

Mid-Module Assessment Task Standards Addressed

Topics A–C

Develop understanding of fractions as numbers.

- 3.NF.1** Understand a fraction $1/b$ as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size $1/b$.
- 3.NF.3** Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.
- d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual fraction model.

Reason with shapes and their attributes.

- 3.G.2** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole. *For example, partition a shape into 4 parts with equal area, and describe the area of each part as $1/4$ of the area of the shape.*

Evaluating Student Learning Outcomes

A Progression Toward Mastery is provided to describe steps that illuminate the gradually increasing understandings that students develop *on their way to proficiency*. In this chart, this progress is presented from left (Step 1) to right (Step 4). The learning goal for students is to achieve Step 4 mastery. These steps are meant to help teachers and students identify and celebrate what the students CAN do now and what they need to work on next.

A Progression Toward Mastery

| Assessment Task Item and Standards Assessed | STEP 1 Little evidence of reasoning without a correct answer. (1 Point) | STEP 2 Evidence of some reasoning without a correct answer. (2 Points) | STEP 3 Evidence of some reasoning with a correct answer or evidence of solid reasoning with an incorrect answer. (3 Points) | STEP 4 Evidence of solid reasoning with a correct answer. (4 Points) |
|---|---|---|--|--|
| 1 3.NF.1 | The student has one answer correct. | The student has two answers correct. | The student answers Parts (b) through (d) correctly but answers Part (a) with a fractional answer or has answered one of the four questions incorrectly or incompletely. | The student correctly: a. Identifies how many parts the whole is divided into—8. b. Labels each unit fraction as $\frac{1}{8}$. c. Identifies the fraction shaded $\frac{3}{8}$. d. Identifies the fraction unshaded $\frac{5}{8}$. |
| 2 3.G.2 | The student is unable to answer either question correctly. | The student is unable to shade a fraction greater than 1 but answers Part (b) correctly. | The student answers Part (a) correctly but does not seem to understand Part (b). | The student correctly: a. Shows two rectangles divided into thirds with a fraction greater than $\frac{3}{3}$ shaded. b. Writes a number bond with the whole as 1 or $\frac{3}{3}$ and $\frac{1}{3}$, $\frac{1}{3}$, and $\frac{1}{3}$ as the parts. |
| 3 3.NF.3d 3.G.2 | The student's work shows no evidence of being able to partition the cakes into fractional units to make sense of the problem. | The student has poorly represented the cakes, making it difficult to compare the fractions. The student incorrectly states that Mrs. Ramirez bought the larger piece. | The student draws two equivalent cakes and realizes Mr. Chu has the larger piece, but the explanation is not clear, perhaps poorly labeled, lacking a statement of the solution. | The student clearly: Explains that Mr. Chu bought the larger piece of cake using words, pictures, and numbers. |

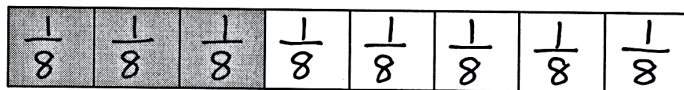


A Progression Toward Mastery

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| <p>4</p> <p>3.NF.1</p> <p>3.NF.3d</p> <p>3.G.2</p> | <p>The student is unable to recognize or show that he recognizes either fraction in the model.</p> | <p>The student recognizes 3 fourths but is unable to recognize 3 halves within the picture or vice versa.</p> | <p>The student is able to recognize 3 fourths and 3 halves within the same picture, which is clear perhaps by markings on the strip, but the explanation lacks clarity.</p> | <p>The student clearly:</p> <p>a. Uses words, pictures, and numbers to explain how the picture can be interpreted either as 4 halves with $\frac{3}{2}$ shaded, with the whole being defined by the middle line of the strip, <i>or</i> as 4 fourths with $\frac{3}{4}$ shaded, with the whole being defined by the entire strip.</p> <p>b. Uses word, pictures, and numbers to explain that Natalie is not correct because the whole is different for each fractional unit.</p> |
|--|--|---|---|--|

