

# Project 11

## Mixed Bricks

**Objective:** Child will be able to add mixed fractions by physically regrouping.

**Essential Question(s):** How do you add mixed fractions?

**Special Materials:** Pencil and paper, dice for choosing numbers.

**Bricks Required:** Plates that are divisors of each other (i.e., 8x8s and 2x4s)

**Project Structure:**

**Engage/Explain:**

1. Ask child how to add fractions, reviewing adding the numerators but not the denominators.
2. Ask what child thinks about adding mixed fractions. How might they do it? How would they account for the whole numbers and fractions?
  - a. Child may come up with the idea that they need to add the whole numbers and fractions separately.
  - b. Child may come up with the idea that they may need to regroup the fractions if the fractions add up to more than a whole.

**Explore:**

1. Give child a die, a stack of 8x8 plates, and a handful of smaller plates.
  - a. Have child practice adding mixed fractions with 8ths as the denominator.
  - b. Ask child to use the die to roll numbers to add. First roll is the whole number, second roll is the numerator. Repeat for the whole number and numerator for the second portion of the equation (be writing down the equation). For example, if child rolls 6, 3, 2, 5, then the equation will be  $6\frac{3}{8} + 2\frac{5}{8}$ .
  - c. Child then uses the 8x8 plates for the whole numbers and the 2x4 plates for the fractions. The 2x4s can be rearranged to make 8x8 squares.

**Images, L-R:** Adding together  $3\frac{5}{8} + 1\frac{3}{8}$ , then regrouping the fractions to equal one whole.

