A New Angle on Looking at Angles

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A New Angle on Looking At Angles

2005 CMST Challenge Project
Michael Baskin/DFTHS
First/Second Block Math 8 Classes
Problem Statement

• How do we successfully teach students about the geometry and relationships of angles from static models or pictures in a two day time frame in preparation for a common assessment on Key Idea 7 - Patterns & Functions, Performance Indicator G - Explore Relationships Involving Points, Lines, Angles & Planes?
Solution

• Use of technology to create a dynamic interactive lesson that has students, touching, feeling, seeing and understanding all they will need to know. They will remember and learn from having been a part of the experience.
Geometer's Sketchpad and SMARTboard® Technology
Geometer’s Sketchpad

• Create working models of the angles students must know:
  - Complimentary
  - Supplementary
  - Vertical
  - Alternate interior
  - Congruent
  - Corresponding

• Vocabulary students must know:
  - Point
  - Line
  - Ray
  - Segment
  - Plane
  - Parallel
  - Perpendicular
SMARTboard® Interactive Whiteboard

- Provides instant touch control over the software application.
- Enable teacher/student to draw or write in digital ink.
- Ability to write over any application, even moving video.
- Capture and print all your notes, to a single file.
Complementary Angle Model

$m \angle CAP = 49^\circ$  \quad  $m \angle HAT = 41^\circ$

Drag point $X$ to change the measures of the angles.
Supplementary Angle Model

Drag point G to change the measures of the angles.
Vertical Angle Model

Drag point B or S to change measures of the angles.

\[ \angle BAS = 76^\circ \]
\[ \angle BAG = 104^\circ \]
\[ \angle SAK = 104^\circ \]
\[ \angle GAK = 76^\circ \]
Parallel Lines
Cut By A Transversal Model

Move H to change angle of intersection.
Move Y to change angle of parallel lines.