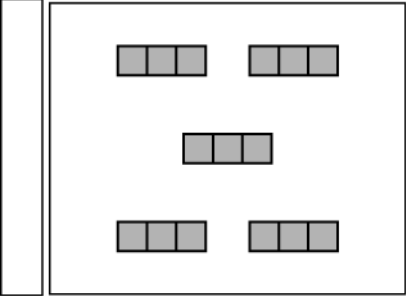


Content Standard	<p>MAFS.4.NF Number and Operations - Fractions</p> <p>MAFS.4.NF.2 Build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.</p> <p>MAFS.4.NF.2.4 Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p>MAFS.4.NF.2.4a Understand a fraction $\frac{a}{b}$ as a multiple of $\frac{1}{b}$. For example, use a visual fraction model to represent $\frac{5}{4}$ as the product $5 \times \left(\frac{1}{4}\right)$, recording the conclusion by the equation $\frac{5}{4} = 5 \times \left(\frac{1}{4}\right)$.</p> <p>MAFS.4.NF.2.4b Understand a multiple of $\frac{a}{b}$ as a multiple of $\frac{1}{b}$, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express $3 \times \left(\frac{2}{5}\right)$ as $6 \times \left(\frac{1}{5}\right)$, recognizing this product as $\frac{6}{5}$. (In general, $n \times \left(\frac{a}{b}\right) = \frac{(n \times a)}{b}$.)</p> <p>MAFS.4.NF.2.4c Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat $\frac{3}{8}$ of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?</p>	
Assessment Limits	Fractions will only be multiplied by a whole number. Limit denominators to 2, 3, 4, 5, 6, 8, 10, 12, 100.	
Calculator	None	
Acceptable Response Mechanisms	Equation Response Graphic Response – Drag and Drop, Drawing/Graphing, Hot Spot Multiple Choice Response Multi-Select Response	
Context	Allowable	
Example		
Context	Any mathematical problem or situational context that involves multiplying a fraction by a whole number. Multiplying a fraction by a one-digit whole number with products limited to improper fractions. Multiplying a fraction by a two-digit whole number with products limited to proper fractions.	
Context easier	Multiplying a fraction by a one-digit whole number with products limited to proper fractions.	
Context more difficult	Multiplying a fraction by a two-digit whole number with products limited to improper fractions.	

Sample Item Stem	Response Mechanism	Notes, Comments
<p>An equation is shown.</p> $3 \times \square = \frac{3}{4}$ <p>What is the missing number?</p>	Equation Response	
<p>An expression is shown.</p> $\frac{2}{3} \times 5$ <p>What is the value of the expression?</p>	Equation Response	
<p>An equation is shown.</p> $11 \times \square = \frac{55}{10}$ <p>What is the missing number?</p>	Equation Response	
<p>An expression is shown.</p> $\frac{1}{3} \times 5$ <p>Click on sections of the rectangles to model the expression.</p> 	Graphic Response – Hot Spot	
<p>Seth uses a bowl to fill a container with soil. The bowl holds $\frac{3}{4}$ cup of soil.</p> <p>How many cups of soil does the container hold if it takes 13 full bowls of soil to fill it?</p>	Equation Response	