Unit 3a-Extend Understanding of Fraction Equivalence and Ordering

Content Area: **Math**
Course(s): **Math 4**
Time Period: **Marking Period 3**
Length: **MP3 Topic 8 8-1 to 8-7**
Status: **Published**

Essential Questions

- What are some ways to name the same part of a whole?
- How can you compare fractions with unlike numerators and denominators?

Big Ideas

- **Equivalent Fractions:** Students learn how to recognize and generate equivalent fractions. They use these understandings to compare fractions by rewriting the fractions in equivalent forms.
- **Visual Models:** Students use area models, fraction strips, and number lines to find equivalent fractions and to compare fractions. They also use models to justify their thinking.
- **Word Problems Involving Fractions:** Students apply their knowledge of equivalent fractions and fraction comparison to solve real-world word problems.

Cross-Curricular Integration

Integration Area: Social Studies

6.1.5.GeoPP.3: Use geographic models to describe how human movement relates to the location of natural resources and sometimes results in conflict.

Activity:

Use benchmark fractions to describe/compare the population of various groups of people in NJ during 1850 (SS text page 100). ie- close to a whole, close to zero, less than half, etc.

CSDT Technology Connection

8.1.5.AP.1 Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

Enduring Understandings

Number and Operations—Fractions

4.NF.A.1 [M] Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × 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.

4.NF.A.2 [M] Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

Number and Operations in Base Ten

4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, (and multiply two two-digit numbers), using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

4.NBT.B.6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Operations and Algebraic Thinking

4.OA.B.4 Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.

Mathematical Practices Focus

3. Construct viable arguments and critique the reasoning of others.