Teaching the Concept of One as it Applies to Percents, 2009

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Synopsis

This unit will take the students on a journey beginning with fractions and then decimals and finally culminating in percents. I felt that students needed to understand the relationship of fractions to decimals and ultimately to percents. When these concepts are taught separately the relationship is often overlooked and not understood.

The objectives of the unit include students being able to understand the concept of fractions and what a denominator really means as well as understanding place value, decimals, percents and solving problems involving percents.

The first concept that was discussed was fractions and the concept of what fractions really are. Keeping in line with the title of the unit the concept of the one was discussed as it related to the denominator. The importance of the denominator and why when fractions are added or subtracted they have to have a common denominator as well as the fact that the denominator does not change during addition or subtraction was discussed. The Singapore Math Model was used to illustrate the bar representations of fractions and how they can be useful in solving problems.

The next concept covered was converting fractions to decimals through the process of division which led to the concept of decimals. In order to understand decimals an understanding of place value must be present. I used the address model to discuss decimals and exploding dots to show other base number systems which lead to a better understanding of the base ten number system. I also used Roger Howe's explanation of using the commutative and associative rule for addition as well as the distributive rule to illustrate different methods of addition which allowed for a deeper level of understanding of the base ten number system.

The final concept involved percents. I utilized the Singapore Math Model Method here as well and some problem solving examples to reinforce an understanding of percents. In keeping with the title the concept of what is the one or the one hundred percent is important when solving any problems involving percents.

The activities are a few that can be used in the unit but the teacher should feel free to design instruction based on the concepts introduced in the unit. The relationships of fractions to decimals to percents are important components of the unit. The underlying

idea to all of these is what is the one? In fractions it is the denominator, in decimals it is actually the number one and in percents it is whatever object or thing that something else is being compared to.