

Core Content

Cluster Title: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.
Standard 6: Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.
MASTERY Patterns of Reasoning:
<p>Conceptual: Students will understand strategies to interpret word problems involving multiplication of fractions.</p> <p>Procedural: Students can make sense of a real-world problem. Students can write an equation to represent a word problem and solve the equation.</p> <p>Representational: Students can use concrete and pictorial area models to represent a real-world problem (e.g., unit bars, number lines, area models, linear models, pattern blocks, fraction circles).</p>

Supports for Teachers

Critical Background Knowledge
<p>Conceptual: Students will understand multiplication of whole numbers. Students will understand that 5 times 7 is 5 groups of 7, so 5 times $\frac{1}{2}$ is 5 groups of $\frac{1}{2}$.</p> <p>Procedural: Students can multiply whole numbers fluently. Students can solve a two-step problem. Students can represent a whole number as a fraction. (For example, $12 = \frac{12}{1}$.)</p>

<p>Representational: Students can use visual fraction models.</p>	
<p>Academic Vocabulary and Notation equation, factor, product, fraction, mixed number</p>	
<p>Instructional Strategies Used</p>	
<p>Resources Used</p>	
<p>Examples:</p> <p>Evan bought 6 roses for his mother. $\frac{2}{3}$ of them were red. How many red roses were there?</p> <p>Using a visual, a student divides the 6 roses into 3 groups by color and counts how many are in 2 of the 3 groups.</p>  <p>A student can use an equation to solve. $\frac{2}{3} \times 6 = \frac{12}{3} = 4$ red roses.</p>	
<p>Assessment Tasks Used</p>	
<p>Skill-Based Task: Solve with visual fraction models and an equation to represent the problem:</p> <p>Tasha finished a job in $\frac{3}{4}$ hour. Megan finished the same job in $\frac{4}{5}$ of the time Tasha took. How long did Megan take to finish the job?</p>	<p>Problem Task: Given the problem $\frac{3}{5} \times 1\frac{1}{2}$, write a real-world problem to represent this expression and solve.</p>