

Facilitation Guide: Fractional Fair Sharing

Lesson Overview:

Big Idea: Introduce students to the concept of fractions by using a Fair Sharing division problem with remainders. The question becomes, what do you do with the remainder? These type of problems serve as a gateway into fractions via problem solving.

Lesson Flow: Students begin by doing a problem as a warm-up. They then break into groups to solve problems and get to use a digital tool to assist modeling the problem. Discuss two problems as a class using the digital tool to model. Facilitate a wrap up question where students work individually and then discuss as a group.

Warm Up: JiJi Sharing Boxes

Work on problem independently then discuss as a class (10 min)

- Click on the discussion link to pose the problem to students (3 JiJis share 4 boxes)
- Have students work on their own to find at least one strategy for sharing the boxes
 - Students may think you cannot share last box, “there’s 1 left over”
- *Discussion:* focus on highlighting the strategies for solving the problem
 - “What can you do to share all the boxes so there are no leftovers?”
 - “What are some ways you could cut the boxes?”

Activity One: JiJi Sharing Boxes with Tool

Part 1: Students work in groups of four to solve **JiJi Sharing Boxes Problem Sheet** using the *Sharing Boxes Tool* (15 min)

- Students will be referencing the Jiji sharing boxes tool while solving the problem.
- *Using the tool:* This tool is designed to model a Jiji Sharing Boxes problem. It allows students to model the problem digitally by selecting the number of Jiji’s and the number of boxes in the problem. Then, the student can use the cutting device to cut the boxes into pieces and distribute them fairly.
- As students work, ask them to name the value of the pieces they are cutting the boxes into.

Part 2: Discuss seven boxes shared by four JiJis using the *Sharing Boxes Tool* (5 min)

- As a class, discuss the problem projected on the board.
- *Discussion Focus:* There are different ways to partition the boxes among the Jiji’s. Strategies to solve problems
 - Cut both boxes into thirds
 - Cut both boxes in half, distribute 3 halves, then cut the final half into thirds

Activity Two: Compare Ways to Share Boxes

Students think on their own, discuss with a partner and then share with the class (10 min)

- *Discussion Focus:* 3-halves and $1\frac{1}{2}$ are equal because 2 halves make 1 whole
- *Big idea:* there are different ways to partition the boxes and still get fair shares
- *Questions to ask:*
 - Are these both valid solutions? Prove it.