Example 5 What is the mass of 3.67×10^{24} formula units of K_2O?

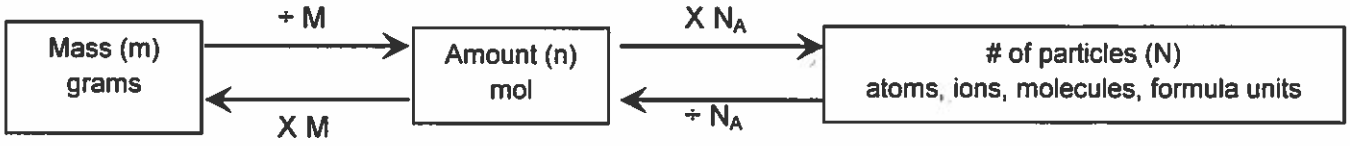
M of K_2O = $(2 \times 39.098) + (15.999) = 94.195\ g/mol$

First n = ? $\frac{3.67 \times 10^{24}\ f.u}{6.022 \times 10^{23}\ f.u} = 6.094320824\ mol.$

mass = ? $6.094320824\ mol \times \frac{94.195\ g}{1\ mol} = 574.05455\ g \rightarrow 574\ g$

Summary So Far

Name (symbol)	**Unit**
Particle Mass (M)	u
Avogadro's Number (N_A)	6.022×10^{23} particles/mol
Number of particles (N)	atoms, ions, molecules, formula units
mole (n)	mol
mass (m)	g
Molar Mass (M)	g/mol



Equations: $N = n \times N_A$ $m = n \times M$

HW: page 235 Q# 32,33,37,40; page 237 Q# 41,42; pg 239 Q# 51,52 pg 242 Q# 61a,b,62a,b,63,64,66,67