Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

Collaboration / Math 4* / Grade 4 (Math Regional Curriculum)

Wednesday, October 31, 2012, 10:39AM

Standard/Module: Proficiency in Measurement /Data - 4.MD.7 (Week 18, 5 Weeks)

Stage 1: Desired Results

Standards Focus

- Additional (10%) Connects with 4.MD.5 and 4.MD.6

4th Grade Proficiency Map.pdf

Standards

NYS: CCLS:Mathematics, NYS: 4th Grade , Measurement & Data

4.MD Geometric measurement: understand concepts of angle and measure angles.

- 7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g., by using an equation with a symbol for the unknown angle measure.

Enduring Understandings	Essential Questions
1. Angle measure is additive. 2. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. 3. Solving addition and subtraction problems will help you find unknown angle measurements on a diagram.	1. What does it mean to "decompose an angle"? 2. How do you decompose an angle into non-overlapping parts? 3. How do you find the measurement of unknown angles on a diagram in real world and mathematical problems?

Critical Content

1. Angles

- Measure of an angle
- angle measure is additive
- the addition of the parts of an angle create a bigger angle

2. Decomposure (taking apart) of an angle

- non-overlapping parts

3. Problems

- Addition/Subtraction Problems involving finding unknown angles
- Include diagrams involving real-world application
- Include mathematical problems where an equation could be written and solved to find an unknown angle measure

Skills	**Vocabulary**
1. Students will recognize that angle measure is additive. 2. Students will decompose angles into non-overlapping parts. 3. Students will realize that the angle measure of the whole is the sum of the angle measures of its parts. 4. Students will utilize addition and subtraction problem solving strategies to find the measurements of unknown angles in real world and mathematical problems. 5. Students will use an equation with a symbol for the unknown angle measure.	Tier 2: measure, real world, addition, subtraction, symbol Tier 3: angle, additive, decompose, non-overlapping, sum, equation

Stage 2: Assessment Evidence

Assessments

Formative: Other: Quiz

Students will be given 10 questions where they will have to apply their knowledge of angles to create equations that represent the situation and solve.

Stage 3: Learning Plan

Learning Activities	**Resources**
Students should be given a variety of questions that require them to apply their knowledge of angles in creating an equation and solving it. White board practice so students can be guided. This standard addresses the idea of decomposing (breaking apart) an angle into smaller parts.	Instructional Resources/Tools Cardboard cut in strips to make an angle explorer Brass fasteners Angle ruler Protractor Angle explorers www.illustrativemathematics.org

Example: A lawn water sprinkler rotates 65 degrees and then pauses. It then rotates an additional 25 degrees. What is the total degree of the water sprinkler rotation? To cover a full 360 degrees how many times will the water sprinkler need to be moved? If the water sprinkler rotates a total of 25 degrees then pauses. How many 25 degree cycles will it go through for the rotation to reach at least 90 degrees?	www.illuminations.nctm.org

Differentiation Opportunities

Model different strategies.

Differentiated practice with a partner so students can problem solve and brainstorm ideas.

Provide differentiated worksheets with prompts provided on some, but the same questions on all.

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