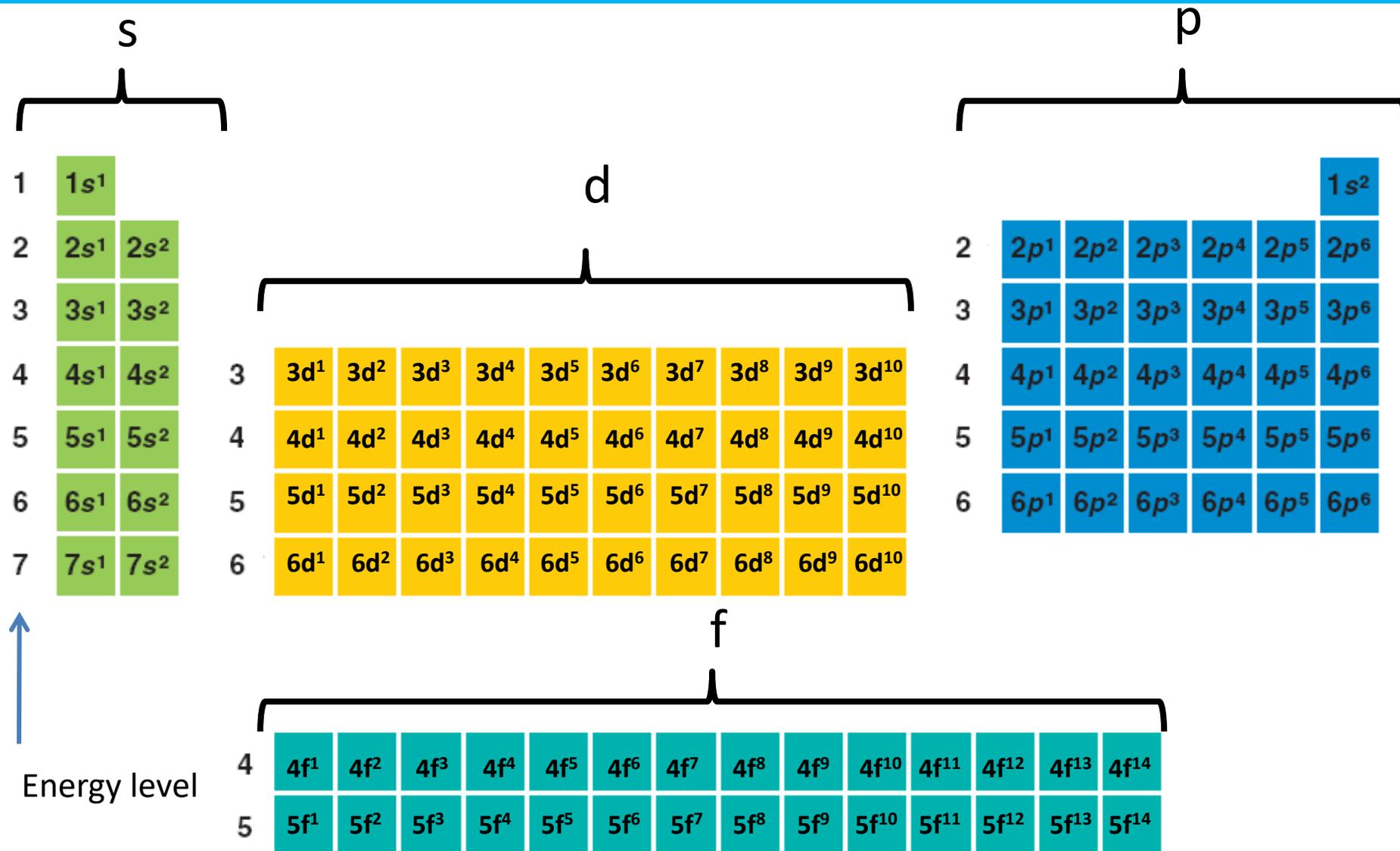
