The Importance of Surface to Volume Ratio (SVR) in Everyday Life.

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Abstract:

In this curriculum, students will explore the role of surface area of different plane figures (laminas) i.e. rectangles, squares, trapezoids, rhombuses, parallelograms, circular discs, annular discs etc. Surface areas of solid figures (i.e. 3-dimensional figures) are equally important and it is related with volume. Special emphasis is given to the exercises involving surface area and volumes of prisms, pyramids, cubes, cones, spheres and hemispheres.

This unit is intended for students in grade ten, grade eleven and grades twelve. Students of tenth grade find several geometry connections in surface area and volume. They can spend five class periods of fifty minutes each to understand the surface area of planar and solid figures. Once they understand the concept of volume, they can establish the relation between surface area and volume. Students of grade eleven can connect to the rate of chemical reaction and speed of evaporation. However, students of twelfth grade find physics connection in this unit. They will be able to understand the concept of surface – tension, evaporation, surface area/volume ratio at macro, micro and nano level.