

1. Complete the following table:

Symbol	Name	Atomic number	Mass number	# particles in nucleus	# protons	# neutrons	# electrons
${}_{11}^{23}\text{Na}$	sodium-23	11	23	23	11	12	11
${}_{29}^{60}\text{Cu}$							
			22		10		
	Oxygen-18						
${}_{19}^{39}\text{K}$							
				37			17
		36				42	36
${}^{80}\text{Br}$							
		12	25				
					7	7	10
	Uranium-235						
${}^{14}\text{C}$							
						98	88

2. Explain which particle defines an atoms chemical identity.

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3. What would be the resulting atom if two lithium-6 atoms were fused together? Explain.

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1. Naturally occurring lead exists as four stable isotopes:

$^{204}\text{Pb}$	203.973 amu	1.480%
$^{206}\text{Pb}$	205.974 amu	23.60%
$^{207}\text{Pb}$	206.9759 amu	22.60%
$^{208}\text{Pb}$	207.9766 amu	52.30%

What is the atomic weight of lead? Ans: \_\_\_\_\_

2. Naturally occurring magnesium consists of three stable isotopes:

$^{24}\text{Mg}$	23.985 amu	78.99%
$^{25}\text{Mg}$	24.986 amu	10.00%
$^{26}\text{Mg}$	25.983 amu	11.01%

What is the atomic weight of magnesium? Ans: \_\_\_\_\_

3. Naturally occurring silicon consists of three stable isotopes:

$^{28}\text{Si}$	27.977 amu	92.21%
$^{29}\text{Si}$	28.976 amu	4.70%
$^{30}\text{Si}$	? amu	3.09%

Atomic weight = 28.09 amu

What is the atomic mass of Si-30? Ans: \_\_\_\_\_

4. Naturally occurring sulfur has four stable isotopes:

$^{32}\text{S}$	31.972 amu	95.002%
$^{33}\text{S}$	32.971 amu	0.76%
$^{34}\text{S}$	33.967 amu	4.22%
$^{36}\text{S}$	35.967 amu	0.014%

What is the atomic mass of sulfur? Ans: \_\_\_\_\_

5. Explain the difference in atomic mass and mass number.

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