UNIT OF STUDY

Title: Place Value & Whole Number Computations Subject/Course: Math Length: 2 ½ weeks Topic: Numbers and Operations Grade: 5th Designer: O'Cain & Smith	
UNIT GOALS AND EXPECTATIONS	
IMPORTANT CONCEPTS: * Numbers can represent quantity, position, location, and relationships. * Place value is based on groups of ten. * Proficiency with basic facts aids estimation and computation of larger and smaller numbers.	ESSENTIAL QUESTIONS: * How is math relevant to me? * How does the position of a digit in a number affect its value? * How do the four operations relate to one another?
STUDENT LEARNING EXPECTATIONS: NO 1.5.2 Develop understanding of decimal place value using models. NO 3.5.1a Develop and use a variety of algorithms with computational fluency to perform whole number operations using addition an subtraction (up to five digit numbers), including real world problems. NO 1.5.4a Round decimals to a given place value: whole number, tenths, and hundredths. NO 1.5.4b Compare decimals to a given place value: whole number, tenths, and hundredths. NO 3.5.1b Develop and use a variety of algorithms with computational fluency to perform whole number operations using multiplication (up to 3 digit times 2 digit), including real world problems.	NO 3.5.1c Develop and use a variety of algorithms with computational fluency to perform whole number operations using division (up to 2-digit divisors) interpreting remainders, including real world problems. NO 3.5.3 Solve, with and without appropriate technology, two step problems using a variety of methods and tools (Ex. Objects, mental computation, paper and pencil). NO 3.5.4 Develop and use strategies to estimate the results of whole number computations and to judge the reasonableness of such results.
SPECIFIC DECLARATIVE KNOWLEDGE – What I know *Explain vocabulary words: decimal, tenths, hundredths, place value, thousandths, addend, sum, difference, quotient, divisor, dividend, remainder, product, factor, congruent. *Identify that a decimal is part of a whole number *Identify that a decimal is part of a whole number *Identify tenths and hundredths using models (place value chart, base ten blocks, etc.) *Acknowledge that more than one answer is possible depending on the method of estimation *Identify place value through thousandths. *Compare decimals to the hundredths place. *Identify place value through hundredths	SPECIFIC PROCEDURAL KNOWLEDGE – What I need to do *Model decimal equivalencies (0.4 = 0.40, 0.42 = 0.4 + 0.02) *Apply rules of regrouping and renaming *Compose real-world problems using addition and subtraction *Demonstrate a variety of algorithms *Apply two-digit multiplication *Illustrate correct alignment of digits *Compose real-world problems with multiplication *Demonstrate a variety of algorithms *Divide with one and two-digit divisors *Practice a variety of division algorithms *Compose problems involving real-world situations in which remainders affect the outcome *Solve problems in real-world situations in which the remainder affects the outcome *Apply rules for rounding *Round decimals to a specific place value *Use comparison symbols (›, ‹, =) *Identify key information within the context of the problem *Select and apply problem-solving strategies *Determine steps necessary to solve problems *Solve two-step problems with or without a calculator *Use a variety of estimation strategies to solve real-world problems

UNIT ASSESSMENTS (Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy)	
1. Open-response prompt requiring students to compare decimals using data from a chart. 2. Rolling with Place Value: Materials- Dice, Template with place value markers. Teacher will roll the dice and tell what place value spot to put the number in. Once the teacher wants them to build the number, the first student to build the number and say it correctly wins that round.	
Traditional Assessments: Teacher constructed quiz over place value. Teacher constructed quiz over addition/ subtraction whole #s Teacher constructed test over whole number computation. TLI Module One	Other Evidence of Learning: Weekly Homework from daily lesson

ACTIVITIES AND LEARNING EXPERIENCES	Resources
1. How Big is a Million read aloud to introduce the concept of place value.	by Marilyn Burns
2. Use Place Value chart and lesson from the text book to model the concept of place value.	Harcourt Ch. 1 Lesson 1
3. Play the game "Who Am I?" (Place Value game) to reinforce the concept of place value.	Place Value Game!!
4. Use the smart board to develop an understanding of place value.	www.aaamath.com place value
5. Use models to develop the concept of decimal place value.	Harcourt Ch. 2 Lesson 1
6. Use number line and rounding rules to round numbers to a given place value.	Harcourt Ch. 3 Lesson 2
7. Use the smart board to display BrainPop.com video on rounding.	www.brainpop.com rounding
8. Power point to introduce the concept of addition & subtraction. http://www.thericeschool.org/fifth/math/presentations/number-theory.ppt#279,13,Power Exercises	www.googlepowerpoints.com
9. Teacher will model the steps of the addition and subtraction process.	Harcourt Ch. 3 Lesson 4
10. Use the smart board to display the two BrainPop.com videos on Multiplying and Dividing	www.brainpop.com Multiplying & Dividing
11. Introduce problem solving strategies including: Make a Table, Make a Model, Work Backwards, Draw a Diagram, Find a Pattern.	Handouts on individual problem solving strategies
12. Use TLI bank questions to reinforce problem solving strategies.	www.tlionline.net

Career Connections	
Students will demonstrate the role of a bank teller.	