

**Claim 1: Concepts and Procedures**

Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency.

Content Domain: **Number and Operations—Fractions**

**Target F [m]:** Apply and extend previous understandings of multiplication and division to multiply and divide fractions. (DOK 1, 2)

Tasks for this target will ask students to multiply and divide fractions, including division of whole numbers where the answer is expressed by a fraction or mixed number. Division tasks should be limited to those that focus on dividing a unit fraction by a whole number or whole number by a unit fraction. Extended tasks posed as real-world problems related to this target will be assessed with targets from Claim 2 and Claim 4.

Other tasks will ask students to find the area of a rectangle with fractional side lengths or use technology-enhanced items to build visual models of multiplication and/or division of fractions, where the student is able to partition and shade circles or rectangles as part of an explanation. Students' ability to interpret multiplication as scaling will be assessed with the targets for Claim 3.

Standards:

5.NF.B, 5.NF.B.3,  
5.NF.B.4, 5.NF.B.4a,  
5.NF.B.4b, 5.NF.B.5,  
5.NF.B.5a, 5.NF.B.5b,  
5.NF.B.6, 5.NF.B.7,  
5.NF.B.7a, 5.NF.B.7b,  
5.NF.B.7c

**5.NF.B Apply and extend previous understandings of multiplication and division to multiply and divide fractions.**

**5.NF.B.3** Interpret a fraction as division of the numerator by the denominator ( $a/b = a \div b$ ). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. *For example, interpret  $3/4$  as the result of dividing 3 by 4, noting that  $3/4$  multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size  $3/4$ . If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?*

**5.NF.B.4** Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.

**a.** Interpret the product  $(a/b) \times q$  as  $a$  parts of a partition of  $q$  into  $b$  equal parts; equivalently, as the result of a sequence of operations  $a \times q \div b$ . *For example, use a visual fraction model to show  $(2/3) \times 4 = 8/3$ , and create a story context for this equation. Do the same with  $(2/3) \times (4/5) = 8/15$ . (In general,  $(a/b) \times (c/d) = ac/bd$ .)*

**b.** Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

	<p><b>5.NF.B.5</b> Interpret multiplication as scaling (resizing), by:</p> <p><b>a.</b> Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p><b>b.</b> Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence <math>a/b = (n \times a)/(n \times b)</math> to the effect of multiplying <math>a/b</math> by 1.</p> <p><b>5.NF.B.6</b> Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p><b>5.NF.B.7</b> Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.</p> <p><b>a.</b> Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. <i>For example, create a story context for <math>(1/3) \div 4</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>(1/3) \div 4 = 1/12</math> because <math>(1/12) \times 4 = 1/3</math>.</i></p> <p><b>b.</b> Interpret division of a whole number by a unit fraction, and compute such quotients. <i>For example, create a story context for <math>4 \div (1/5)</math>, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that <math>4 \div (1/5) = 20</math> because <math>20 \times (1/5) = 4</math>.</i></p> <p><b>c.</b> Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share <math>1/2</math> lb of chocolate equally? How many <math>1/3</math>-cup servings are in 2 cups of raisins?</i></p>
<p>Related Below-Grade and Above-Grade Standards for Purposes of Planning for Vertical Scaling:</p> <p>4.NF.B, 4.NF.B.4, 4.NF.B.4a, 4.NF.B.4b, 4.NF.B.4c</p> <p>6.NS.A, 6.NS.A.1</p>	<p><b>Related Grade 4 Standards</b></p> <p><b>4.NF.B Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.</b></p> <p><b>4.NF.B.4</b> Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.</p> <p><b>a.</b> Understand a fraction <math>a/b</math> as a multiple of <math>1/b</math>. <i>For example, use a visual fraction model to represent <math>5/4</math> as the product <math>5 \times (1/4)</math>, recording the conclusion by the equation <math>5/4 = 5 \times (1/4)</math>.</i></p> <p><b>b.</b> Understand a multiple of <math>a/b</math> as a multiple of <math>1/b</math>, and use this understanding to multiply a fraction by a whole number. <i>For example, use a visual fraction model to express <math>3 \times (2/5)</math> as <math>6 \times</math></i></p>

