Fractions as Numbers on the Number Line

Guide for using Rich Lehrer's Measurement Units as a resource.

- In looking at unit 6, it was apparent that children are going to have to reason about fractions using two different models (area models and number lines). This resource specifically addresses number lines, not area models. (changed around)

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

- 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.
- 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.

  *In other words:

  Represent a fraction ¼ on a number line diagram by marking off a length ¼ from 0. Recognize that the resulting interval has size ¼ and that its endpoint locates the number ¼ on the number line.

  - Unit 4 Personal Unit Tape Measure
  - Unit 5 Thinking About Scale

3.NF.3. Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.

- Understand two fractions as equivalent (equal) if they are the same size, or the same point on a number line.
- Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers. *Examples: Express 3 in the form 3 = 3/1; recognize that 6/1 = 6; locate 4/4 and 1 at the same point of a number line diagram.*
  - Unit 6 Revisiting Compositions of 2-Splits and Exploring Equivalence with Standard Units