Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 5* / Grade 5 (Math Regional Curriculum)

Wednesday, October 31, 2012, 11:06AM

Standard/Module: Proficiency in Operations & Algebra 5.OA.2 (Week 7, 33 Weeks)

Stage 1: Desired Results

Standards Focus

- Additional (10%) Connects to 5.OA.1

5th Grade Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 5th Grade , Operations & Algebraic Thinking
5.OA Write and interpret numerical expressions.

- 2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.

Enduring Understandings

1. Any number, measure, numerical expression, algebraic expression, or equation can be represented in an infinite number of ways that have the same value.
2. Mathematical situations and structures can be translated and represented abstractly using variables, expressions, and equations.
3. Rules of arithmetic and algebra can be used together with notation of equivalence to transform equations so solutions can be found.
4. Mathematics content and practices can be applied to solve problems

Essential Questions

1. How can you write an algebraic expression?
2. How can you translate words into expressions?
3. How can you act out a problem and use reasoning to solve it?

Critical Content

Order of Operations

-steps of evaluating:

Parentheses, exponents, multiply/divide, addition/subtraction

Algebra

-expressions

-value
-equivalence

Skills	Vocabulary
1. Students will write numerical expressions with variables to represent relations expressed verbally. 2. Students will translate words into algebraic expressions. 3. Students will solve problems by showing how to act out the problem. 4. Students will use information given in a problem to draw conclusions	Tier 2- variable, corresponding, sequence, simplify, evaluate Tier 3- algebraic expression, term, order of operations

Stage 2: Assessment Evidence

Assessments

Expressions and Equations
Formative: Test: Written

Student determine whether what is given is an expression or an equation.

Students write expressions from given word situations without evaluating them, unless directed to do so (evaluating is 5.OA.1)

Stage 3: Learning Plan

Learning Activities	Resources
This standard refers to expressions. Expressions are a series of numbers and symbols (+, -, x, ÷) without an equal sign. Equations result when two expressions are set equal to each other (2 + 3 = 4 + 1). **Example:** 4(5 + 3) is an expression. When we compute 4(5 + 3) we are evaluating the expression. The expression equals 32. 4(5 + 3) = 32 is an equation.	www.illustrativemathematics.org www.illuminations.nctm.org

This standard calls for students to verbally describe the relationship between expressions without actually calculating them. This standard calls for students to apply their reasoning of the four operations as well as place value while describing the relationship between numbers. The standard does not include the use of variables, only numbers and signs for operations. **Examples**: -Write an expression for the steps: double five and then add 26. -Describe how the expression 5(10 x 10) relates to 10 x 10. Students use their understanding of operations and grouping symbols to write expressions and interpret the meaning of a numerical expression. **Examples:** -Students write an expression for calculations given in words such as "divide 144 by 12, and then subtract 7/8." They write (144 ÷ 12) – 7/8. -Students recognize that 0.5 x (300 ÷ 15) is ½ of (300 ÷ 15) without calculating the quotient.	

Differentiation Opportunities

Students may believe the order in which a problem with mixed operations is written is

the order to solve the problem. Allow students to use calculators to determine the value of the expression, and then discuss the order the calculator used to evaluate the expression. Do this with four-function and scientific calculators.

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