Unit Map 2012-2013

Monroe #2 - Orleans BOCES (Regional Collaboration)

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

Wednesday, October 31, 2012, 10:38AM

Standard/Module: Proficiency in Measurement/Data - 4.MD.6 (Week 18, 5 Weeks)

Stage 1: Desired Results

Standards Focus

- Additional (10%) Connects 4.MD.5 and 4.MD.7

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.

- 6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measure.

Enduring Understandings

1. A protractor can be used to measure angles in whole-number degrees.
2. Angles of a specified measure can be sketched.

Essential Questions

1. What are the steps you go through when measuring angles using a protractor?
2. What are the steps you go through when sketching angles of a specified measure?
3. Do you think it's important to be precise in measuring angles in the real-world (ex. construction) and why?

Critical Content

1. Angles
2. Whole-number degrees
3. Protractor
4. Specific Measures

Skills

1. Students will measure angles in whole-number degrees using a protractor.
2. Students will sketch angles of a specified measure.

Vocabulary

Tier 2: measure, whole number

Tier 3: angle, protractor, degrees, sketch, specified

	measure

Stage 2: Assessment Evidence

Assessments

Angles
Formative: Other: Quiz

Students will be given 5 questions where they will have to measure 5 different angles with a protractor and then they will be given 5 questions with 5 different angle measurements and they will have to sketch the five angles using a protractor.

Stage 3: Learning Plan

Learning Activities	Resources
Ask questions about the types of angles created when using an angle ruler or an angle explorer. Responses may be in terms of the relationship to right angles. Introduce angles as acute (less than the measure of a right angle) and obtuse (greater than the measure of a right angle). Have students draw representations of each type of angle. They also need to be able to identify angles in two-dimensional figures.	Instructional Resources/Tools Cardboard cut in strips to make an angle explorer Brass fasteners Angle ruler Protractor Angle explorers www.illustrativemathematics.org www.illuminations.nctm.org
Students can compare angles to determine whether an angle is acute or obtuse. This will allow them to have a benchmark reference for what an angle measure should be when using a tool such as a protractor or an angle ruler. Students are ready to use a tool to measure angles once they understand the difference between an acute angle and an obtuse angle. Angles are measured in degrees. There is a relationship between the number of degrees in an angle and circle which has a measure of 360 degrees. Students are to use a protractor to measure angles in whole-number degrees. They can determine if the measure of the angle is reasonable based on the relationship of the angle to a right angle. They also make sketches of angles of specified measure. Students should estimate angles, measure angles and sketch angles. They need to experience measuring angles using an angle ruler as	Nctm.org Figure This: What's My Angle? math Challenge # 10 - Students can estimate the measures of the angles between their fingers when they spread out their hand.

well as a protractor. (The angle ruler allows them to "see" the turns or rotations).	

Differentiation Opportunities

Students are confused as to which number to use when determining the measure of an angle using a protractor because most protractors have a double set of numbers. Students should have multiple experiences estimating and comparing angles to the Benchmark 90° or right angle. They should explain their reasoning by deciding first if the angle appears to be an angle that is less than the measure of a right angle (90°) or greater than the measure of a right angle (90°). If the angle appears to be less than 90°, it is an acute angle and its measure ranges from 0° to 89°. If the angle appears to be an angle that is greater than 90°, it is an obtuse angle and its measures range from 91° to 179°. Ask questions about the appearance of the angle to help students in deciding which number to use.

When drawing an angle, the initial ray can be drawn to aid students and hints can be written on worksheets reminding students of the steps of drawing an angle. Similar hints can be on worksheets when measuring angles.

<< Previous Year

Last Updated: Wednesday, October 24, 2012, 1:39PM

Atlas Version 7.2.6
© Rubicon International 2012. All rights reserved