7th Grade Smartboard lesson on Surface Area and Volume.

Indicators to cover.

7ME8, Understand the difference between surface area and volume and demonstrate that two objects may have the same surface area, but different volumes or may have the same volume, but different surface areas.

7ME9, Describe what happens to the surface area and volume of a three-dimensional object when the measurements of the object are changed; e.g., length of sides are doubled.

8ME4, Derive formulas for surface area and volume and justify them using geometric models and common materials. For example, find:

a. the surface area of a cylinder as a function of its height and radius;

b. that the volume of a pyramid (or cone) is one-third of the volume of a prism (or cylinder) with the same base area and height

8ME9,Demonstrate understanding of the concepts of perimeter, circumference and area by using established formulas for triangles, quadrilaterals, and circles to determine the surface area and volume of prisms, pyramids, cylinders, spheres and cones. (Note: Only volume should be calculated for spheres and cones.)

8ME10, Use conventional formulas to find the surface area and volume of prisms, pyramids and cylinders and the volume of spheres and cones to a specified level of precision

Develop a lesson from the above indicators that addresses the steps for calculating surface area and volume of rectangular and triangular prism and pyramids, Cylinders and Cones.

Slide 1 will Clearly State the intended learning from the Smart board lesson.

Slide 2. Identify a Rectangular prism and show the net of it.

Slide 3. Show the steps involved in calculating volume of a rectangular prism.

Slide 4. Show Steps involved in Calculating Surface Area of a prism.

Slide 5 though 7. Repeat for Triangular prism

Slide 8 through 10 Repeat for Rectangular pyramid

Slide 11 Through 13 Repeat for Triangular pyramid

Slide 14 through 16 repeat for cylinder

Slide 17 through 19 Repeat for Cone.

Slide 20 through 23- Have a quiz over above.

The presentation must include

1. 3 dimensional images,
2. Interactive slides that students will manipulate to show learning. Example a way to unfold images to create nets.
3. Clear labels
4. Quiz must include answers

In these slides there needs to be interactive slides that is slides that another student can come to the smart board and manipulate to support learning.

Final slides need to be interactive quiz on learning.