UNIT OF STUDY

Title: Unit 5	Subject/Course: Math	Length: 3 wks.
Topic: add, subtract, multiply, divide decimals add, subtract, multiply fractions	Grade: 5	Designer: O'Cain, Smith

UNIT GOALS AND EXPECTATIONS

IMPORTANT CONCEPTS:	ESSENTIAL QUESTIONS:
• When adding or subtracting decimals, the steps in regrouping are completed in the same way as for whole numbers. • When adding or subtracting decimals, line up the decimal points first. • The product of a whole number and a decimal less than 1 will always be less than the whole number. • The product of two decimal factors, both less than 1, is less than either of the two factors. • When dividing a decimal by a whole number, the same division steps are completed as with whole numbers, except that a decimal point in the quotient is lined up with the decimal point in the dividend. • To add or subtract fractions with the same denominators, add or subtract the numerators, and write the sum or difference over the denominator. • The word *of*, as used in ¼ of 2/3, indicates multiplication. • When you multiply two fractions less than 1, the product is less than either of the two fractions.	• How is computation with rational numbers similar and different to whole number computation? • How are models used to show how fractional parts are combined or separated? •
STUDENT LEARNING EXPECTATIONS: NO.2.5.5 Model addition, subtraction, and multiplication of fractions with like and unlike denominators and decimals	NO.3.5.2 Develop and use *algorithms*: • to add and subtract numbers containing decimals (up to thousandths place) • to multiply decimals (hundredths x tenths) • to divide decimals by *whole number* divisors • to add and subtract fractions with like denominators
SPECIFIC DECLARATIVE KNOWLEDGE – What I know Explain Vocabulary terms: least common multiple common denominator	SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do A. *use manipulatives to add, subtract and multiply fractions with like denominators *use manipulatives to convert fractions with unlike denominators prior to adding or subtracting *model addition, subtraction, and multiplication of fractions with like and unlike denominators and decimals B. *model decimals using manipulatives (money, grid paper, base ten blocks, etc.) *model addition, subtraction and multiplication of decimals A. *apply place value (including NO.1.5.2) *model an understanding of addition and subtraction of decimals using manipulatives *add and subtract decimals using algorithms B. *model multiplying decimals using manipulatives or visual aids *apply place value to understand that multiplying decimals can result in a larger or smaller product *multiply decimals using algorithms C. *model dividing decimals by whole numbers using manipulatives or visual aids *apply place value to understand where the decimal point should be

	placed in the quotient *divide decimals by whole number divisors using algorithms D. *model adding fractions with like denominators using manipulatives or visual aids *know that the denominator stays the same and represents congruent pieces *add and subtract fractions with like denominators

UNIT ASSESSMENTS (Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)	
Harcourt Performance Assessment – "On the Job" (PA 49) HOTS question on adding/subtracting decimals HOTS question on dividing decimal by whole number.	
Traditional Assessments: Teacher made quiz Teacher made test	Other Evidence of Learning: Weekly homework assignments Classwork practice

ACTIVITIES AND LEARNING EXPERIENCES	Resources
1. Use modeling and Harcourt text to introduce adding and subtracting decimals.	Harcourt text, Ch. 3, L.5
2. Use hundredths models and Harcourt text to show multiplying a decimal and a whole number.	Hundredths models Harcourt text, Ch. 8, L. 1,3
3. Use fraction bars and Harcourt text to demonstrate adding and subtracting fractions with like denominators.	Fraction bars Harcourt text, Ch. 16 L. 1,2
4. Use internet site to reinforce adding and subtracting fractions with like and unlike denominators.	www.coolmath4kids.com/fractions (Lessons 10,11)
5. Model using common denominators and use Harcourt text to add and subtract fractions with unlike denominators.	Harcourt text, Ch. 16, L. 4
6. Use internet site to reinforce adding and subtracting fractions with unlike denominators.	www.coolmath4kids.com/fractions (Lesson 12)
7. Use manipulatives (folded paper) and Harcourt text to show multiplying a fraction by a fraction.	Harcourt text, Ch. 18, L.1)
8. Use internet site to reinforce multiplying a fraction by a fraction.	www.brainpop.com/fractions http://www.brainpop.com/math/numbersandoperations/rationalandirrationalnumbers
9. Use modeling and Harcourt text to multiply a fraction by a whole number and a fraction and a mixed number.	Harcourt text, Ch. 18 L. 2,3)

Career Connections	
Discuss the use of computing fractions when chefs are preparing recipes in restaurants.	