clear, logical story problem, correctly solves it with manipulatives, and writes the correct matching division equation.
- **Good Understanding (2 points):** Student creates a story problem and can solve it, but may need help writing the formal equation or making the story perfectly clear.
- **Developing Understanding (1 point):** Student needs significant help creating the story or solving it, indicating the core concept may need more practice.