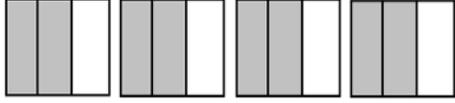
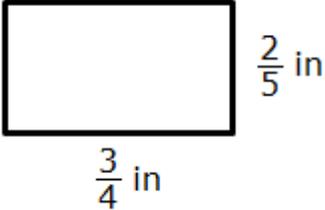
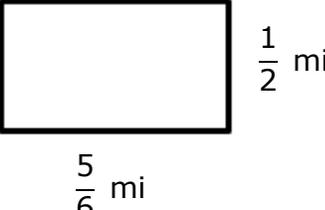


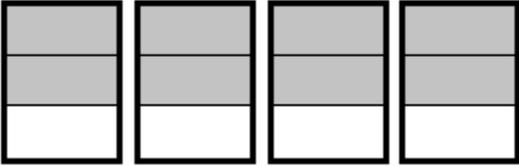
<p>Task Model 1</p> <p>Response Type: Multiple Choice, single correct response</p> <p>DOK Level 1</p> <p>5.NF.B.3 Interpret a fraction as division of the numerator by the denominator ($a/b = a \div b$). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem. <i>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?</i></p> <p>Evidence Required: 1. The student interprets a fraction as division of the numerator by the denominator.</p> <p>Tools: None</p>	<p>Prompt Features: The student is prompted to interpret a fraction as division of the numerator by the denominator.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> 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. <p>TM1a Stimulus: The stem will present a fraction and ask for an equivalent expression for the fraction.</p> <p>Example Stem: Which expression is equal to $\frac{3}{4}$?</p> <p>A. 3×4 B. 4×3 C. $4 \div 3$ D. $3 \div 4$</p> <p>TM1b Stimulus: The student is presented with a contextual division problem that will result in a fractional quotient.</p> <p>Example Stem: 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. $\frac{1}{16}$ ounce B. $\frac{1}{28}$ ounce C. $\frac{6}{22}$ ounce D. $\frac{22}{6}$ ounces</p> <p>Rubric: (1 point) The student identifies the correct fractional quotient (e.g., D; D).</p> <p>Response Type: Multiple Choice, single correct response</p>
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<p>Task Model 2</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 1</p> <p>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. <i>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?</i></p> <p>Evidence Required: 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>Tools: None</p>	<p>Prompt Features: 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>Stimulus Guidelines:</p> <ul style="list-style-type: none"> Items should be limited to up to four-digit dividends and up to two-digit divisors. <p>TM2 Stimulus: The student is presented with a real-world division problem.</p> <p>Example Stem: 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>Rubric: (1 point) The student correctly enters a fraction which represents a solution involving quotients (e.g., $\frac{25}{7}$ or $3\frac{4}{7}$).</p> <p>Response Type: Equation/Numeric</p>
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<p>Task Model 3</p> <p>Response Type: Multiple Choice, single correct response</p> <p>DOK Level 1</p> <p>5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>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, $(a/b) \times (c/d) = ac/bd$.)</p> <p>Evidence Required: 3. The student multiplies a fraction or whole number by a fraction.</p> <p>Tools: None</p>	<p>Prompt Features: The student is prompted to identify a visual fraction model that best represents the product of a fraction and a whole number.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> Answer choices will present visual fraction models as either circles or rectangles. <p>TM3 Stimulus: The student is presented with a multiplication problem involving a whole number and a fraction that includes fraction models.</p> <p>Example Stem: Which fraction model best represents $4 \times \frac{2}{3}$?</p> <p>A. </p> <p>B. </p> <p>C. </p> <p>D. </p> <p>Rubric: (1 point) The student identifies the correct fraction model for the given multiplication problem (e.g., C).</p> <p>Response Type: Multiple Choice, single correct response</p>
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<p>Task Model 4</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 2</p> <p>5.NF.B.4 Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.</p> <p>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>Evidence Required: 4. The student multiplies fractional side lengths to find areas of rectangles.</p> <p>Tools: None</p>	<p>Prompt Features: The student is prompted to identify the area of a given rectangle with fractional side lengths.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> The rectangle's fractional side lengths may be proper fractions or mixed numbers. <p>TM4a Stimulus: The student is presented with a rectangle with fractional side lengths.</p> <p>Example Stem: Use this diagram to solve the problem.</p>  <p>Enter the area, in square inches, of the rectangle.</p> <p>TM4b Stimulus: The student is presented with a contextual problem involving a rectangle with fractional side lengths.</p> <p>Example Stem: Cherrytown Park is in the shape of a rectangle.</p> <ul style="list-style-type: none"> The width of the park is $\frac{1}{2}$ mile. The length of the park is $\frac{5}{6}$ mile.  <p>Enter the area, in square miles, of Cherrytown Park.</p> <p>Rubric: (1 point) The student correctly finds the area of a given rectangle with fractional side length (e.g., $\frac{6}{20}$; $\frac{5}{12}$).</p> <p>Response Type: Equation/Numeric</p>
