A nurse must set up an IV to deliver 15,500mg of medicine to a patient over a 24 hour period. At what rate in mL/sec must the medicine be delivered if the concentration in the IV solution is 325μg/mL?

The principle source of magnesium is through extraction from seawater by the Dow process. The concentration of Mg in seawater is 1.4g per kilogram. The annual production of Mg in the US is 1.0 x 105 tons. What volume, in miles3, of seawater must be processed to yield this much magnesium? (The density of seawater is 1.03g/cm3 and 1 ton = 2000lbs.)

Earth’s ice caps contain 7.2 million miles cubed of ice.

1. Determine the mass of ice in tons. (1mile =1.61km; density of ice = 0.920g/cm3; 1oz =28.35g; 1lb =16oz; 1ton = 2000lbs)
2. If all the ice melts its volume will decrease by 10.0%. Estimate the rise in sea level that will occur in meters when the ice melts. The world’s oceans cover 1.4 x 108 square miles.