Name _____

Represent Addition with Unlike Denominators

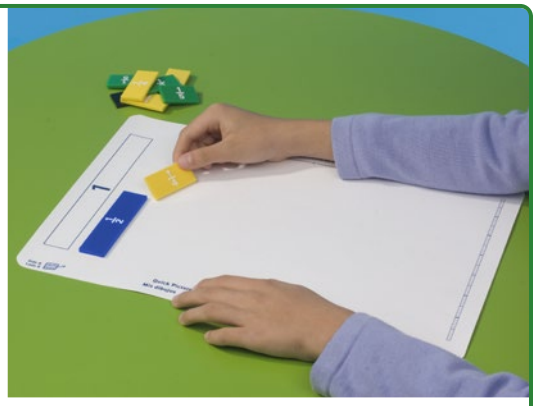
Florida's B.E.S.T.

- **Fractions** 5.FR.2.1
- **Mathematical Thinking & Reasoning** MTR.1.1, MTR.3.1, MTR.4.1, MTR.5.1, MTR.6.1, MTR.7.1

I Can use visual models to add fractions that have unlike denominators.

Investigate

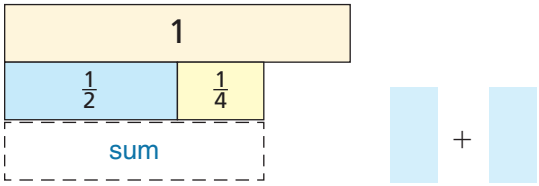
Hilary is making a tote bag for her friend. She uses $\frac{1}{2}$ yard of blue fabric and $\frac{1}{4}$ yard of red fabric. How much fabric does Hilary use?



Materials ■ fraction strips ■ MathBoard

A. Find $\frac{1}{2} + \frac{1}{4}$. Place a $\frac{1}{2}$-strip and a $\frac{1}{4}$-strip under the 1-whole strip on your MathBoard.

B. Find fraction strips, all with the same denominator, that are equivalent to $\frac{1}{2}$ and $\frac{1}{4}$ and fit exactly under the sum $\frac{1}{2} + \frac{1}{4}$. Record the addends, using like denominators.



_____ + _____

C. Record the sum. $\frac{1}{2} + \frac{1}{4} =$ _____

So, Hilary uses _____ yard of fabric.

Math Talk

MTR 3.1 Complete tasks with mathematical fluency.

How can you tell if the sum of the fractions is less than 1?

Draw Conclusions

1. Describe how you determined what fraction strips, all with the same denominator, would fit exactly under $\frac{1}{2} + \frac{1}{3}$. What are they?

2. **MTR** Explain the difference between finding fraction strips with the same denominator for $\frac{1}{2} + \frac{1}{3}$ and $\frac{1}{2} + \frac{1}{4}$.

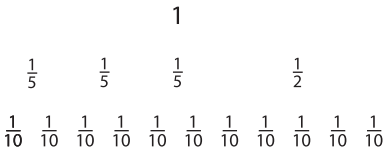
Make Connections

Sometimes, the sum of two fractions is greater than 1. When adding fractions with unlike denominators, you can use the 1-whole strip to help determine if a sum is greater than 1 or less than 1.

Use fraction strips to solve. $\frac{3}{5} + \frac{1}{2}$

STEP 1

Work with another student. Place three $\frac{1}{5}$-fraction strips under the 1-whole strip on your MathBoard. Then place a $\frac{1}{2}$-fraction strip beside the three $\frac{1}{5}$-strips.



STEP 2

Find fraction strips, all with the same denominator, that are equivalent to $\frac{3}{5}$ and $\frac{1}{2}$. Place the fraction strips under the sum. Draw a picture of the model and write the equivalent fractions.

$\frac{3}{5} =$ _____ $\frac{1}{2} =$ _____

STEP 3

Add the fractions with like denominators. Use the 1-whole strip to rename the sum.

Think: How many fraction strips with the same denominator are equal to 1 whole?

$\frac{3}{5} + \frac{1}{2} =$ _____ + _____

= _____, or _____

Math Talk **MTR 3.1** Complete tasks with mathematical fluency.

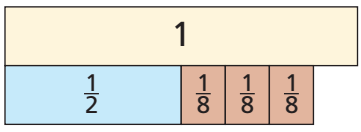
In what step did you find out that the answer is greater than 1? Explain.

Share and Show

Math Board

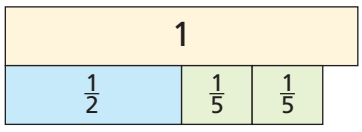
Use fraction strips or *i*Tools to find the sum.

1.



$\frac{1}{2} + \frac{3}{8} =$ _____ + _____ = _____

2.



$\frac{1}{2} + \frac{2}{5} =$ _____ + _____ = _____