Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 8* / Grade 8 (Math Regional Curriculum)

Wednesday, October 31, 2012, 1:42PM

Standard/Module: Proficiency with Equations: 8.EE.4 (Week 5, 5 Weeks)

Stage 1: Desired Results

Standards Focus

- Major (70%) 8.EE.3
  8.EE.2
  8.EE.1

Grade 8 Map

Standards

NYS: CCLS:Mathematics, NYS: 8th Grade , Expressions & Equations
8.EE Work with radicals and integer exponents.

- 4. Perform operations with numbers expressed in scientific notation, including problems where both decimal and scientific notation are used. Use scientific notation and choose units of appropriate size for measurements of very large or very small quantities (e.g., use millimeters per year for seafloor spreading). Interpret scientific notation that has been generated by technology.

Enduring Understandings	Essential Questions
Use and understand scientific notation. Understand the relationship between scientific notation and expanded notation.	1. Why is it helpful to write numbers in different forms? 2. How do you perform operations with numbers in scientific notation?

Critical Content

1. Operations with scientific notation
   - Add, subtract, multiply, divide
2. Numbers expressed in scientific notation
3. Decimal and scientific notation

Skills	Vocabulary
1. Apply properties of exponents. 2. Perform operations with numbers expressed in scientific notation. 3. Use scientific notation.	Tier 2: interpret, quantities, unit of measure

4. Represent very large and small quantities in scientific notation. 5. Choose units of appropriate size for measurements of very large or very small quantities. 6. Interpret scientific notation using technology (calculator will display scientific notation differently).	Tier 3: coefficient, decimal notation, power of 10, scientific notation

Stage 2: Assessment Evidence

Assessments

Operations with Scientific Notation
Formative: Test: Written

Students perform operations with scientific notation both in context situations, and with only numbers, and justify their answers. Students justify whether the result is larger or smaller and why they claim that statement.

Stage 3: Learning Plan

Learning Activities	Resources
Have students find real-world examples of where scientific notation is used (science periodicals, journals, magazines, etc.). Have students experiment with their properties of exponents knowledge to add, subtract, multiply and divide numbers in scientific notation. For example, the distance from the sun to the Earth is _____. The distance from the sun to Mars is _____. Given this information, how far is the Earth from Mars? Why would this information be useful to NASA and other organizations who are trying to conduct a manned-space flight to Mars?	www.illuminations.nctm.org www.illustrativemathematics.org

Differentiation Opportunities

Provide graphic organizers to help students add, subtract, multiply and divide with exponents..

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