

Average Mass of an Element

The element neon is composed of 3 isotopes. The abundances and isotopic masses are listed in the table below. What is the weighted-average atomic mass of neon in atomic mass units, u?

atomic mass (u)	abundance (%)
19.992	90.92
20.994	0.257
21.991	8.82

$$\text{W.A.A.M.} = \text{Abund}_1 \times \text{A.M.}_1 + \text{Abund}_2 \times \text{A.M.}_2 + \text{Abund}_3 \times \text{A.M.}_3$$

$$\text{W.A.A.M.} = 0.9092 \times 19.992 \text{ u} + 0.00257 \times 20.994 \text{ u} + 0.0882 \times 21.991 \text{ u}$$

$$\text{W.A.A.M.} = 20.170 \text{ u}$$