

<p>Task Model 1</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 2</p> <p>6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p>Evidence Required: 1. The student interprets quotients of fractions using visual fraction models, equations, and the relationship between multiplication and division.</p> <p>Tools: None</p> <p>Version 3 Update: Retired TM1a, TM1b, and TM1c.</p>	<p>Prompt Features: The student is prompted to recognize and use the relationship between multiplication and division.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> • All fractions should be positive. • Item difficulty can be adjusted via these example methods: <ul style="list-style-type: none"> ○ Students find an unknown number in a division problem. ○ Students find an unknown dividend in a given equation involving division of two fractions. ○ Students find an unknown divisor in a given equation involving division of two fractions. <p>TM1d Stimulus: The student is presented with a quotient equation with an unknown fraction or number.</p> <p>Example Stem 1: The equation shown has an unknown number.</p> $\square \div \frac{2}{3} = \frac{3}{4}$ <p>Enter a number that makes the equation true.</p> <p>Example Stem 2: The equation shown has an unknown number.</p> $\frac{2}{3} \div \square = \frac{6}{8}$ <p>Enter a number that makes the equation true.</p> <p>Rubric: (1 point) Student enters the correct fraction (e.g., $\frac{1}{2}$; $\frac{8}{9}$ or equivalent value).</p> <p>Response Type: Equation/Numeric</p>
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<p>Task Model 2</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 1</p> <p>6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p>Evidence Required: 2. The student solves real-world and mathematical one-step problems involving division of fractions by fractions.</p> <p>Tools: None</p> <p>Version 3 Update: Added more example stems to TM2b and added new TM2c.</p>	<p>Prompt Features: The student is prompted to solve a one-step mathematical or real-world problem involving division of fractions by fractions.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> Context should be familiar to students 11 to 13 years old. Numbers used could be positive fractions and/or mixed numbers. Answers should be appropriate for the context. Item difficulty can be adjusted via these example methods: <ul style="list-style-type: none"> Students solve a problem involving division of two fractions (no mixed numbers). Students solve a problem involving division of two fractions (at least one mixed number). divide two fractions (at least one mixed number). Do not allow operation symbols in the response keypad. <p>TM2a Stimulus: The student is is asked to compute the quotient of two fractions.</p> <p>Example Stem 1: What is the value of $\frac{2}{3} \div \frac{3}{4}$?</p> <p>Example Stem 2: What is the value of $2\frac{2}{3} \div \frac{3}{4}$?</p> <p>Rubric: (1 point) Student enters a whole number, mixed number, or fraction equivalent to the correct quotient (e.g., $\frac{8}{9}$; $3\frac{5}{9}$).</p> <p>Response Type: Equation/Numeric</p> <p>TM2b Stimulus: The student is presented with a real-world one-step problem involving division of fractions by fractions.</p> <p>Example Stem 1: A recipe requires $\frac{3}{4}$ cup of nuts for 1 batch of muffins.</p> <p>Enter the number of batches of muffins that can be made using $7\frac{1}{2}$ cups of nuts.</p> <p>Example Stem 2: Nina used $3\frac{3}{4}$ liters of water to completely fill 3 water bottles.</p> <p>If the water bottles are all the same size, how many liters of water does each bottle hold? Enter your answer in the response box.</p>
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Grade 6 Mathematics Item Specification C1 TB

	<p>Example Stem 3: Joey made $\frac{1}{2}$ of a recipe and used $\frac{3}{4}$ cups of peas.</p> <p>How many cups of peas are required for a whole recipe? Enter your answer in the response box.</p> <p>Rubric: (1 point) Student enters the correct quotient (e.g., 10; $1\frac{1}{4}$ or $\frac{5}{4}$; $1\frac{1}{2}$ or $\frac{6}{4}$ or equivalents).</p> <p>Response Type: Equation/Numeric</p>
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<p>Task Model 2</p> <p>Response Type: Multiple choice, multiple select response</p> <p>DOK Level 2</p> <p>6.NS.A.1 Interpret and compute quotients of fractions, and solve word problems involving division of fractions by fractions, e.g., by using visual fraction models and equations to represent the problem.</p> <p>Evidence Required: 1. The student interprets quotients of fractions using visual fraction models, equations, and the relationship between multiplication and division.</p> <p>Tools: None</p> <p>Version 3 Update: Added new TM2c</p>	<p>Prompt Features: The student is prompted to interpret fraction division in a context.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> Context should be familiar to students 11 to 13 years old. Numbers used could be positive fractions and/or mixed numbers. Item difficulty can be adjusted via these example methods: <ul style="list-style-type: none"> by including different combinations of whole numbers, fractions less than 1, fractions greater than 1, mixed numbers as dividend, divisor, and quotient. <p>TM2c Stimulus: The student is asked to interpret fraction division in a context.</p> <p>Example Stem 1: Select all the questions that can be answered by determining the value of $1\frac{3}{4} \div \frac{1}{2}$?</p> <p>A. Chloe has $1\frac{3}{4}$ kilograms of rice she is using to fill $\frac{1}{2}$ kilogram packets. How many packets can she fill?</p> <p>B. Terry ran $1\frac{3}{4}$ miles. This is $\frac{1}{2}$ the distance that Kim ran. What is the distance, in miles, that Kim ran?</p> <p>C. Danielle has a cat who is $1\frac{3}{4}$ years old. Her dog is $\frac{1}{2}$ that age. How old is her dog?</p> <p>D. Jeri had $1\frac{3}{4}$ pounds of gummi worms, which she shared equally with her best friend. How many pounds of gummi worms did they each get?</p> <p>Rubric: (1 point) The student selects all of the contexts that can be represented by the given quotient (e.g., A, B).</p> <p>Response Type: Multiple choice, multiple select response</p>
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