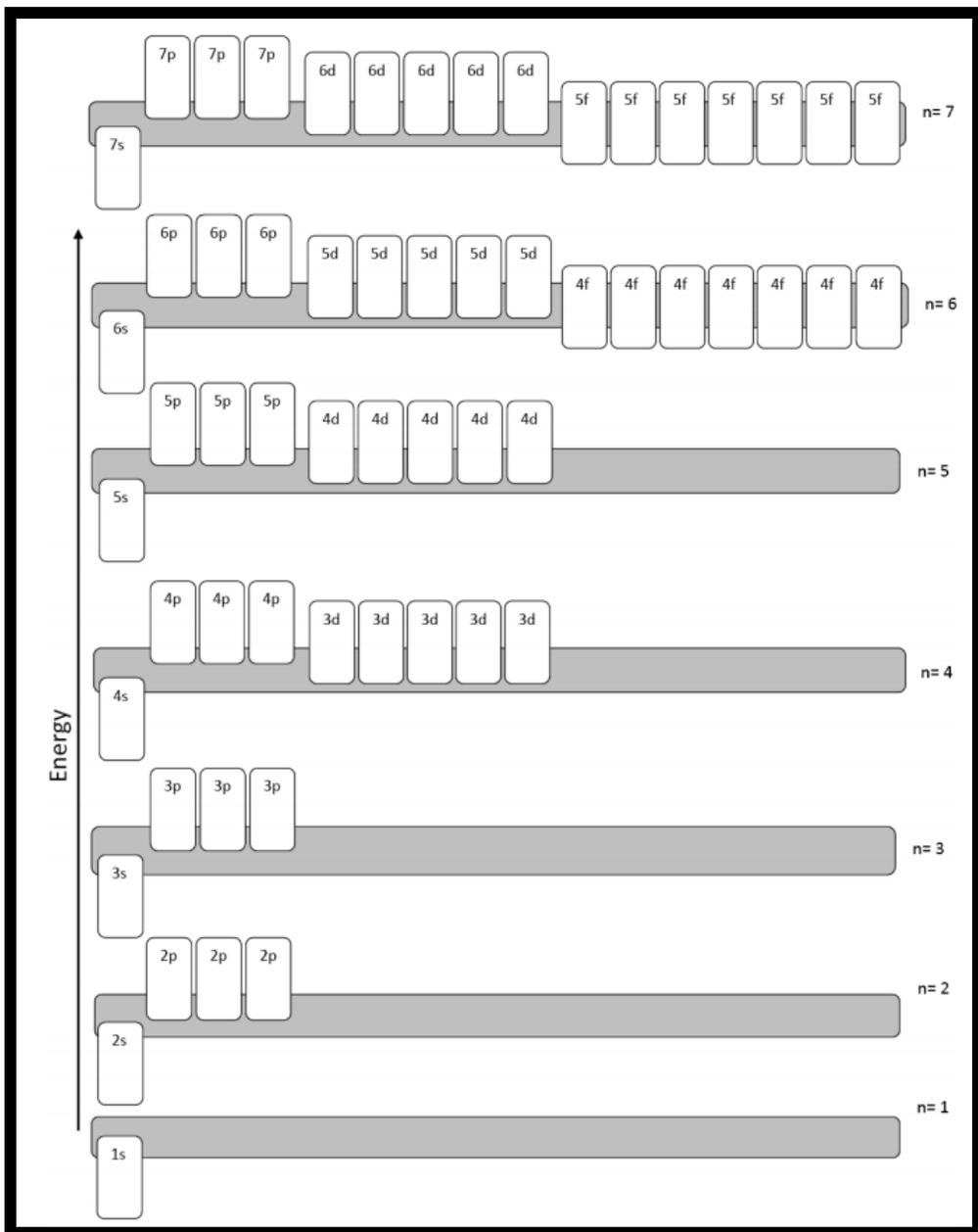




