

Strong Nuclear Forces

↳ keeps nucleus stable
holds it together
won't "explode"

Oct 14-9:24 AM

At. mass
(#p + #n) 23

Na

11p, 12n
nucleus

, 11e⁻

#p

At #

nuclear charge

(+11)

2-8-1

n = (1), (2), (3)

↑ energy level

2n² max # e⁻
Per energy level

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Rows (Periods) correspond to the # of occupied energy levels.

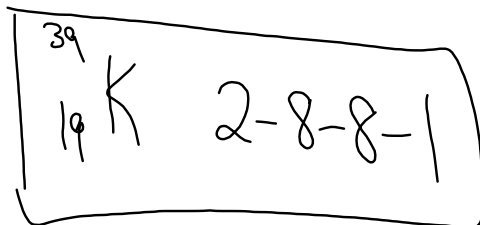
Columns (Groups) 1, 2, 13 → 18

Same # of Valence e⁻

2-8-1 outermost energy level

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<u>Energy level</u>	<u>Max #e⁻ (2n²)</u>
1	2
2	8
3	18
4	32



Why not 2-8-9?

- ① Group 1 → Valence of "1"
- ② 4th period → need 4 occupied energy levels.
- ③ STABLE

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STABLE OCTET

→ 8 is a good # for e⁻ stability.

→ Energy level ^{Period on P.T.} $n = 1, 2, 3, 4, \dots$

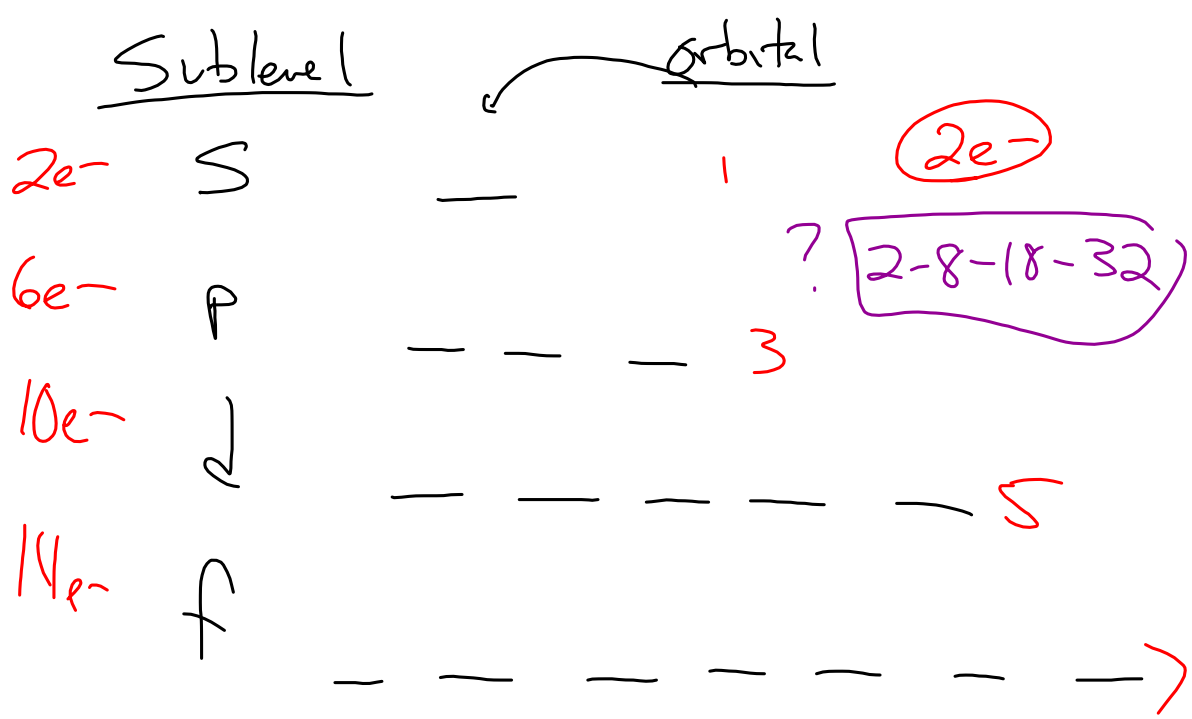
Sublevels
(s, p, d, f)

Orbital
Max 2 e⁻

Spin

2	1s ²			
8	2s ²	2p ⁶		
18	3s ²	3p ⁶	3d ¹⁰	
32	4s ²	4p ⁶	4d ¹⁰	4f ¹⁴

Oct 14-9:51 AM



Oct 14-9:59 AM