

Richmond Public Schools
Department of Curriculum and Instruction
Curriculum Pacing And Resource Guide – Unit Plan



Course Title/ Course #: Pre-Algebra Math 8

Unit Title/ Marking Period # (MP): Angle Relationships/MP 2

Start day: 76

Meetings (Length of Unit): 5 Days

Desired Results ~ What will students be learning?

Standards of Learning/ Standards

8.6 The student will

- a) Verify by measuring and describe the relationships among vertical, adjacent, supplementary and complementary angles; and
- b) Measure angles less than 360° .

Essential Understandings/ Big Ideas

How are vertical, adjacent, complementary and supplementary angles related?

Adjacent angles are formed by two non-overlapping angles that share a common side and common vertex. Vertical angles will always be nonadjacent angles. Supplementary and complementary angles may or may not be adjacent.

Key Essential Skills and Knowledge

- Measure angles of less than 360° to the nearest degree using appropriate tools.
- Identify and describe the relationships between angles formed by two intersecting lines.
- Identify and describe the relationship between pairs of angles that are vertical.
- Identify and describe the relationship between pairs of angles that are supplementary.
- Identify and describe the relationship between pairs of angles that are complementary.
- Identify and describe the relationship between pairs of angles that are adjacent.
- Use the relationships among supplementary, complementary, vertical, and adjacent angles to solve practical problems.

Vocabulary

Protractor Angle Degree Vertex Ray Acute Angle Obtuse Angle Right Angle Straight Line(angle)	Reflex Angle Vertical Angle Adjacent Angle Supplementary Angle Complementary Angle Intersecting Lines	
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Assessment Evidence ~ What is evidence of mastery? What did the students master & what are they missing?

Assessment/ Evidence

Mulligan Checkpoint 8.6
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Interactive Achievement
HCPS Mini Quizzes
Make sure students know how to name angles.
Students need to know how to measure angles, including reflex angles.
Students need to be given a diagram with many angles in it and recognize the different angle relationships.
Students need to be able to find the missing angle measure given another angle measure using the angle relationships of vertical, supplementary or complementary

Learning Plan ~ What are the strategies and activities you plan to use?

Learning Experiences/ Best Practice

Pre-lesson: have students label acute, obtuse, right and straight angles given the pictures. Discuss how they determined the name based on characteristics of the angle.
Activity:

- Have students create a foldable or use the frayer model for vocabulary words about angles: angle, protractor, ray, vertex, reflex angle, etc...Have students practice measuring and naming angles using several methods. After students have measured several angles, introduce reflex angle and show them the best way to measure it (measure the inner angle that they are used to and subtract it from 360).

Activity for introduction-choose one:

- Use part of the VDOE lesson plan where the students must measure the angles and they come up with the definitions.
-Each group can do one type of relationship and then have the group report to the class. [What Are Your Angles?](#)
- Students could also work in pairs or small groups and they can complete all the relationships together.
- Create a foldable or graphic organizer of all the different angle relationships and their definitions. Come up with various strategies to help students with the definitions.

Activity:

- Math Science Innovation Center Lesson [Angling Your Neighborhood](#)

Activity:

- Find several diagrams with multiple angles and angle relationships. Glue them on colored card stock. Create questions for each diagram where the students would need to find the missing angle measure or they would have to identify the angle relationship. Use released SOL or Coach book questions as reference.

Activity:

- Using masking tape or washi tape, have the students work in pairs to create intersecting lines on the floor, on the wall, on the desk, or other acceptable area. Have the students measure the angles and put some of the angle measures. The students will create questions for other students to answer. Have the students to walk around to other groups, such as a gallery walk, and answer one question for each group. The creators of the questions will check to see if the questions were answered correctly.

Technology Integrations

Gizmo
Educational Games-under resources
Compass Learning
Allen Teachers
Brain Pop
Khan Academy

Resources

Text:

Glencoe Pre-Algebra pages:
619-625 (Angle and Line Relationships)
617-618 (Measuring and Drawing Angles)

Mulligan Math in Minutes 8.6
SOL Coach Book Va Edition: pages 60-66

Technology:

Gizmo-[Investigating Angle Theorems B](#)- Interactive Instructional Resource

Brain Pop-[Measuring Angles: It's a Matter of Degrees](#)-Interactive Skills Practice

Compass Learning-<https://www.thelearningodyssey.com> - M7163, 76266, 76267, M8159, M8162, M7151

Virginia Department of Education

VDOE-[What Are Your Angles?](#)-Lesson Plan

Other Sites

HCPS - [Angle Relationships](#) - Instructional materials, practice page, assessments

Millionaire-[Angle Relationships Millionaire](#)-Game

Discovery Education-[Understanding Angle Relationships](#)-Lesson Pla

Cross Curricular Connection

English-VDOE journal prompt or assessment questions. [What Are Your Angles?](#)

History/Geography: Create different routes on a world map that would create angles. Name some of the angle measures. Have the students find different angle relationships and missing angle measures based on the routes or clues that you give them.