

## The Relay Race

### Description

Students are introduced to the concept of a relay race where participants complete various fractional distances of the total. Based on two known fractional distances of a race with unlike denominators, students will determine the distances that the other runners might complete.

### Mathematics

Students benefit from multiple opportunities to compose and/or decompose fractions with unlike denominators, using models and symbols. This supports them in developing fraction number sense, intuitive understanding of the operations of addition and subtraction and expands their repertoire of strategies.

### Curriculum Connections

Students will:

- add and subtract fractions with unlike denominators;
- use mental math strategies to add and subtract fractions;
- represent fractions using models and symbols.

### Instructional Sequence

1. Partner students. Distribute BLM 1 and review the instructions.
2. Allow students time to complete the task.
3. Consolidate by listing all the equations generated and having students discuss connections between and among equations (e.g.,  $1 = (\frac{1}{4} + \frac{1}{2}) + \frac{1}{4}$ ,  $1 = \frac{3}{4} + \frac{1}{4}$ ). It may be appropriate to also discuss the proportional relationships between the number of friends and the distance each participant ran.

### Highlights of Student Thinking

Students may:

- try several models before arriving at one that works for them;
- create equivalent fractions (e.g.,  $\frac{1}{2} = \frac{5}{10}$ );
- use subtraction to find the difference;
- use addition to find the sum or build on each distance consecutively;
- confirm their solution using a symbolic algorithm.

### Key Questions

1. What are some possible combinations of fractions that are equivalent to 1 whole?
2. When creating your equation for 1, did you start with a part or with the whole? Why?
3. How did you decide on the number of friends running?

### Materials

BLM 1 (one copy/pair of students)

assorted manipulatives