

# Mixed Number $\times$ Fraction Models

**Materials:** cuisenaire rods

---

1. Write a story context to illustrate  $1\frac{3}{4} \times \frac{1}{2}$ .
2. Use cuisenaire rods to model the problem in two different ways.

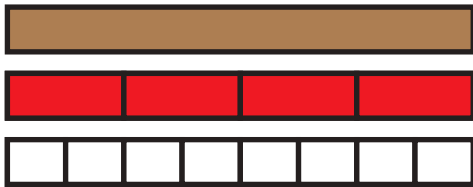
**Model 1:** Assign brown the value of 1. Make a model of  $1\frac{3}{4}$  and find a rod that is half the length.

**Model 2:** Show the distributive rule:  $\frac{1}{2} \left( 1 + \frac{3}{4} \right) = \frac{1}{2} \times 1 + \frac{1}{2} \times \frac{3}{4}$

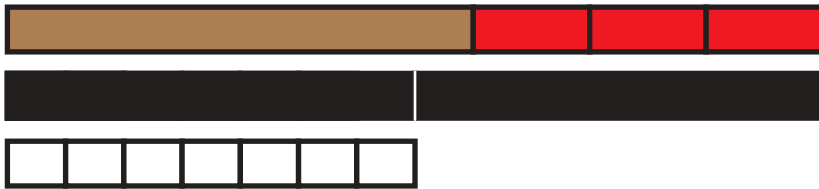
3. Write and solve another problem in which a mixed number is multiplied by a fraction. Model the problem in two different ways.

# Mixed Number $\times$ Fraction Models

Model 1 solution:



If we assign brown the value of 1, red represents  $\frac{1}{4}$  and white is  $\frac{1}{8}$ .

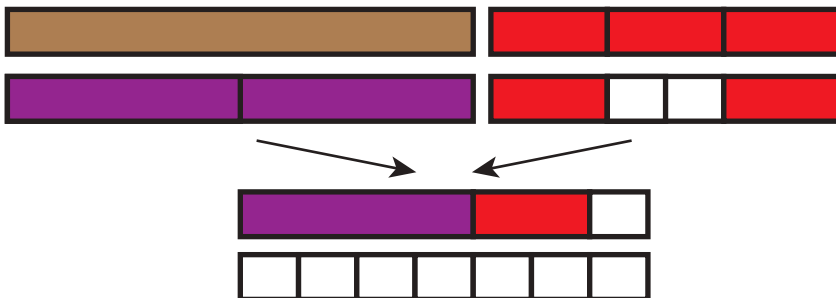


One brown and 3 reds represents  $1\frac{3}{4}$ . Black is half of this and black is 7 whites, so black is  $\frac{7}{8}$ .

Model 2 solution:



If we assign brown the value of 1, then red is  $\frac{1}{4}$ , purple is  $\frac{1}{2}$  and white is  $\frac{1}{8}$ .



Half of brown is purple. Half of 3 reds is a red and a white.

A purple, a red, and a white make  $\frac{7}{8}$ .