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<p>Task Model 5</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 2</p> <p>5.NF.B.5 Interpret multiplication as scaling (resizing), by: a. 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>Evidence Required: 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>Tools: None</p>	<p>Prompt Features: The student is prompted to identify the value of a factor that makes a given statement true.</p> <p>Stimulus Guidelines:</p> <ul style="list-style-type: none"> • Multiplication expression contains one whole number and one variable. • 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. <p>TM5a Stimulus: The student is presented with a multiplication expression and the range from 0 to the whole number.</p> <p>Example Stem: Enter a value for b that makes this statement true: $5 \times b$ is less than 5 but greater than 0.</p> <p>TM5b Stimulus: The student is presented with a multiplication expression and the range from the whole number to twice the whole number.</p> <p>Example Stem: Enter a value for b that makes this statement true: $5 \times b$ is greater than 5 but less than 10.</p> <p>Rubric: (1 point) The student enters a correct value in the given range (e.g., $\frac{1}{2}$, $1\frac{1}{2}$).</p> <p>Response Type: Equation/Numeric</p>
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<p>Task Model 6</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 2</p> <p>5.NF.B.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.</p> <p>Evidence Required: 6. The student solves real-world problems involving multiplication of fractions and mixed numbers, with or without visual fraction models.</p> <p>Tools: None</p>	<p>Prompt Features: 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>Stimulus Guidelines:</p> <ul style="list-style-type: none"> Items with models do not use a partition of 1 in the model, and all models must include the same number of shaded partitions. Item difficulty can be adjusted via this example method: <ul style="list-style-type: none"> The product is a whole number, fraction, or mixed number <p>TM6a Stimulus: The student is presented with a real-world context multiplication problem involving a fraction and a mixed number.</p> <p>Example Stem: Julie bikes $6\frac{2}{3}$ miles along the river trail on Saturday. Greg swims $\frac{3}{4}$ of that distance. Enter the distance, in miles, that Greg swims.</p> <p>TM6b Stimulus: The student is presented with a real-world context multiplication problem involving a fraction and a whole number, including a visual model.</p> <p>Example Stem: Lisa is painting her kitchen and bathroom.</p> <ul style="list-style-type: none"> She uses 4 gallons of paint in the kitchen. She uses $\frac{2}{3}$ of that amount in the bathroom. The shaded portions in this model represent the amount of paint she uses in the bathroom. <div style="text-align: center;">  </div> <p>Enter the amount of paint, in gallons, Lisa uses in the bathroom.</p> <p>Rubric: (1 point) The student correctly enters the solution (e.g., 5 or $\frac{60}{12}$; $\frac{8}{3}$ or $2\frac{2}{3}$).</p> <p>Response Type: Equation/Numeric</p>
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<p>Task Model 7</p> <p>Response Type: Equation/Numeric</p> <p>DOK Level 1</p> <p>5.NF.B.7 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 $\frac{1}{2}$ lb of chocolate equally? How many $\frac{1}{3}$-cup servings are in 2 cups of raisins?</i></p> <p>Evidence Required: 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>Tools: None</p>	<p>Prompt Features: 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>Stimulus Guidelines:</p> <ul style="list-style-type: none"> The wording of the item indicates that the quantity is being divided. Item includes terms such as “divides,” “portions,” “distributes,” etc. <p>TM7 Stimulus: The student is presented with a real-world context division problem involving a unit fraction and a whole number.</p> <p>Example Stem: Ryan has $\frac{1}{2}$ pound of chocolate. He divides it into 4 equal portions.</p> <p>Enter the amount of chocolate, in pounds, in each portion.</p> <p>Rubric: (1 point) The student correctly enters the solution to the division problem (e.g., $\frac{1}{8}$).</p> <p>Response Type: Equation/Numeric</p>
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