

# Chemistry Atomic Structure Worksheet

1. The table below contains information about several atoms. Use the information given to fill in the blanks. Assume all atoms are neutral.

Element name	Nuclear Symbol	Atomic Number	Mass Number	# of Protons	# of Neutrons	# of Electrons
			23	11		
		17			18	
				19	20	
			65			30
		10	20			

2. The table below contains information about several isotopes. Use the information given to fill in the blanks. Assume all atoms are neutral.

Isotope name	Nuclear Symbol	Atomic Number	Mass Number	# of Protons	# of Neutrons	# of Electrons
	$^{40}\text{Ca}_{20}$					
				26	30	
					10	8
Gold - 197						
	$^{195}\text{Pt}_{78}$					

3. The table below contains information about several ions. Use the information given to fill in the blanks.

Element name	Ion Symbol	Atomic Number	Mass Number	# of Protons	# of Neutrons	# of Electrons
	$\text{Cl}^-$		35			
Silver					60	
			16			10
Aluminum					14	
			32		16	

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## Answers

1. The table below contains information about several atoms. Use the information given to fill in the blanks. Assume all atoms are neutral.

Element name	Nuclear Symbol	Atomic Number	Mass Number	# of Protons	# of Neutrons	# of Electrons
Sodium	Na	11	23	11	12	11
Chlorine	Cl	17	35	17	18	17
Potassium	K	19	39	19	20	19
Zinc	Zn	30	65	30	35	30
Neon	Ne	10	20	10	10	10

2. The table below contains information about several isotopes. Use the information given to fill in the blanks. Assume all atoms are neutral.

Isotope name	Nuclear Symbol	Atomic Number	Mass Number	# of Protons	# of Neutrons	# of Electrons
Calcium - 40	$^{40}\text{Ca}_{20}$	20	40	20	20	20
Iron - 56	$^{56}\text{Fe}_{26}$	26	56	26	30	26
Oxygen - 18	$^{18}\text{O}_8$	8	18	8	10	8
Gold - 197	$^{197}\text{Au}_{79}$	79	197	79	118	79
Platinum - 195	$^{195}\text{Pt}_{78}$	78	195	78	117	78

3. The table below contains information about several ions. Use the information given to fill in the blanks.

Element name	Ion Symbol	Atomic Number	Mass Number	# of Protons	# of Neutrons	# of Electrons
Chlorine	$\text{Cl}^-$	17	35	17	18	18
Silver	$\text{Ag}^+$	47	107	47	60	46
Oxygen	$\text{O}^{2-}$	8	16	8	8	10
Aluminum	$\text{Al}^{3+}$	13	27	13	14	10
Sulfur	$\text{S}^{2-}$	16	32	16	16	18