

3.3.20

Electrons: Electron Configuration, day 2

Today's Objectives:

- Give the electron configuration for elements up to 54
- Recognize an element from its electron configuration
- Use the 'Noble Gas' configuration
- Use the PT shortcut

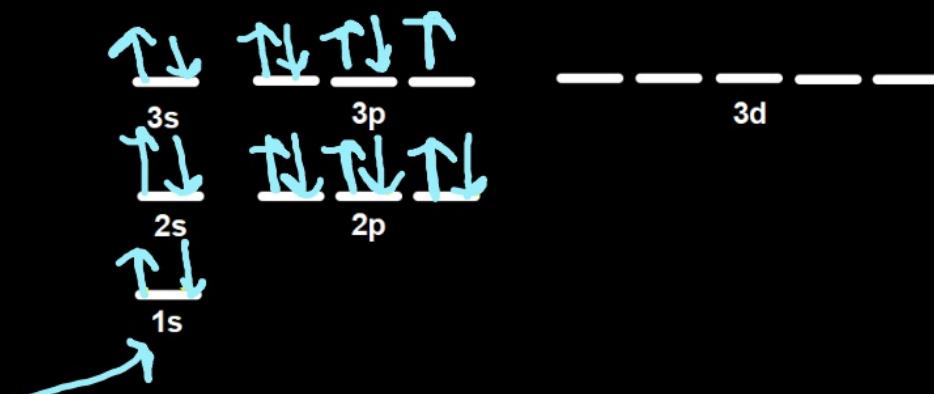
Noble Gases



1. How many electrons fit into each of these orbitals?

s	p	d	f
2	6	10	14

2. Fill in the electron energy diagram for Chlorine (Cl).



Total
electrons
17

3. Write the electron configuration for Chlorine.

$1s^2 2s^2 2p^6 3s^2 3p^5$

Noble Gas Configuration (time saver)

1. Find the element on the PT.
2. Find the previous Noble Gas, put it in brackets.
3. List everything in its row, including the element.

