Problem 2.

A unit cell of a crystal of natrium chloride (common salt- NaCl) is a cube with the edge length $a = 5.6 \cdot 10^{-10}$ m (Fig.2). The black circles in the figure stand for the position of natrium atoms whereas the white ones are chlorine atoms. The entire crystal of common salt turns out to be a repetition of such unit cells. The relative atomic mass of natrium is 23 and that of chlorine is 35,5. The density of the common salt $\rho = 2.22 \cdot 10^3$ kg/m^3 . Find the mass of a hydrogen atom.