

Blow Up a Missile! Activity

Objectives:

- Create scale nets of cylinders with given dimensions
- Use of simple measuring devices (yard sticks, rulers, measuring tapes)

Materials:

Although the class is working on the same project, it will be split into about 5 groups. Each group is given the tasks of make one part of the missile. Each group will consist of 5-6 students. As a class you will need the following materials:

- ✓ 1 roll clear painter's plastic (12X400 is plenty)
- ✓ Several pairs of scissors
- ✓ 5 rolls clear packing tape
- ✓ Yard Sticks or Measuring Tapes
- ✓ Box Fans

Procedure:

1. Discuss as a class the information needed to find the dimensions of the net to build the missile. Discuss the shape as being a cylinder and the 2 dimensional shapes the make a cylinder (rectangle and 2 circles). Using the dimensions: diameter 84 inches and length 44 feet, discuss the amount of painters plastic needed to make each part of the cylinder.
2. Instruct groups to cut out the pieces necessary to build a specific rectangles and circles. Students will cut out each piece of the net and tape it together so that there are no holes (an airtight bubble except the part to insert the box fans). As they are constructing the cylinder, instruct them to write in permanent marker the dimensions of each piece of plastic.
3. Once students have built their cylinder/missile, find a large area to inflate the missile using the fans (example the gym). Stretch the missile across the floor, insert the box fans and tape the plastic to the box fan so that it is air-tight. Turn the fan on low speed at first then it may be increased as the bubble starts to inflate more. Hold the fan at first, so it does not tip over. As the "bubble" starts to inflate, take a pair of scissors and cut a slit about 3 feet long in another side of the "bubble". Avoid cutting directly across from the box fan. This will prevent the bubble from lifting off the floor. It also serves as a door to get inside if students wish to explore.