Name Gina

Date _____



1. Natalie folded 1 whole fraction strip as pictured above.

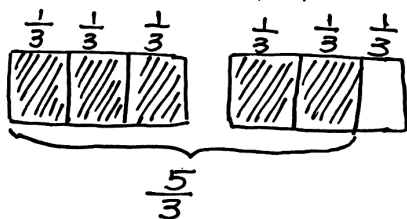
a. How many equal parts did she divide the whole into? 8 equal parts

b. Label each equal part with a unit fraction.

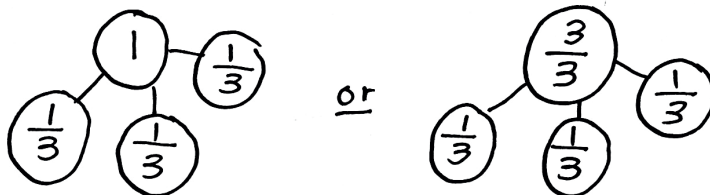
c. Identify the fraction of the strip she shaded. $\frac{3}{8}$ d. Identify the fraction of the strip she did not shade. $\frac{5}{8}$

2. Draw 2 rectangles the same size. Each rectangle represents 1 whole.

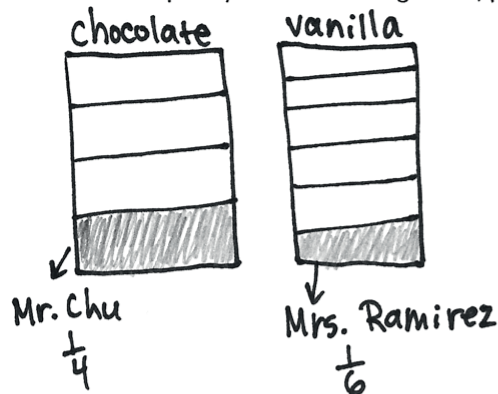
a. Partition each rectangle into 3 equal parts. Shade and label a fraction greater than 1.



b. Draw a number bond that shows 1 whole rectangle as 3 unit fractions.

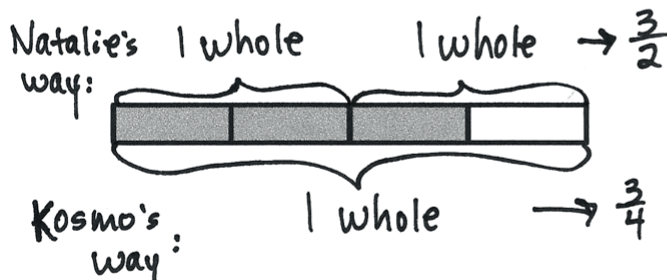


3. The bakery had a chocolate cake and a vanilla cake that were exactly the same size. Mr. Chu bought $\frac{1}{4}$ of the chocolate cake. Mrs. Ramirez bought $\frac{1}{6}$ of the vanilla cake. Who bought a larger piece of cake? Explain your answer using words, pictures, and numbers.



Mr. Chu bought a larger piece of cake because $\frac{1}{4} > \frac{1}{6}$. Fourths have fewer equal parts, so each piece is bigger.

4. Natalie explained, "My drawing shows a picture of $\frac{3}{2}$." Kosmo says, "It looks like a picture of $\frac{3}{4}$ to me."
- a. Show and explain how they could both be correct by choosing different wholes. Use words, pictures, and numbers.



They can both be right. It depends on the whole and they don't know what it is.

- b. Natalie said to Kosmo, "One part can represent either 1 half or 1 fourth. That must mean $\frac{1}{2} = \frac{1}{4}$." Do you agree with Natalie? Use words, pictures, and numbers to explain your reasoning.

Natalie is wrong because the wholes are not the same size. The wholes have to be the same size to compare fractions.

Natalie's whole:



Kosmo's whole:

