

## Atomic Mass

- Weighted average of all isotopes of an element
- These are relative masses (the mass of one type of atom compared to another)
- In *atomic mass units*, amu ( $1.66 \times 10^{-24}$  g)

↙ 1/12 the mass of carbon-12

Rule: Round atomic masses to the nearest tenth

Ex: Na = 23.0

Ca = 40.1

One exception: Hydrogen 1.01

## Formula Mass/Molecular Mass

- Mass of a formula unit or molecule
- Add masses of each atom together

Ex: NaCl    1 Na    23.0  
               1 Cl    + 35.5  
                           58.5 amu/ unit

Ex: Ca(NO<sub>3</sub>)<sub>2</sub>    1 Ca    40.1  
                           2 N    2(14.0)  
                           6 O    + 6(16.0)  
                                   164.1 amu/ unit

## Percent Composition

Percent by mass of each element in a compound

Ex: Ca(NO<sub>3</sub>)<sub>2</sub>

Ca	40.1	}	÷ 164.1 × 100	24.4% Ca
N	28.0			17.1% N
O	+ <u>96.0</u>			58.5% O
	164.1			