

Mummy Math: An Adventure in Geometry

Literacy Focus: Developing Academic Vocabulary

Math Focus: 3-D Shapes

Summary:

- Whole class
- Teacher read-aloud of Mummy Math: An Adventure in Geometry by Cindy Neuschwander (2009)
- Semantic feature analysis will be used to increase student understanding of math vocabulary

Objective: Students will be able to use a semantic feature analysis to identify the properties of 3D shapes.

Research on Semantic Feature Analysis

- Tierney, R.J., & Readence, J.E. (2000). *Reading strategies and practices: A compendium* (3rd ed.). Needham Heights, MA: Allyn and Bacon

Materials:

- Neuschwander, C. (2009). *Mummy math: An adventure in geometry*. New York: Henry Holt and Company ISBN-10: 0-312-56117-2
- Semantic Feature Analysis

Common Core Standards:

- 3. G. 1- Understand that shapes in different categories may share attributes, and that the shared attributes can define a larger category.
- RI.3.4-Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area.

Before Reading

- Have students look at the cover of the book and make predictions. Ask several questions to activate their prior knowledge. To promote discussion, have students turn to their partner and discuss their answers before talking about it as a group.
 - Can you name any of the shapes on the cover?
 - Where have you seen these shapes in real life?
 - What words can you use to describe each shape?
- Pass out the Semantic Feature Analysis, and tell students they are to listen as you read the story to find out the different attributes of each shape.

During Reading:

- Enlarge the text on the Smartboard by using the document camera. Read the story aloud, using your finger as a pointer to keep students focused on the text that you are reading.

Make sure the classroom atmosphere is relaxed and non-threatening by having students sit on the floor around the Smartboard.

- After page 7, direct students' attention to the names of the 3D shapes mentioned in the text. Ask if they can name each one in the illustration.
- After page 11, stop to ask students what the face of a geometric solid is? Guide them in completing the semantic feature analysis based on how many faces the text mentions for each solid.
- After page 16, guide students in completing the semantic feature analysis based on the new information from the story.
- After page 20, ask students to explain what the base of a shape is. Guide students to complete the semantic feature analysis for the shape of each solid's base mentioned in the text.

After Reading

- Students will work in pairs to compare and contrast the geometric solids using their semantic feature analysis.
- During the lesson we used a chart (semantic feature analysis) to define different 3D shapes. You can use this type of chart with Science, Math, Health, or Reading vocabulary. Can you think about what words this would work well with? *When we study animals.*
- You are going to use what you just learned about the properties of different 3D shapes in our math lesson.