Ex: Chlorine Full Electron Configuration

$1s^2 2s^2 2p^6 3s^2 3p^5$

Ne on

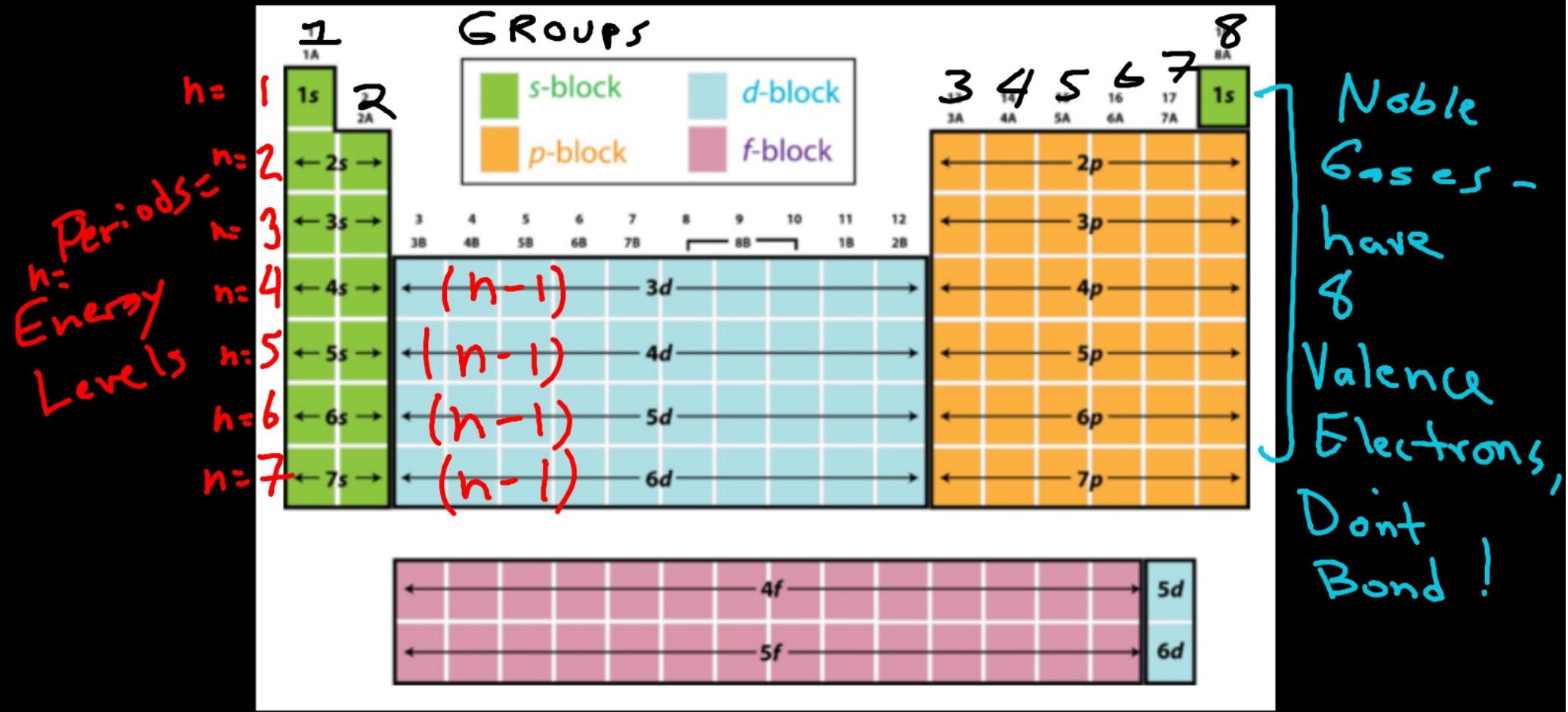
$]+ 3s^2 3p^5$

equal

Chlorine Noble Gas Configuration (Optional)

