Relating Fractions to Division

A fraction can represent the division of one whole number by another whole number into equal fractional parts.

**Example:** Tom, Jack, Lisa and Jane combine their money to buy three large pizzas. If they share the pizzas equally, what fraction of a whole pizza does each friend eat?

I need to find $3 \div 4$ friends. I will draw a fraction model of 3 pizzas and divide each pizza into 4 equal parts.

Each friend eats $\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$ of a pizza. $3 \div 4 = \frac{3}{4}$

The numerator represents the number of pizzas. The denominator represents the number of friends.
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Solve the following problems using a fraction model or diagram. Defend your diagram with mathematical reasoning.

1. Jessica and her 7 friends share 3 liters of apple juice equally. How much juice does each friend get?

2. Jack bakes 10 trays of cookies using 8 cups of milk. How many cups of milk does he use for each tray of cookies?

3. A group of 8 office workers order 12 packs of sushi from the local Japanese restaurant for lunch. If the packs of sushi are shared equally, what fraction of a pack will each office worker get for lunch?

4. Lisa makes 6 identical flags from 10 meters of fabric. How many meters of fabric does she use for each flag?

5. Mr. Smith paints 5 wooden chairs in 4 hours. If each chair takes the same amount of time to paint, what fraction of an hour does it take Mr. Smith to paint one chair?