Lesson 2.1 – Compare and Order Fractions and Mixed Numbers

**Standard:** *Number Sense 1.1*– Compare and order positive and negative fractions, decimals, and mixed numbers and place them on a number line.

**Objective:** Students will be able to find common denominators and rename

 fractions. Then use these new fractions to order and compare.

**Vocabulary:**

**Common Multiple (Denominators) -** A quantity into which each of two or more quantities may be divided with zero remainder

**Example** - Multiples of 2 are 2, 4, **6**, 8, 10, **12**, 14, 16, **18**, …

 Multiples of 3 are 3, **6**, 9, **12**, 15, **18**, …

**Least Common Multiple (Denominator) –**

**Example 1: Compare.** $\frac{3}{4}$ **and** $\frac{2}{3}$ **using common multiples**

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| **Step 1**: Write the multiples of the denominators and then find the common multiples.Multiples of 4:Multiples of 3:**\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_ are common multiples of the denominators.** |
| **Step 2**: Use common multiple (denominator) Rename the fraction so they have common denominators.$\frac{3}{4}$ can be renamed as $\frac{}{}$ x $\frac{}{}$ = $\frac{}{}$$\frac{2}{3}$ can be renamed as $\frac{}{}$ x $\frac{}{}$ = $\frac{}{}$ |
| **Step 3:** Now that the denominators are the same compare the numerators. Which is bigger? |

**Example 2: Compare.** $\frac{3}{4}$ **and** $\frac{2}{3}$ **using cross multiply**

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| **Step 1**: Multiple the denominators to make a common denominator.$\frac{}{4}$ x $\frac{}{3}$ = $\frac{}{}$ |
| **Step 2**: Multiply the denominator with the opposite numerator.$ =\frac{ 3}{4}$ $\frac{2}{3}$ = $$\frac{3}{4}=$$$\frac{2}{3}$**=** |
| **Step 3:** Now that the denominators are the same compare the numerators. Which is bigger? |

**Example 3: Order fractions from least to greatest** $\frac{2}{3}$**,** $\frac{3}{8}$**,** $\frac{1}{6}$

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| **Step 1**: Find the LCM (LCD) of the denominators **3, 8, & 6.****(Factor tree or lists)** |
| **Step 2**: Use the LCM (LCD) to write equivalent fractions. |
| **Step 3:** Now that the denominators are the same compare the numerators. Which is bigger? |

**Whiteboard – CFU**

**Compare. Write <, > or = for each. Show Work**

1.) $\frac{1}{3}$ $ \frac{2}{3}$ 2.) $\frac{2}{5}$ $\frac{3}{8}$ 3.) $\frac{1}{4}$ $\frac{13}{15}$

**Write in order from least to greatest**

4.) $\frac{1}{2}$, $\frac{3}{4}, \frac{1}{4}$ 5.) $\frac{1}{4}$, $\frac{7}{8}, \frac{1}{5}$