OP E

Add and subtract fractions with friendly but unlike denominators (e.g., 2 and 10) using models and symbols

Making Mixed Numbers

Description

This task was designed to move students from representing a mixed fraction towards using operations with fractions, and is a suitable exploration for students even prior to the formal introduction of these concepts. The task consists of a series of prompts intended to scaffold students to use multiple representations to visualize and conceptualize the problems.

Mathematics

This task is designed to promote the use of a variety of representations including number in order to reveal misconceptions and build deeper understanding. Students develop fractional number sense by composing and decomposing fractions, comparing fractions and representing fractions on number lines.

Curriculum Connections

Students will:

- represent, compare, and order fractional amounts with unlike denominators including mixed numbers using a variety of representations;
- use a variety of mental strategies to solve problems involving the addition and subtraction of fractions.

Instructional Sequence

1. Post or hand out BLM 1. If posting, reveal one question at a time (and if students are using the BLM, encourage them work through the questions in order, one at a time).
2. Provide time for students to complete the task. Use the question prompts in BLM 2 to support students in completing the task.
3. Consolidate (provide opportunities for students to share solutions with the class), using key questions to elicit student thinking for discussion.

Highlights of Student Thinking

Students may:

- at first appear to have a firm understanding of fractions, but may reveal fragile understanding as they progress through the task;
- struggle to place their fraction on the number line;
- easily split their fraction into two smaller quantities;
- need considerable time to work their way through their thinking.

Key Questions

1. What did you consider when estimating which number your fractions was closer to?
2. How can you show your thinking using a number line?
3. What do you notice about the numbers that combine to equal the fraction you selected?

Materials

BLM 1 (1 copy/student)
BLM 2 (1 copy)