

Periodic Table of the Elements

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
H 1s ¹ 1																	He 1s ² 2
Li 2s ¹ 1	Be 2s ² 2											B 2s ² 2p ¹ 3	C 2s ² 2p ² 4	N 2s ² 2p ³ 5	O 2s ² 2p ⁴ 6	F 2s ² 2p ⁵ 7	Ne 2s ² 2p ⁶ 8
Na 3s ¹ 1	Mg 3s ² 2											Al 3s ² 3p ¹ 3	Si 3s ² 3p ² 4	P 3s ² 3p ³ 5	S 3s ² 3p ⁴ 6	Cl 3s ² 3p ⁵ 7	Ar 3s ² 3p ⁶ 8
K 4s ¹ 1	Ca 4s ² 2	Sc 4s ² 3d ¹ 2	Ti 4s ² 3d ² 2	V 4s ² 3d ³ 2	Cr 4s ² 3d ⁴ 2	Mn 4s ² 3d ⁵ 2	Fe 4s ² 3d ⁶ 2	Co 4s ² 3d ⁷ 2	Ni 4s ² 3d ⁸ 2	Cu 4s ² 3d ⁹ 2	Zn 4s ² 3d ¹⁰ 2	Ga 4s ² 3d ¹⁰ 4p ¹ 3	Ge 4s ² 3d ¹⁰ 4p ² 4	As 4s ² 3d ¹⁰ 4p ³ 5	Se 4s ² 3d ¹⁰ 4p ⁴ 6	Br 4s ² 3d ¹⁰ 4p ⁵ 7	Kr 4s ² 3d ¹⁰ 4p ⁶ 8
Rb 5s ¹ 1	Sr 5s ² 2	Y 5s ² 4d ¹ 2	Zr 5s ² 4d ² 2	Nb 5s ² 4d ³ 2	Mo 5s ² 4d ⁴ 2	Tc 5s ² 4d ⁵ 2	Ru 5s ² 4d ⁶ 2	Rh 5s ² 4d ⁷ 2	Pd 5s ² 4d ⁸ 2	Ag 5s ² 4d ⁹ 2	Cd 5s ² 4d ¹⁰ 2	In 5s ² 4d ¹⁰ 5p ¹ 3	Sn 5s ² 4d ¹⁰ 5p ² 4	Sb 5s ² 4d ¹⁰ 5p ³ 5	Te 5s ² 4d ¹⁰ 5p ⁴ 6	I 5s ² 4d ¹⁰ 5p ⁵ 7	Xe 5s ² 4d ¹⁰ 5p ⁶ 8
Cs 6s ¹ 1	Ba 6s ² 2		Hf 6s ² 4f ¹⁴ 5d ² 2	Ta 6s ² 4f ¹⁴ 5d ³ 2	W 6s ² 4f ¹⁴ 5d ⁴ 2	Re 6s ² 4f ¹⁴ 5d ⁵ 2	Os 6s ² 4f ¹⁴ 5d ⁶ 2	Ir 6s ² 4f ¹⁴ 5d ⁷ 2	Pt 6s ² 4f ¹⁴ 5d ⁸ 2	Au 6s ² 4f ¹⁴ 5d ⁹ 2	Hg 6s ² 4f ¹⁴ 5d ¹⁰ 2	Tl 6s ² 4f ¹⁴ 5d ¹⁰ 6p ¹ 3	Pb 6s ² 4f ¹⁴ 5d ¹⁰ 6p ² 4	Bi 6s ² 4f ¹⁴ 5d ¹⁰ 6p ³ 5	Po 6s ² 4f ¹⁴ 5d ¹⁰ 6p ⁴ 6	At 6s ² 4f ¹⁴ 5d ¹⁰ 6p ⁵ 7	Rn 6s ² 4f ¹⁴ 5d ¹⁰ 6p ⁶ 8
Fr 7s ¹ 1	Ra 7s ² 2		Rf 7s ² 5f ¹⁴ 6d ² 2	Db 7s ² 5f ¹⁴ 6d ³ 2	Sg 7s ² 5f ¹⁴ 6d ⁴ 2	Bh 7s ² 5f ¹⁴ 6d ⁵ 2	Hs 7s ² 5f ¹⁴ 6d ⁶ 2	Mt 7s ² 5f ¹⁴ 6d ⁷ 2	Uun 7s ² 5f ¹⁴ 6d ⁸ 2	Uuu 7s ² 5f ¹⁴ 6d ⁹ 2	Uub 7s ² 5f ¹⁴ 6d ¹⁰ 2						

Directions: In the space provided for each element:
 1. write the predicted outer electron configuration
 2. write the number of valence electrons

Please Note: These are the predicted configurations, however, there are many exceptions, especially within the transition and inner transition metals

La 6s ² 4f ¹ 2	Ce 6s ² 4f ² 2	Pr 6s ² 4f ³ 2	Nd 6s ² 4f ⁴ 2	Pm 6s ² 4f ⁵ 2	Sm 6s ² 4f ⁶ 2	Eu 6s ² 4f ⁷ 2	Gd 6s ² 4f ⁸ 2	Tb 6s ² 4f ⁹ 2	Dy 6s ² 4f ¹⁰ 2	Ho 6s ² 4f ¹¹ 2	Er 6s ² 4f ¹² 2	Tm 6s ² 4f ¹³ 2	Yb 6s ² 4f ¹⁴ 2	Lu 6s ² 4f ¹⁴ 5d ¹ 2
Ac 7s ² 5f ¹ 2	Th 7s ² 5f ² 2	Pa 7s ² 5f ³ 2	U 7s ² 5f ⁴ 2	Np 7s ² 5f ⁵ 2	Pu 7s ² 5f ⁶ 2	Am 7s ² 5f ⁷ 2	Cm 7s ² 5f ⁸ 2	Bk 7s ² 5f ⁹ 2	Cf 7s ² 5f ¹⁰ 2	Es 7s ² 5f ¹¹ 2	Fm 7s ² 5f ¹² 2	Md 7s ² 5f ¹³ 2	No 7s ² 5f ¹⁴ 2	Lr 7s ² 5f ¹⁴ 6d ¹ 2