Unit 9, Lesson 1

Add, Subtract, and Multiply Fractions

Let's practice solving problems involving fractions.

Warm-up

Number Talk: Fluency and Fractions

Find the value of each expression mentally.

- $5 \times \frac{10}{5}$

- $9 \times \frac{6}{3}$

- $8 \times \frac{11}{4}$

- $6 \times \frac{12}{10}$

Activity 1

Let's Make Head Wraps!

Jada and Lin see a picture of head wraps made of African wax-print fabric. They decide to make their own head wraps.

1. Jada stitches together 5 pieces of fabric. Each piece has a length of $\frac{2}{6}$ yard. Write an equation to show the total length of fabric Jada uses for her head wrap.

2. Lin stitches together 3 pieces of fabric. Each piece has a length of $\frac{2}{3}$ yard. Write an equation to show the total length of fabric Lin uses for her head wrap.

3. Who uses more fabric? Explain or show your reasoning.

Activity 2

Make Two Yards of Fabric

Jada's and Lin's moms teach the fourth-grade class how to combine and use fabric pieces for head wraps. Here is the length of each piece of fabric.

$\frac{2}{6}$ yard	$\frac{2}{6}$ yard	$\frac{2}{6}$ yard	$\frac{11}{10}$ yard
$1\frac{2}{5}$ yards	$\frac{9}{10}$ yard	$\frac{2}{6}$ yard	$\frac{6}{12}$ yard
$\frac{3}{6}$ yard	$\frac{2}{6}$ yard	$\frac{2}{6}$ yard	$\frac{12}{12}$ yard
$\frac{2}{6}$ yard	$\frac{3}{5}$ yard	$\frac{2}{6}$ yard	

Find as many different combinations of fabric that would have a length of 2 yards. Each piece of fabric can be used only one time. Write an equation for each combination.

Activity 3

Play by the Rules

1. Here are 4 fractions: $\frac{15}{12}$ $\frac{7}{12}$ $\frac{21}{12}$ $\frac{18}{12}$

   a. What is the sum of all the fractions?

   b. Select 2 of the fractions with a difference that is less than $\frac{1}{3}$. Explain or show your reasoning.

   c. Select 2 of the fractions with a sum greater than 3. Explain or show your reasoning.

2. Here are 4 new fractions: $\frac{5}{12}$ $\frac{8}{12}$ $\frac{3}{12}$ $\frac{2}{12}$

   Use the fractions to make the value 1. Follow these rules.

   - Use addition, subtraction, or both.
   - Use all four fractions.
   - Use each fraction only one time.

3. Use these fractions and the same rules to make the value 1.

   $\frac{15}{10}$ $\frac{13}{100}$ $\frac{53}{100}$ $\frac{9}{10}$