Anoka-Hennepin Secondary Curriculum Unit Plan

Department:	Mathematics	Course:	Intermediate PreAlgebra	Unit 2 Title:	Representations of Rational Numbers	Grade Level(s):	7
Assessed Trimester:	Trimester 1	Pacing:	5-8 Days	Date Created:	5/31/2014	Last Revision Date:	6/17/2014

Course Understandings: *Students will understand that:*

A. There are multiple strategies and representations that can be used to solve real world problems involving rational numbers.
 G. There are appropriate uses for various technologies and that limitations may exist with them.

DESIRED RESULTS (Stage 1) - WHAT WE WANT STUDENT TO KNOW AND BE ABLE TO DO?

Established Goals						
Minnesota State/Local/Technology Standard(s) addressed (2007):						
 Standard (7.1.1.#): Read, write, represent and compare positive and negative rational numbers expr Benchmark: 	ressed as integers, fractions, decimals.					
7.1.1.1 Know that every rational number can be written as the ratio of two integers or as a terminating or repeating decimal. Recognize that π is not rational, but that it can be approximated by rational numbers such as 227 and 3.14.						
 7.1.1.2 Understand that division of two integers will always result in a rational number. Use this 7.1.1.3 Locate positive and negative rational numbers on a number line, understand the conce 7.1.1.4 Compare positive and negative rational numbers expressed in various forms using the 7.1.1.5 Recognize and generate equivalent representations of positive and negative rational numbers 	information to interpret the decimal result of a division problem when using a calculator. pt of opposites, and plot pairs of positive and negative rational numbers on a coordinate grid. symbols <, >, =, \leq , \geq . numbers, including equivalent fractions.					
 Standard (7.1.2.#): Calculate with positive and negative rational numbers, and rational numbers with Benchmark: 7.1.2.6 Demonstate an understanding of the relationship between the absolute value of a ratio 	n whole number exponents, to solve real-world and mathematical problems.					
]	ransfer					
 Students will be able to independently use their learning to: (product, high order reasoning) Use the appropriate form of a number to represent a real world situation. 						
Γ	leaning					
Unit Understanding(s):	Essential Question(s):					
Students will understand that:	Students will keep considering:					
Fractions, decimals, and percents are used in real-world situations.	When would it be appropriate to use a fraction, decimal, or percent to describe real-world situations?					
 Rational numbers are a ratio of two integers, a terminating decimals, and repeating decimals. 	• Why is it important to be able to compare and order positive and negative rational numbers?					
Ac	quisition					
Knowledge - Students will:	Reasoning - Students will:					
 Understand that rational numbers are ratios of two integers. 	 Differentiate a number as terminating or repeating on a calculator or by using traditional algorithms. 					
Extend knowledge of fractions, decimals, and percents to include negatives.	Demonstrate the ability to generate equivalent representations of rational numbers.					

 Understand how calculators affect how numbers are displayed. Rational numbers have equivalencies {fraction, decimal and percent} Name the opposite of a given rational numbers. Identify terminating and repeating decimals. Name the opposite of a given rational number. 	 Justify placement of a rational number on a numb Justify when it might be easier to use a fraction, v might be easier to use a percent. Skills - Students will: Translate between ratios, decimals and percents Plot positive and negative rational numbers on a
	Plot positive and negative rational numbers on a

Common Misunderstandings	Essential new vocabulary
 Defining an integer as a rational number. When looking at fractions students focus on the size of the numerator or denominator rather than the size of the fraction as a whole. Students ignore the negative sign when ordering fractions and decimals on a number line. Students forget to move the decimal (multiply by 100) when changing a decimal to a percent. Converting percents to decimals (specifically when larger than 100% and smaller than 1%). 	 Rational Number Repeating Decimal Terminating Decimal Truncate
Students are unfamiliar with the word truncate.	

per line. when it might be easier to use a decimal and when it

s. number line.