



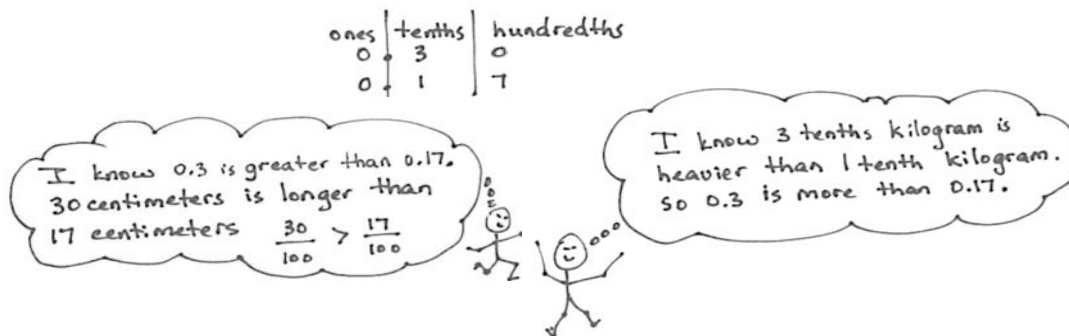
## Topic C

## Decimal Comparison

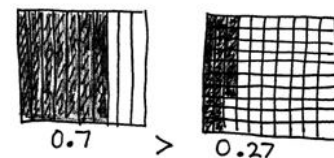
## 4.NF.7, 4.MD.1, 4.MD.2

<b>Focus Standard:</b>	4.NF.7	Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$ , $=$ , or $<$ , and justify the conclusions, e.g., by using a visual model.
<b>Instructional Days:</b>	3	
<b>Coherence -Links from:</b>	G3–M5	Fractions as Numbers on the Number Line
<b>-Links to:</b>	G5–M1	Place Value and Decimal Fractions

The focus of Topic C is comparison of decimal numbers. In Lesson 9, students compare pairs of decimal numbers representing lengths, masses, or volumes by recording them on the place value chart and reasoning about which measurement is longer than (shorter than, heavier than, lighter than, more than, or less than) the other. Comparing decimals in the context of measurement supports their justifications of their conclusions and begins their work with comparison at a more concrete level.



Students move on to more abstract representations in Lesson 10, using area models and the number line to justify their comparison of decimal numbers (**4.NF.7**). They record their observations with the  $<$ ,  $>$ , and  $=$  symbols. In both Lessons 9 and 10, the intensive work at the concrete and pictorial levels eradicates the common misconception that occurs, for example, in the comparison of 7 tenths and 27 hundredths, where students believe that 0.7 is less than 0.27 simply because it resembles the comparison of 7 ones and 27 ones. This reinforces the idea that, in any comparison, one must consider the *size of the units*.



Finally, in Lesson 11, students use their understanding of different ways of expressing equivalent values to arrange a set of decimal fractions in unit, fraction, and decimal form from greatest to least or least to greatest.



### A Teaching Sequence Toward Mastery of Decimal Comparison

**Objective 1:** Use the place value chart and metric measurement to compare decimals and answer comparison questions.

(Lesson 9)

**Objective 2:** Use area models and the number line to compare decimal numbers, and record comparisons using  $<$ ,  $>$ , and  $=$ .

(Lesson 10)

**Objective 3:** Compare and order mixed numbers in various forms.

(Lesson 11)