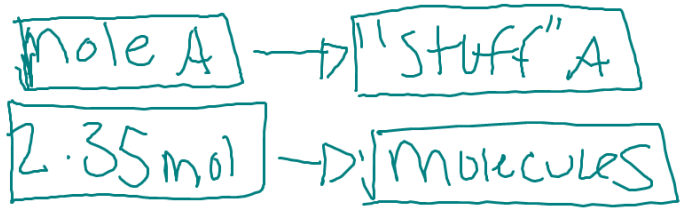
Ex 2: How many molecules are in 2.35 moles of molecules?



$$2.35\ \text{mol} \times \frac{\text{"A" molecules}}{1\ \text{mol}} = 1.42 \times 10^{24}\ \text{molecules}$$

3.4 Molar Mass

1 mol C = 12.01 g these numbers are found on the periodic table

1 mol Na = 22.98

1 mol H_2O = 18.0 b/c (1.0) (2 H) + (16) (1 Oxygen) = 18

Ex 3: How many mol are in 25.0g of Carbon?

$$25.0\ \text{g C} \times \frac{1\ \text{mol}}{12.01\ \text{g C}} = 2.08\ \text{mol C}$$

Ex 4: How many Fe atoms are in 675g of Fe?

mass Fe → mol Fe → atoms Fe

$$675\ \text{g Fe} \cdot \frac{1\ \text{mol Fe}}{55.84\ \text{g Fe}} \cdot \frac{\text{"A" atoms}}{1\ \text{mol Fe}} = 7.28 \times 10^{24}\ \text{atoms Fe}$$