

Angle Relationships

Summary

Students will identify adjacent, vertical, and complementary and supplementary angles and understand their relationships.

Main Core Tie

Mathematics Grade 7

[Strand: GEOMETRY \(7.G\) Standard 7.G.5](#)

Materials

Pattern Blocks

Protractors

Worksheets: " [Adjacent, Complementary and Supplementary Angles](#)", " [Vertical Angles](#)", "[Complementary, Supplementary, Adjacent and Vertical Angles](#)"

Journal: [Angle Relationships Foldable](#)

Background for Teachers

Enduring Understanding (Big Ideas):

Angle relationships exist.

Essential Questions:

How can I identify adjacent angles? Vertical angles?

When are angles considered complimentary? Supplementary?

How can the facts about supplementary, complementary, vertical and adjacent angles be used to solve mathematical problems?

Skill Focus:

Identify vertical, adjacent, complementary, and supplementary angles and understand and apply their relationships

Vocabulary Focus:

Vertical, adjacent, complementary, supplementary angles.

Ways to Gain/Maintain Attention (Primacy):

Manipulatives, predicting, measuring, group discussion, stories.

Instructional Procedures

Post vocabulary on a Word Wall and refer to the vocabulary during the lesson.

Starter: Review

If Juan must pay 7% tax on his \$15.00 CD, how much money will he need to buy the CD?

Solve this inequality: $-3n - 10 < 5$

Estimate the measure of this angle:

Lesson Segment 1: How can I identify adjacent angles? When are angles considered complimentary? Supplementary?

Use the attached worksheet: Adjacent, Complementary and Supplementary Angles as the basis for class discussion and investigation. As you go through the worksheet with the class use a reading strategy such as identifying key words, think-aloud, or summarize the question to have students read and comprehend each part. When a problem contains several parts, you may want pairs to work together on one or two parts, then share their findings with another pair to lessen the tedium of measuring. Students should predict and estimate individually, however, in order to construct the meaning. Once estimations have been made, you will want to ask how students arrived at that

estimation reviewing vocabulary such as vertex, acute, right obtuse, protractor, degree, etc.

Lesson Segment 2: How can I identify vertical adjacent angles? What is the relationship among vertical angles?

Use the attached worksheet: Vertical Angles as the basis for class discussion and investigation. Again, as you go through the worksheet with the class use a reading strategy such as identifying key words, think-aloud, or summarize the question to have students read and comprehend their reading. Make sure students have the opportunity to reason, explain, and justify. Compare predictions and estimations.

Lesson Segment 3: Summarize and practice

Have students complete the foldable (attached). Copy the two pages as one doublesided paper. This is a four shutter foldable. Fold the outside edges toward the center so the large lettering is showing. Clip the center horizontal dotted line just to the fold on each making an upper and lower shutter on each side of the center.

Have students choose to write a story, rap, poem, or song or to collect pictures for a collage showing examples to help them remember the four relationships: adjacent, vertical, complimentary, supplementary. Select a few to share with the class.

Assign any text practice as needed.

Lesson Segment 4: Apply Angle Relationships

Use the attached worksheet - Complementary Supplementary Adjacent Vertical Angles. Have students work in groups on this assignment. Have them present their answers to the class. When presenting, require students to explain how they identified a certain type of angle and how they set up their equation.

Assessment Plan

Observation, performance tasks

Bibliography

This lesson plan was created by Linda Bolin.

Authors

[Utah LessonPlans](#)