	<p><math>(1/5)</math>, recognizing this product as <math>6/5</math>. (In general, <math>n \times (a/b) = (n \times a)/b</math>.)</p> <p>c. 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. <i>For example, if each person at a party will eat <math>3/8</math> 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?</i></p> <p><b>Related Grade 6 Standards</b></p> <p><b>6.NS.A Apply and extend previous understandings of multiplication and division to divide fractions by fractions.</b></p> <p><b>6.NS.A.1</b> 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. <i>For example, create a story context for <math>(2/3) \div (3/4)</math> and use a visual fraction model to show the quotient; use the relationship between multiplication and division to explain that <math>(2/3) \div (3/4) = 8/9</math> because <math>3/4</math> of <math>8/9</math> is <math>2/3</math>. (In general, <math>(a/b) \div (c/d) = ad/bc</math>.)</i> How much chocolate will each person get if 3 people share <math>1/2</math> lb of chocolate equally? How many <math>3/4</math>-cup servings are in <math>2/3</math> of a cup of yogurt? How wide is a rectangular strip of land with length <math>3/4</math> mi and area <math>1/2</math> square mi?</p>
DOK Level(s):	1, 2
<b>Achievement LEVEL Descriptors:</b>	
<p><b>RANGE Achievement Level Descriptors (Range ALD)</b></p> <p>Target F: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.</p>	<p><b>Level 1</b> Students should be able to apply their previous understandings of multiplication to multiply a fraction by a fraction; know the effect that whole number multiplication has on fractions; use or create visual models when multiplying a whole number by a fraction between 0 and 1; and interpret and perform division of a whole number by <math>1/2</math> or <math>1/3</math>.</p> <p><b>Level 2</b> Students should be able to multiply a whole number by a mixed number; know the effect that a fraction greater than or less than 1 has on a whole number when multiplied; use or create visual models when multiplying two fractions between 0 and 1; extend their previous understandings of division to divide a unit fraction by a whole number; and understand that division of whole numbers can result in fractions.</p> <p><b>Level 3</b> Students should be able to multiply a mixed number by a mixed number; know the effect that a fraction has on another fraction when multiplied (proper and improper fractions); use or create visual models when multiplying two fractions, including when one fraction is larger than 1; and interpret and perform division of any unit fraction by a whole number.</p> <p><b>Level 4</b> Students should be able to understand and use the fact that a fraction multiplied by 1 in the form of <math>a/a</math> is equivalent to the original fraction.</p>

Evidence Required:	<ol style="list-style-type: none"> <li>1. The student interprets a fraction as division of the numerator by the denominator.</li> <li>2. The student solves problems involving division of whole numbers leading to quotients in the form of fractions or mixed numbers, with or without fraction models.</li> <li>3. The student multiplies a fraction or whole number by a fraction.</li> <li>4. The student multiplies fractional side lengths to find areas of rectangles.</li> <li>5. The student compares the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</li> <li>6. The student solves real-world problems involving multiplication of fractions and mixed numbers, with or without visual fraction models.</li> <li>7. The student solves real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, with or without visual fraction models.</li> </ol>
Allowable Response Types:	Multiple Choice, single correct response; Equation/Numeric
Allowable Stimulus Materials:	visual fraction models (circles, rectangles, tape diagrams, number lines)
Construct-Relevant Vocabulary:	fraction, equivalent, denominator, numerator, sum, difference, product, mixed number
Allowable Tools:	fraction modeling tool
Target-Specific Attributes:	Division tasks should be limited to those dividing a unit fraction (written $1/a$ , such that $a$ is any non-zero whole number) by a whole number or a whole number by a unit fraction.
Non-Targeted Constructs:	None

Accessibility Guidance:	<p>Item writers should consider the following Language and Visual Element/Design guidelines<sup>1</sup> when developing items.</p> <p>Language Key Considerations:</p> <ul style="list-style-type: none"> <li>• Use simple, clear, and easy-to-understand language needed to assess the construct or aid in the understanding of the context</li> <li>• Avoid sentences with multiple clauses</li> <li>• Use vocabulary that is at or below grade level</li> <li>• Avoid ambiguous or obscure words, idioms, jargon, unusual names and references</li> </ul> <p>Visual Elements/Design Key Considerations:</p> <ul style="list-style-type: none"> <li>• Include visual elements only if the graphic is needed to assess the construct or it aids in the understanding of the context</li> <li>• Use the simplest graphic possible with the greatest degree of contrast, and include clear, concise labels where necessary</li> <li>• Avoid crowding of details and graphics</li> </ul> <p>Items are selected for a student's test according to the blueprint, which selects items based on Claims and targets, not task models. As such, careful consideration is given to making sure fully accessible items are available to cover the content of every Claim and target, even if some item formats are not fully accessible using current technology.<sup>2</sup></p>
Development Notes:	<p>The portion of this standard (5.NF.B) that requires student explanation and modeling will be assessed in Claim 3. Items posed as real-world problems related to this target will be assessed with targets from Claim 2 and Claim 4.</p> <p>Items asking the student to find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths (5.NF.B.4b) will be presented in Claim 2.</p>