$[Ne] 3s^2 3p^5$

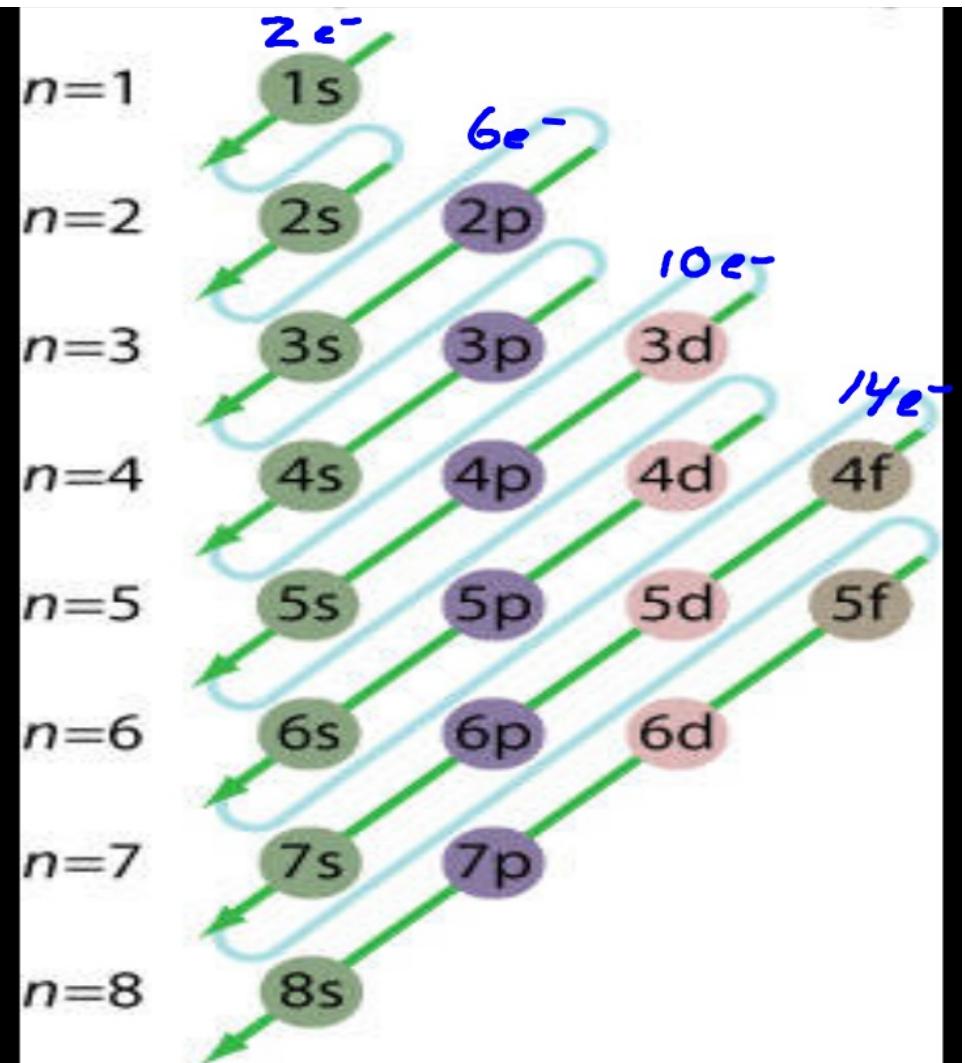
Periodic Table Blocks



K

Co

Zr



JFF: The Extended Periodic Table

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18														
1 H 1.008	4 Be 9.0122	21 Sc 44.956	22 Ti 47.867	23 V 50.942	24 Cr 51.996	25 Mn 54.938	26 Fe 55.845	27 Co 56.933	28 Ni 58.693	29 Cu 63.546	30 Zn 65.38	31 Ga 69.723	32 Ge 72.630	33 As 74.922	34 Se 78.971	35 Br 79.904	36 Kr 83.798														
3 Li 6.94	12 Mg 24.305	20 Ca 40.078	38 Sr 87.62	39 Y 88.906	40 Zr 91.224	41 Nb 92.906	42 Mo 95.95	43 Tc 96.906	44 Ru 101.07	45 Rh 102.91	46 Pd 106.42	47 Ag 107.87	48 Cd 112.41	49 In 114.82	50 Sn 118.71	51 Sb 121.76	52 Te 127.60	53 I 126.90	54 Xe 131.29												
5 Cs 132.91	56 Ba 137.33	57 La 138.91	58 Ce 140.12	59 Pr 140.91	60 Nd 144.24	61 Pm 144.91	62 Sm 150.36	63 Eu 151.98	64 Gd 157.25	65 Tb 158.93	66 Dy 162.50	67 Ho 164.93	68 Er 167.26	69 Tm 168.93	70 Yb 173.05	71 Lu 174.97	72 Hf 178.49	73 Ta 180.95	74 W 183.84	75 Re 186.21	76 Os 190.23	77 Ir 192.22	78 Pt 195.08	79 Au 196.97	80 Hg 200.59	81 Tl 204.38	82 Pb 207.2	83 Bi 208.98	84 Po 208.98	85 At 209.99	86 Rn 222.02
87 Fr 223.02	88 Ra 226.03	89 Ac 227.03	90 Th 232.04	91 Pa 231.04	92 U 238.03	93 Np 237.05	94 Pu 244.06	95 Am 243.08	96 Cm 247.07	97 Bk 251.08	98 Cf 252.08	99 Es 257.10	100 Fm 259.10	101 Md 262.11	102 No 267.12	103 Lr 270.13	104 Rf 270.13	105 Db 270.13	106 Sg 270.13	107 Bh 270.13	108 Hs 270.13	109 Mt 278.16	110 Ds 281.17	111 Rg 285.18	112 Cn 286.18	113 Nh 289.19	114 Fl 289.20	115 Mc 293.21	116 Lv 293.21	117 Ts 294.21	118 Og

Periodic Table
www.webelements.com

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