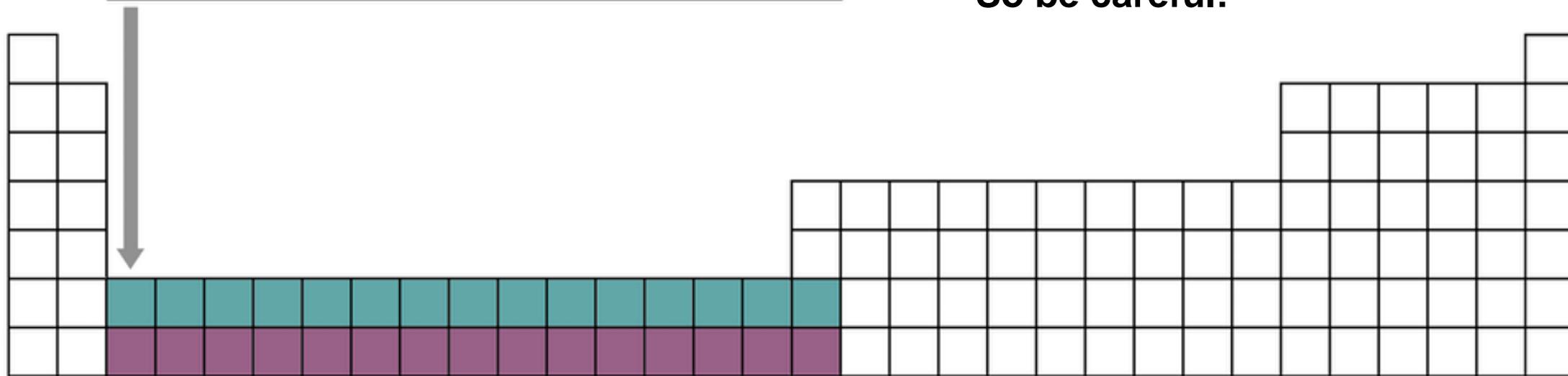
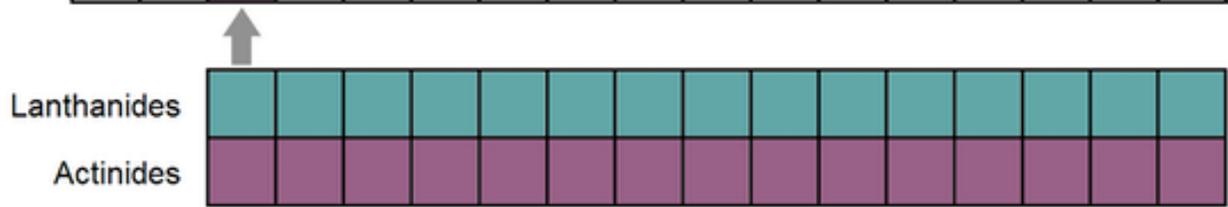
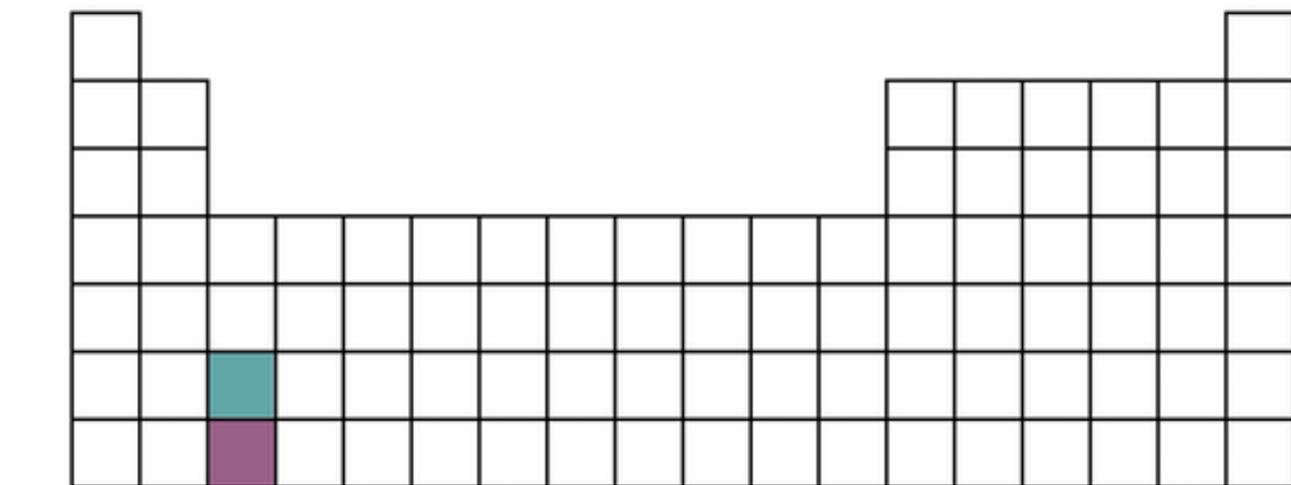
# The periodic table orders elements for you!





