

AIM: 5-6 I will be able to multiply whole numbers by fractions! (Area Models)

Name _____
Mrs. Ashley

Date _____
Math 6

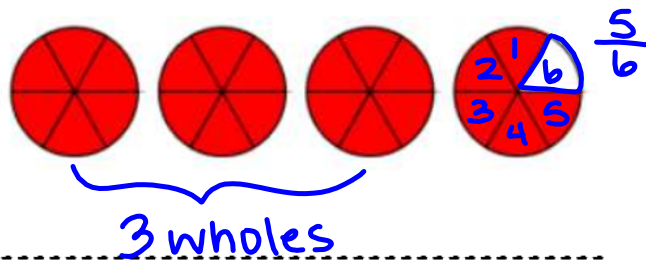
Warm-up:

Write the mixed number and the improper fraction represented in the picture below:

Mixed Number: $3\frac{5}{6}$

Improper Fraction: $\frac{23}{6}$

$3\frac{5}{6}$



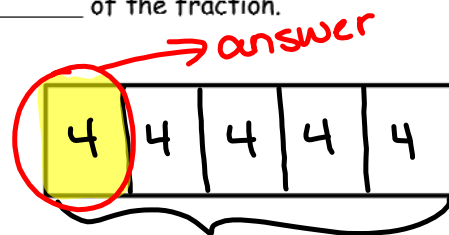
Let's Investigate: Using area models to multiply whole numbers by fractions.

To find a fraction of an amount, you **multiply!**

A unit fraction is a fraction with a numerator of one!
ex: $\frac{1}{5}$, $\frac{1}{7}$, $\frac{1}{2}$

Key Concept 1: Multiplying a unit fraction by a whole number is the same as dividing the whole number by the denominator of the fraction.

Example: $\frac{1}{5}$ of 20



As a multiplication sentence: $\frac{1}{5} \times 20$

As a division sentence: $20 \div 5$

$20 \div 5 = \underline{4}$

Answer: 4

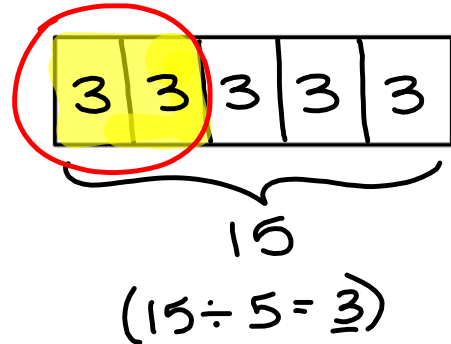
Key Concept 2: When we multiply a fraction ^{by} ~~times~~ a whole number, we multiply the numerator by the whole number and then divide by the denominator.

Ans: $3+3=6$

Example: $\frac{2}{5}$ of 15

Step 1: $2 \times 15 = 30$

Step 2: $30 \div 5$



Answer: 6

Example:

Olivia feeds her guinea pigs $\frac{1}{8}$ of a pound of food each day. How many pounds of food will she feed her guinea pigs after 8 weeks? 7 days in a week $7 \cdot 8 = \underline{\underline{56}}$

As a multiplication sentence: $\frac{1}{8} \times 56$

As a division sentence: $56 \div 8$



Answer: 7 lbs.

