

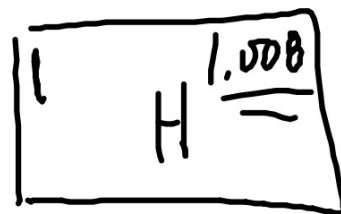
Quiz

$$\text{atoms} = (\text{mol}) (N_A)$$

$$N_A = 6.022 \times 10^{23} \frac{\text{atoms}}{\text{mol}}$$

$$\text{mol} = \frac{\text{atoms}}{N_A}$$

$$\text{mol} = \frac{g}{\text{at. mass (Periodic Table)}}$$



$$g = (\text{mol})(\text{at. mass})$$

$$1 \text{ a mol Ca} = \frac{g_{\text{Ca}}}{\text{at mass Ca}}$$

$$= \frac{300 \text{ g}}{40.08 \text{ g/mol}}$$

$$= 19.96 \text{ mol}$$

$$1g \quad 80kg \lesssim 80kg \overset{10^3}{\underset{10^0}{g}} = 80,000g$$

$$mol S = \frac{g}{at, mass S}$$

$$= \frac{80,000g}{32.06g/mol} = 2500mol$$

1j 9.03×10^{23} atoms S

$$\text{mol S} = \frac{\text{atoms S}}{N_A}$$

$$= \frac{9.03 \times 10^{23} \text{ atoms}}{6.022 \times 10^{23} \frac{\text{atoms}}{\text{mol}}}$$

$$= 1.5 \text{ mol}$$

10. atoms in 8.1 mol Na

$$\begin{aligned}\text{atoms} &= (\text{mol Na})(N_A) \\ &= (8.1 \text{ mol})(6.022 \times 10^{23} \frac{\text{atoms}}{\text{mol}})\end{aligned}$$

$$= 4.8 \times 10^{23} \text{ atoms}$$

$$4.8 \times 10^{24} \text{ atoms}$$

$$\begin{aligned} 1 \text{ k mol Pb} &= \frac{\text{g Pb}}{\text{at mass Pb}} \\ &= \frac{1035 \text{ g}}{207 \text{ g/mol}} = 5 \text{ mol} \end{aligned}$$