Dear Parents,

We want to make sure that you have an understanding of the mathematics your child will be learning this unit. Below you will find the standards we will be learning in the first fractions unit. Each standard is in bold print and underlined, and below it is an explanation. Your child is not learning math the way we did when we were in school, so hopefully this will assist you when you help your child at home. There are several resources on our 4th grade math website: http://4thgradewolves.weebly.com/
Please let your teacher know if you have any questions.

Thank you,
BA 4th grade teachers

MGSE4.NF.1 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.

This standard refers to visual fraction models. This includes area models, number lines or it could be a collection/set model. This standard extends the work in third grade by using additional denominators (5, 10, 12, and 100). This standard addresses equivalent fractions by examining the idea that equivalent fractions can be created by multiplying both the numerator and denominator by the same number or by dividing a shaded region into various parts.

Example:

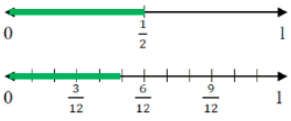
MGSE4.NF.2 Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.

This standard calls students to compare fractions by creating visual fraction models or finding common denominators or numerators. Students' experiences should focus on visual fraction models rather than algorithms. Students should learn to draw fraction models to help them compare. Students must also recognize that they must consider the size of the whole when comparing fractions. (i.e., 1/2 and 1/8 of two medium pizzas is very different from 1/2 of one medium and 1/8 of one large)

Example: There are two cakes on the counter that are the same size. The first cake has 1/2 of it left. The second cake has 5/12 left. Which cake has more left?

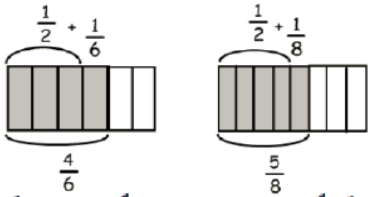
Student 1: ***Area Model***
The first cake has more left over. The second cake has 5/12 left which is smaller than 1/2.

Student 2: ***Number Line Model***
The first cake has more left over: 1/2 is bigger than 5/12.



Student 3: ***Verbal Explanation***
I know that 6/12 equals 1/2, and 5/12 is less than 1/2. Therefore, the second cake has less left over than the first cake. The first cake has more left over.

Example:
When using the benchmark of $\frac{1}{2}$ to compare to $\frac{4}{6}$ and $\frac{5}{8}$, you could use diagrams such as these:



$\frac{4}{6}$ is $\frac{1}{6}$ larger than $\frac{1}{2}$, while $\frac{5}{8}$ is $\frac{1}{8}$ larger than $\frac{1}{2}$. Since $\frac{1}{6}$ is greater than $\frac{1}{8}$, $\frac{4}{6}$ is the greater fraction.