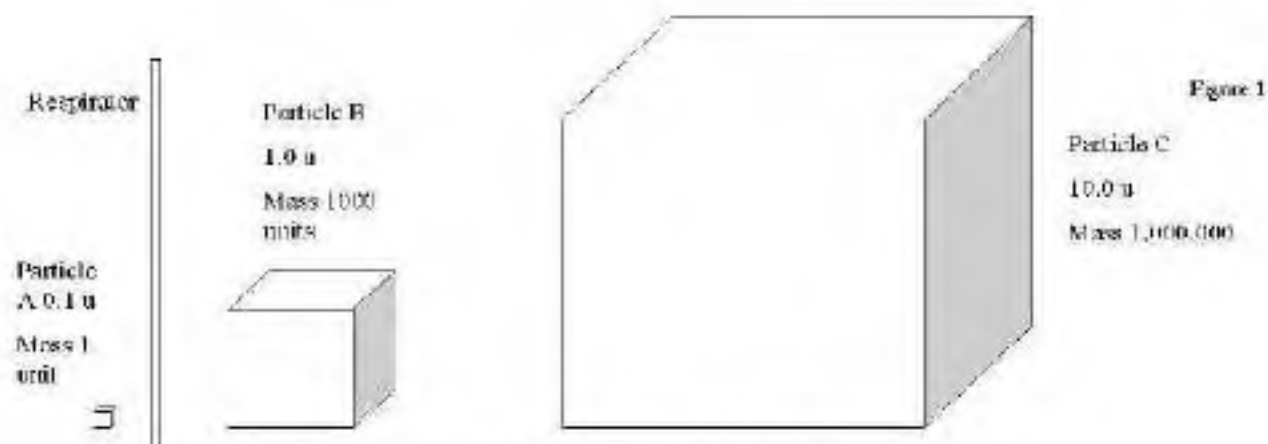




These cubes (not to scale) illustrate the effects of increasing radial size on mass. Each cube has approximately ten times the edge length of the previous one, but much more than ten times the volume - one thousand times the volume, in fact. Since volume determines mass, clearly mass increases much faster than size. If a hypothetical respirator let only particle A through, it would be over 99.9999% efficient by mass, but only 66% efficient by count - and the smaller particles are more dangerous to the respiratory system.