

5<sup>th</sup> Grade Math

Ordering Fractions and Decimals with use of Origami

**Objectives:**

**Content Standard 2.1b.** – Compare, convert, and order common fractions and decimals to the 100ths place to solve problems.

**Instruction:**

1. **Introduction:** First we will take a day out to create cubes using origami. We will take time possibly in art class to accomplish this. I have twelve students. (you can adapt and change according to your number of students) I will have three students label each cube face with the following fractions:  $\frac{1}{2}$ ,  $\frac{2}{3}$ ,  $\frac{4}{7}$ ,  $\frac{1}{5}$ ,  $\frac{3}{4}$ , and  $\frac{7}{8}$ . Another three students will label their cube faces with the fractions  $\frac{3}{8}$ ,  $\frac{1}{3}$ ,  $\frac{5}{6}$ ,  $\frac{3}{5}$ ,  $\frac{1}{4}$ , and  $\frac{2}{7}$ . This will allow us to have three sets of fraction cubes. For our three sets of decimal cubes, three students will label their cube faces 0.3, 0.04, 0.055, 0.91, .709, and .09. Another three students will label their cube faces 0.49, 0.5, 0.07, 0.061, 0.706, and 0.88.
2. **Instructional Process:** I will teach the students about the ordering of decimals or fractions first, whichever subject we are on. Then I will divide the class into groups of four with two people on each team. One team will be chosen to go first in each group. They will roll the cubes. They must decide which cube has the greater value. A correct response will earn their team 2 points. The next team will then roll the cubes and try to win 2 points. The first team to score 20 points will be the winner.
3. **Closure:** In closure, I will see if they can repeat back to me the process of ordering fractions or decimals. Then I will proceed with the following assessment to test each one individually to make sure the concept has been grasped.

**Assessment:** To assess whether each student has gained the proper understanding, I will have each student pull out a piece of paper and pencil. I will proceed to roll the cubes a few times and have them take a mini-quiz to see if the understanding is there.

**Modifications/Accommodations:**

One modification you might use is to have a worksheet that has all the fractions pictorially, as pies, on it so that someone having great difficulty may compare the fractions from the pictures. To compare decimals, you might represent them with a ruler showing lengths.

**Ordering Fractions and Decimals (continued)**

**Reflection:**

This is one lesson plan I have not used at the present time. You may adapt the fractions and decimals to best fit your grade level. As I was putting this together, I discovered that the cubes could be used for adding and subtracting fractions and decimals, as well. You could also use one cube of decimals and one cube of fractions to make comparisons. Another use would be in equivalent fractions by putting one fraction on one cube and the reduced form on the other. I believe the ways to use this activity are countless. You can find this activity in the book, Teaching Reading in Mathematics, 2<sup>nd</sup> Edition on p. 93.