Prisms

Middle School Activity 1

Overview:
In this activity students design and assemble various prisms. Students compare various types of prisms based on surface area and volume.

Objectives:

- Use spatial relationships to design a 3-D object from its 3-D component parts
- Specify the position of 3-D objects using Cartesian coordinates
- Calculate the volume of a cylinder and a prism
- Use multiple views to align geometric figures
- Combine basic 3-D figures to form a more complex figure
- Design a polygon
- Rotate a polygon design within the software
- Learn about dimensioning
- Learn the proper geometric terminology
- Go from the abstract of design to the concrete of building the three-dimensional model

Required Materials:

- Computer (Macintosh or PC) with printer
- aspexTabsMST 3-D Design & Mathematics software
- Card stock (maximum 110 lbs)
- Ruler
- Scissors
- Glue stick or tape

Terms to Know:
Define the following vocabulary terms:

- Polygon: an enclosed two dimensional figure with straight sides
- Regular Polygon: a polygon in which all sides are the dame length
- Triangle: a three-sided polygon
- Quadrilateral: a four-sided polygon
- Square: a quadrilateral with all sides equal and angles equal
- Pentagon: a five-sided polygon
- Hexagon: a six-sided polygon
- Heptagon: a seven-sided polygon
- Octagon: an eight-sided polygon
- Nonagon: a nine-sided polygon
- Decagon: a ten-sided polygon
- Undecagon: an eleven-sided polygon
- Dodecagon: a twelve-sided polygon
- Net: a two-dimensional pattern that can be folded into a 3-dimensional figure