

Name _____

WEIGHTED ATOMIC MASS WORKSHEET

Isotope	At. Mass (amu)	x	Percent Abundance	=	Mass part from isotope
Oxygen-16	15.99491	x	99.759%	=	15.9564 amu
Oxygen-17	16.99474	x	0.037%	=	0.00628805 amu
Oxygen-18	17.99477	x	0.204%	=	0.0367093 amu
			100% (TOTAL)	=	15.99939735 amu

Isotope	At. Mass (amu)	x	Percent Abundance	=	Mass part from isotope
Hydrogen -1	1.0078	x	99.985%	=	
Hydrogen - 2	2.014	x	0.015%	=	
			100% (TOTAL)	=	

Boron consists of mainly two isotopes, boron-10 and boron-11. Boron-10 is 19.6% of naturally occurring boron and has a mass of 10.01294 amu. Boron-11 is 80.4% of naturally occurring boron and has a mass of 11.00931 amu.

- A) Calculate the weighted average atomic mass of boron.
 B) How does your calculated value compare with the value in the periodic table?

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KEY

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			100% (TOTAL)	=	15.99939735 amu

Isotope	At. Mass (amu)	x	Percent Abundance	=	Mass part from isotope
Hydrogen - 1	1.0078	x	99.985%	=	1.00764883
Hydrogen - 2	2.014	x	0.015%	=	0.0003021
			100% (TOTAL)	=	1.00795093 amu

Boron consists of mainly two isotopes, boron-10 and boron-11. Boron-10 is 19.6% of naturally occurring boron and has a mass of 10.01294 amu. Boron-11 is 80.4% of naturally occurring boron and has a mass of 11.00931 amu.

A) Calculate the weighted average atomic mass of boron.

B) How does your calculated value compare with the value in the periodic table?

$${}^{10}\text{B} \quad 10.01294 \times .196 = 1.96253624$$

$${}^{11}\text{B} \quad 11.00931 \times .804 = 8.8513164$$

$$\underline{10.81385264} \text{ amu}$$