<sup>1</sup> For more information, refer to the General Accessibility Guidelines at:

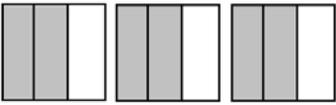
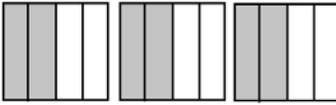
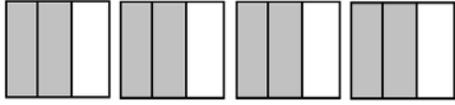
<http://www.smarterbalanced.org/wordpress/wp-content/uploads/2012/05/TaskItemSpecifications/Guidelines/AccessibilityandAccommodations/GeneralAccessibilityGuidelines.pdf>

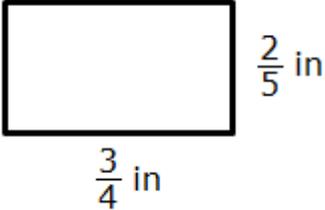
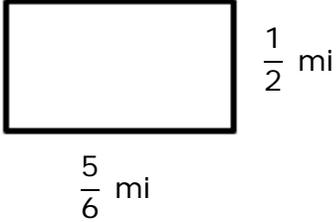
<sup>2</sup> For more information about student accessibility resources and policies, refer to

[http://www.smarterbalanced.org/wordpress/wp-content/uploads/2014/08/SmarterBalanced\\_Guidelines.pdf](http://www.smarterbalanced.org/wordpress/wp-content/uploads/2014/08/SmarterBalanced_Guidelines.pdf)