- **The periodic table rows and “blocks” are in the same order as our orbital diagram!**
- **Once you can see the pattern you won’t need an orbital diagram anymore!**
- **It takes significant practice, and some people have an easier time seeing patterns than others. But with practice you will be able to write an electron configuration with nothing but your periodic table!**

## The placement of the Lanthanides and Actinoides



- See why we don't put the f-block where it actually belongs????
- It takes up so much space, and they are elements that we hardly ever use.
- For electron configurations we need to make sure we remember that it actually belongs inside the periodic table though!
- So be careful!

**Time to set up our  
Periodic Table so we can  
see the trick!**

**S-block**

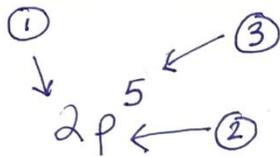
+1 +2

1  
2  
3  
4  
5  
6  
7

Hydrogen 1 H 1.01	Helium 2 He 4.00 2A
Lithium 3 Li 6.94	Beryllium 4 Be 9.01
Sodium 11 Na 22.99	Magnesium 12 Mg 24.31
Potassium 19 K 39.10	Calcium 20 Ca 40.08
Rubidium 37 Rb 85.47	Strontium 38 Sr 87.62
Cesium 55 Cs 132.91	Barium 56 Ba 137.33
Francium 87 Fr (223)	Radium 88 Ra (226)

\*lanthanides

\*\*actinides



- energy level
- orbital type/shape
- # of e<sup>-</sup> in the orbital 'set'

**p-block**

noble gases  
"full shell"  
stable!

EACH ORBITAL  
CAN HOLD 2e<sup>-</sup>  
MAX

# of orbitals in a "set"	# of e <sup>-</sup> in the set
s	2
p	6
d	10
f	14

**d-block**

variable charges

+3 +4 -3 -2 -1

	3A	4A	5A	6A	7A	8A
	B	C	N	O	F	Ne
	10.81	12.01	14.01	16.00	19.00	20.18
	Al	Si	P	S	Cl	Ar
	26.98	28.09	30.97	32.07	35.45	39.95
	Ga	Ge	As	Se	Br	Kr
	69.72	72.61	74.92	78.96	79.90	83.80
	In	Sn	Sb	Te	I	Xe
	114.82	118.71	121.76	127.60	126.90	131.29
	Tl	Pb	Bi	Po	At	Rn
	204.38	207.20	208.98	(209)	(210)	(222)
	Nh	Fl	Mc	Lv	Ts	Og
	(286)	(289)	(289)	(293)	(294)	(294)

Go back to d-block!

**f-block**

**IONS**  
Atoms want to look like noble "gases" want a "full shell" will make ions to fill its shell  
Cations Anions  
lost e<sup>-</sup> gain e<sup>-</sup>  
p<sup>+</sup> > e<sup>-</sup> p<sup>+</sup> < e<sup>-</sup>  
↓ ↓  
+ charge - charge

**YouTube Link to presentation of Mrs. Farmer setting up the Periodic Table and teaching the trick:**

**<https://youtu.be/8cR8wFEHbDI>**

**Another video on setting up your periodic table**

**[https://www.youtube.com/watch?v=qb0hia\\_\\_crM](https://www.youtube.com/watch?v=qb0hia__crM)**

**Another video on using your periodic table to write configs.**

**<https://www.youtube.com/watch?v=ououF9nHUhk>**