Fraction Equivalence 2: Number lines and discrete models

CCSS.MATH.CONTENT.3.NF.A.2
Understand a fraction as a number on the number line; represent fractions on a number line diagram.

> CCSS.MATH.CONTENT.3.NF.A.2.A
> Represent a fraction 1/*b* on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into *b* equal parts. Recognize that each part has size 1/*b* and that the endpoint of the part based at 0 locates the number 1/*b* on the number line.
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> CCSS.MATH.CONTENT.3.NF.A.2.B
> Represent a fraction *a*/*b* on a number line diagram by marking off a lengths 1/*b* from 0. Recognize that the resulting interval has size *a*/*b* and that its endpoint locates the number *a*/*b* on the number line.

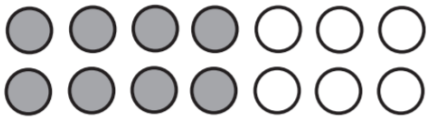
CCSS.MATH.CONTENT.4.NF.A.1
Explain why a fraction *a*/*b* is equivalent to a fraction $(n \times a)/(n \times b)$ by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Do this assignment on another sheet of paper (do not try to fit all of your explanations into the margins of this page.

1. Draw a number line model that shows $\frac{5}{3} = \frac{10}{6}$. Explain in words how to see multiplication ideas in your picture.

2. Draw 2 discrete (chip) models for $\frac{3}{5}$. Explain in words: how are the models the same? How are they different?

3. a. There are 2 different fraction names that make sense for the fraction of the chips that are light in this picture. Write an equation telling the 2 equivalent fractions



b. Explain in words why these are both correct fraction names.

4. Write an in-words explanation of how to make sense of $2\frac{1}{3}$ as an improper fraction using a fraction circle model.

5. Write an in-words explanation of how to make sense of $\frac{17}{5}$ as a mixed number using a fraction circle model.

6. Write an in-words explanation of how to make sense of $2\frac{1}{3}$ as an improper fraction using a number line model.

7. Write an in-words explanation of how to make sense of $\frac{17}{5}$ as a mixed number using a number line model.