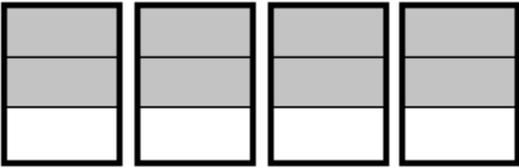
<p><b>Task Model 1</b></p> <p><b>Response Type:</b> <b>Multiple Choice, single correct response</b></p> <p><b>DOK Level 1</b></p> <p><b>5.NF.B.3</b> Interpret a fraction as division of the numerator by the denominator (<math>a/b = a \div b</math>). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret <math>3/4</math> as the result of dividing 3 by 4, noting that <math>3/4</math> multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size <math>3/4</math>. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p> <p><b>Evidence Required:</b> 1. The student interprets a fraction as division of the numerator by the denominator.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to interpret a fraction as division of the numerator by the denominator.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>Division tasks should be limited to those dividing a unit fraction (written <math>1/a</math>, such that <math>a</math> is any non-zero whole number) by a whole number or a whole number by a unit fraction.</li> </ul> <p><b>TM1a</b> <b>Stimulus:</b> The stem will present a fraction and ask for an equivalent expression for the fraction.</p> <p><b>Example Stem:</b> Which expression is equal to <math>\frac{3}{4}</math> ?</p> <p>A. <math>3 \times 4</math> B. <math>4 \times 3</math> C. <math>4 \div 3</math> D. <math>3 \div 4</math></p> <p><b>TM1b</b> <b>Stimulus:</b> The student is presented with a contextual division problem that will result in a fractional quotient.</p> <p><b>Example Stem:</b> An art teacher divided 22 ounces of beads equally among 6 groups of students.</p> <p>How many ounces of beads did each group receive?</p> <p>A. <math>\frac{1}{16}</math> ounce B. <math>\frac{1}{28}</math> ounce C. <math>\frac{6}{22}</math> ounce D. <math>\frac{22}{6}</math> ounces</p> <p><b>Rubric:</b> (1 point) The student identifies the correct fractional quotient (e.g., D; D).</p> <p><b>Response Type:</b> Multiple Choice, single correct response</p>
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<p><b>Task Model 2</b></p> <p><b>Response Type:</b> <b>Equation/Numeric</b></p> <p><b>DOK Level 1</b></p> <p><b>5.NF.B.3</b> Interpret a fraction as division of the numerator by the denominator (<math>a/b = a \div b</math>). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>For example, interpret <math>3/4</math> as the result of dividing 3 by 4, noting that <math>3/4</math> multiplied by 4 equals 3, and that when 3 wholes are shared equally among 4 people each person has a share of size <math>3/4</math>. If 9 people want to share a 50-pound sack of rice equally by weight, how many pounds of rice should each person get? Between what two whole numbers does your answer lie?</i></p> <p><b>Evidence Required:</b> 2. The student solves problems involving division of whole numbers leading to quotients in the form of fractions or mixed numbers, with or without fraction models.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to identify the solutions to problems involving quotients in the form of fractions or mixed numbers. The problems may or may not involve fraction models.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>Items should be limited to up to four-digit dividends and up to two-digit divisors.</li> </ul> <p><b>TM2</b> <b>Stimulus:</b> The student is presented with a real-world division problem.</p> <p><b>Example Stem:</b> John has 25 ounces of juice. He pours an equal amount of juice into 7 cups.</p> <p>Enter the number of ounces of juice in each cup.</p> <p><b>Rubric:</b> (1 point) The student correctly enters a fraction which represents a solution involving quotients (e.g., <math>\frac{25}{7}</math> or <math>3\frac{4}{7}</math>).</p> <p><b>Response Type:</b> Equation/Numeric</p>
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<p><b>Task Model 3</b></p> <p><b>Response Type:</b> <b>Multiple Choice, single correct response</b></p> <p><b>DOK Level 1</b></p> <p><b>5.NF.B.4</b> Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p><b>a.</b> Interpret the product <math>(a/b) \times q</math> as <math>a</math> parts of a partition of <math>q</math> into <math>b</math> equal parts; equivalently, as the result of a sequence of operations <math>a \times q \div b</math>. For example, use a visual fraction model to show <math>(2/3) \times 4 = 8/3</math>, and create a story context for this equation. Do the same with <math>(2/3) \times (4/5) = 8/15</math>. (In general, <math>(a/b) \times (c/d) = ac/bd</math>.)</p> <p><b>Evidence Required:</b> 3. The student multiplies a fraction or whole number by a fraction.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to identify a visual fraction model that best represents the product of a fraction and a whole number.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>Answer choices will present visual fraction models as either circles or rectangles.</li> </ul> <p><b>TM3</b> <b>Stimulus:</b> The student is presented with a multiplication problem involving a whole number and a fraction that includes fraction models.</p> <p><b>Example Stem:</b> Which fraction model best represents <math>4 \times \frac{2}{3}</math>?</p> <p>A. </p> <p>B. </p> <p>C. </p> <p>D. </p> <p><b>Rubric:</b> (1 point) The student identifies the correct fraction model for the given multiplication problem (e.g., C).</p> <p><b>Response Type:</b> Multiple Choice, single correct response</p>
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<p><b>Task Model 4</b></p> <p><b>Response Type:</b> Equation/Numeric</p> <p><b>DOK Level 2</b></p> <p><b>5.NF.B.4</b> Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p><b>b.</b> Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.</p> <p><b>Evidence Required:</b> 4. The student multiplies fractional side lengths to find areas of rectangles.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to identify the area of a given rectangle with fractional side lengths.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>The rectangle's fractional side lengths may be proper fractions or mixed numbers.</li> </ul> <p><b>TM4a</b> <b>Stimulus:</b> The student is presented with a rectangle with fractional side lengths.</p> <p><b>Example Stem:</b> Use this diagram to solve the problem.</p> <div style="text-align: center;">  </div> <p>Enter the area, in square inches, of the rectangle.</p> <p><b>TM4b</b> <b>Stimulus:</b> The student is presented with a contextual problem involving a rectangle with fractional side lengths.</p> <p><b>Example Stem:</b> Cherrytown Park is in the shape of a rectangle.</p> <ul style="list-style-type: none"> <li>The width of the park is <math>\frac{1}{2}</math> mile.</li> <li>The length of the park is <math>\frac{5}{6}</math> mile.</li> </ul> <div style="text-align: center;">  </div> <p>Enter the area, in square miles, of Cherrytown Park.</p> <p><b>Rubric:</b> (1 point) The student correctly finds the area of a given rectangle with fractional side length (e.g., <math>\frac{6}{20}</math>; <math>\frac{5}{12}</math>).</p> <p><b>Response Type:</b> Equation/Numeric</p>
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<p><b>Task Model 5</b></p> <p><b>Response Type:</b> <b>Equation/Numeric</b></p> <p><b>DOK Level 2</b></p> <p><b>5.NF.B.5</b> Interpret multiplication as scaling (resizing), by: <b>a.</b> Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p><b>Evidence Required:</b> 5. The student compares the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to identify the value of a factor that makes a given statement true.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>• Multiplication expression contains one whole number and one variable.</li> <li>• Range for correct product will either be between 0 and the given whole number, or between the given whole number and twice the given whole number.</li> </ul> <p><b>TM5a</b> <b>Stimulus:</b> The student is presented with a multiplication expression and the range from 0 to the whole number.</p> <p><b>Example Stem:</b> Enter a value for <math>b</math> that makes this statement true: <math>5 \times b</math> is less than 5 but greater than 0.</p> <p><b>TM5b</b> <b>Stimulus:</b> The student is presented with a multiplication expression and the range from the whole number to twice the whole number.</p> <p><b>Example Stem:</b> Enter a value for <math>b</math> that makes this statement true: <math>5 \times b</math> is greater than 5 but less than 10.</p> <p><b>Rubric:</b> (1 point) The student enters a correct value in the given range (e.g., <math>\frac{1}{2}</math>; <math>1\frac{1}{2}</math>).</p> <p><b>Response Type:</b> Equation/Numeric</p>
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<p><b>Task Model 6</b></p> <p><b>Response Type:</b> Equation/Numeric</p> <p><b>DOK Level 2</b></p> <p><b>5.NF.B.6</b> Solve real-world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.</p> <p><b>Evidence Required:</b> 6. The student solves real-world problems involving multiplication of fractions and mixed numbers, with or without visual fraction models.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to solve real-world problems involving multiplication of a fraction and a mixed number, with or without visual fraction models.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>Items with models do not use a partition of 1 in the model, and all models must include the same number of shaded partitions.</li> <li>Item difficulty can be adjusted via this example method:             <ul style="list-style-type: none"> <li>The product is a whole number, fraction, or mixed number</li> </ul> </li> </ul> <p><b>TM6a</b> <b>Stimulus:</b> The student is presented with a real-world context multiplication problem involving a fraction and a mixed number.</p> <p><b>Example Stem:</b> Julie bikes <math>6\frac{2}{3}</math> miles along the river trail on Saturday. Greg swims <math>\frac{3}{4}</math> of that distance. Enter the distance, in miles, that Greg swims.</p> <p><b>TM6b</b> <b>Stimulus:</b> The student is presented with a real-world context multiplication problem involving a fraction and a whole number, including a visual model.</p> <p><b>Example Stem:</b> Lisa is painting her kitchen and bathroom.</p> <ul style="list-style-type: none"> <li>She uses 4 gallons of paint in the kitchen.</li> <li>She uses <math>\frac{2}{3}</math> of that amount in the bathroom.</li> <li>The shaded portions in this model represent the amount of paint she uses in the bathroom.</li> </ul> <div style="text-align: center;">  </div> <p>Enter the amount of paint, in gallons, Lisa uses in the bathroom.</p> <p><b>Rubric:</b> (1 point) The student correctly enters the solution (e.g., 5 or <math>\frac{60}{12}</math>; <math>\frac{8}{3}</math> or <math>2\frac{2}{3}</math>).</p> <p><b>Response Type:</b> Equation/Numeric</p>
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<p><b>Task Model 7</b></p> <p><b>Response Type:</b> Equation/Numeric</p> <p><b>DOK Level 1</b></p> <p><b>5.NF.B.7</b> Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions. c. Solve real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g., by using visual fraction models and equations to represent the problem. <i>For example, how much chocolate will each person get if 3 people share <math>\frac{1}{2}</math> lb of chocolate equally? How many <math>\frac{1}{3}</math>-cup servings are in 2 cups of raisins?</i></p> <p><b>Evidence Required:</b> 7. The student solves real-world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, with or without visual fraction models.</p> <p><b>Tools:</b> None</p>	<p><b>Prompt Features:</b> The student is prompted to solve real-world problems involving division of a unit fraction by a non-zero whole number or a non-zero whole number by a unit fraction, with or without visual fraction models.</p> <p><b>Stimulus Guidelines:</b></p> <ul style="list-style-type: none"> <li>The wording of the item indicates that the quantity is being divided. Item includes terms such as “divides,” “portions,” “distributes,” etc.</li> </ul> <p><b>TM7</b> <b>Stimulus:</b> The student is presented with a real-world context division problem involving a unit fraction and a whole number.</p> <p><b>Example Stem:</b> Ryan has <math>\frac{1}{2}</math> pound of chocolate. He divides it into 4 equal portions.</p> <p>Enter the amount of chocolate, in pounds, in each portion.</p> <p><b>Rubric:</b> (1 point) The student correctly enters the solution to the division problem (e.g., <math>\frac{1}{8}</math>).</p> <p><b>Response Type:</b> Equation/Numeric</p>
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