## Unit 3 Lesson 4: What Fraction of a Group?

### 1 Estimating a Fraction of a Number (Warm up)

#### Student Task Statement

1. Estimate the quantities:
	1. What is $\frac{1}{3}$ of 7?
	2. What is $\frac{4}{5}$ of $9\frac{2}{3}$?
	3. What is $2\frac{4}{7}$ of $10\frac{1}{9}$?
2. Write a multiplication expression for each of the previous questions.

### 2 Fractions of Ropes

#### Student Task Statement

Here is a diagram that shows four ropes of different lengths.



1. Complete each sentence comparing the lengths of the ropes. Then, use the measurements shown on the grid to write a multiplication equation and a division equation for each comparison.
	1. Rope B is \_\_\_\_\_\_\_ times as long as Rope A.
	2. Rope C is \_\_\_\_\_\_\_ times as long as Rope A.
	3. Rope D is \_\_\_\_\_\_\_ times as long as Rope A.
2. Each equation can be used to answer a question about Ropes C and D. What could each question be?
	1. $?⋅3=9$ and $9÷3=?$
	2. $?⋅9=3$ and $3÷9=?$

### 3 Fractional Batches of Ice Cream

#### Images for Launch









#### Student Task Statement

One batch of an ice cream recipe uses 9 cups of milk. A chef makes different amounts of ice cream on different days. Here are the amounts of milk she used:

* Monday: 12 cups
* Tuesday: $22\frac{1}{2}$ cups
* Thursday: 6 cups
* Friday: $7\frac{1}{2}$ cups
1. How many batches of ice cream did she make on these days? For each day, write a division equation, draw a tape diagram, and find the answer.
	1. Monday
	* 
	1. Tuesday
	* 
2. What fraction of a batch of ice cream did she make on these days? For each day, write a division equation, draw a tape diagram, and find the answer.
	1. Thursday
	* 
	1. Friday
	* 
3. For each question, write a division equation, draw a tape diagram, and find the answer.
	1. What fraction of 9 is 3?
	* 
	1. What fraction of 5 is $\frac{1}{2}$?
	* 

#### Activity Synthesis





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