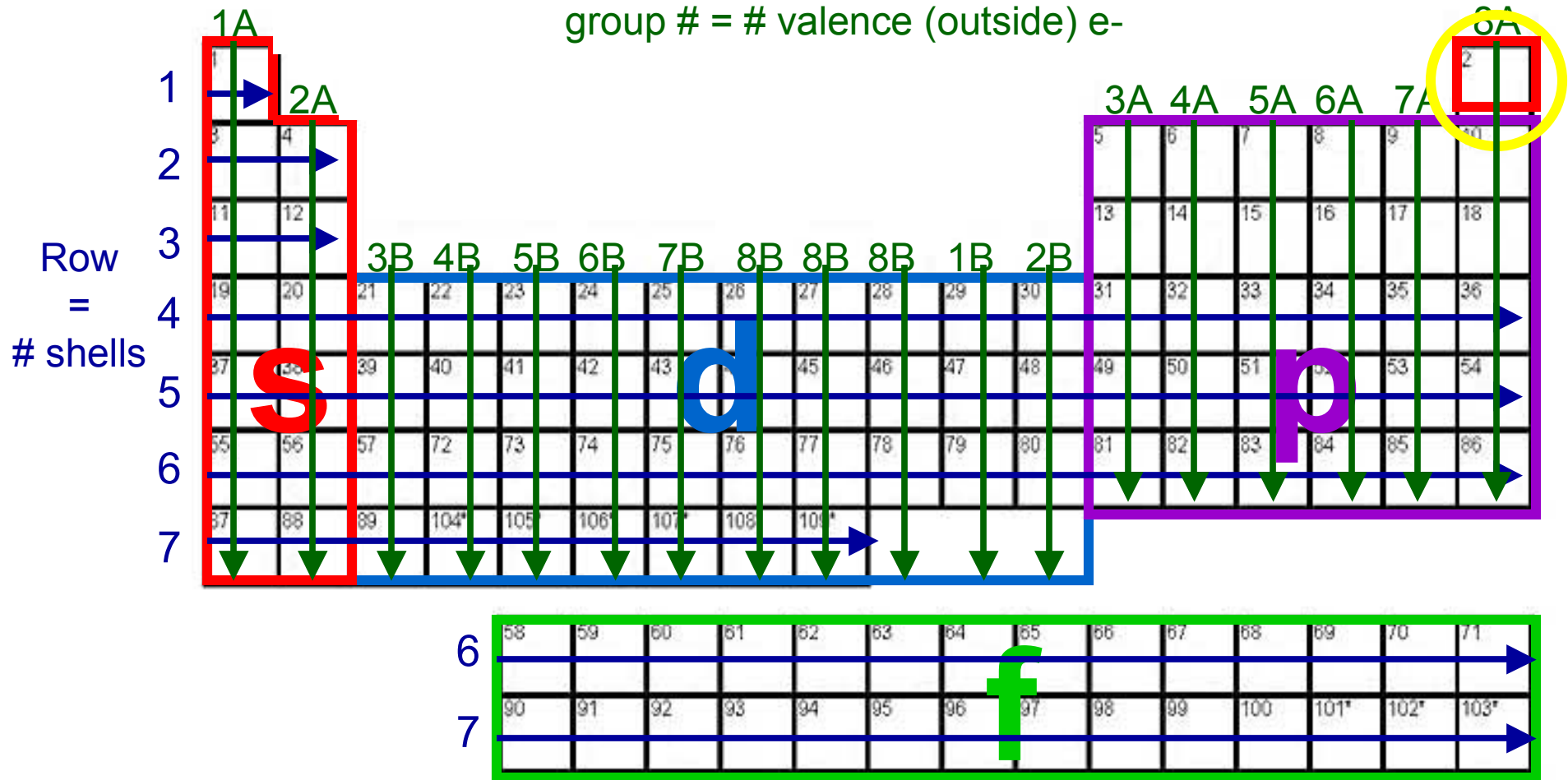
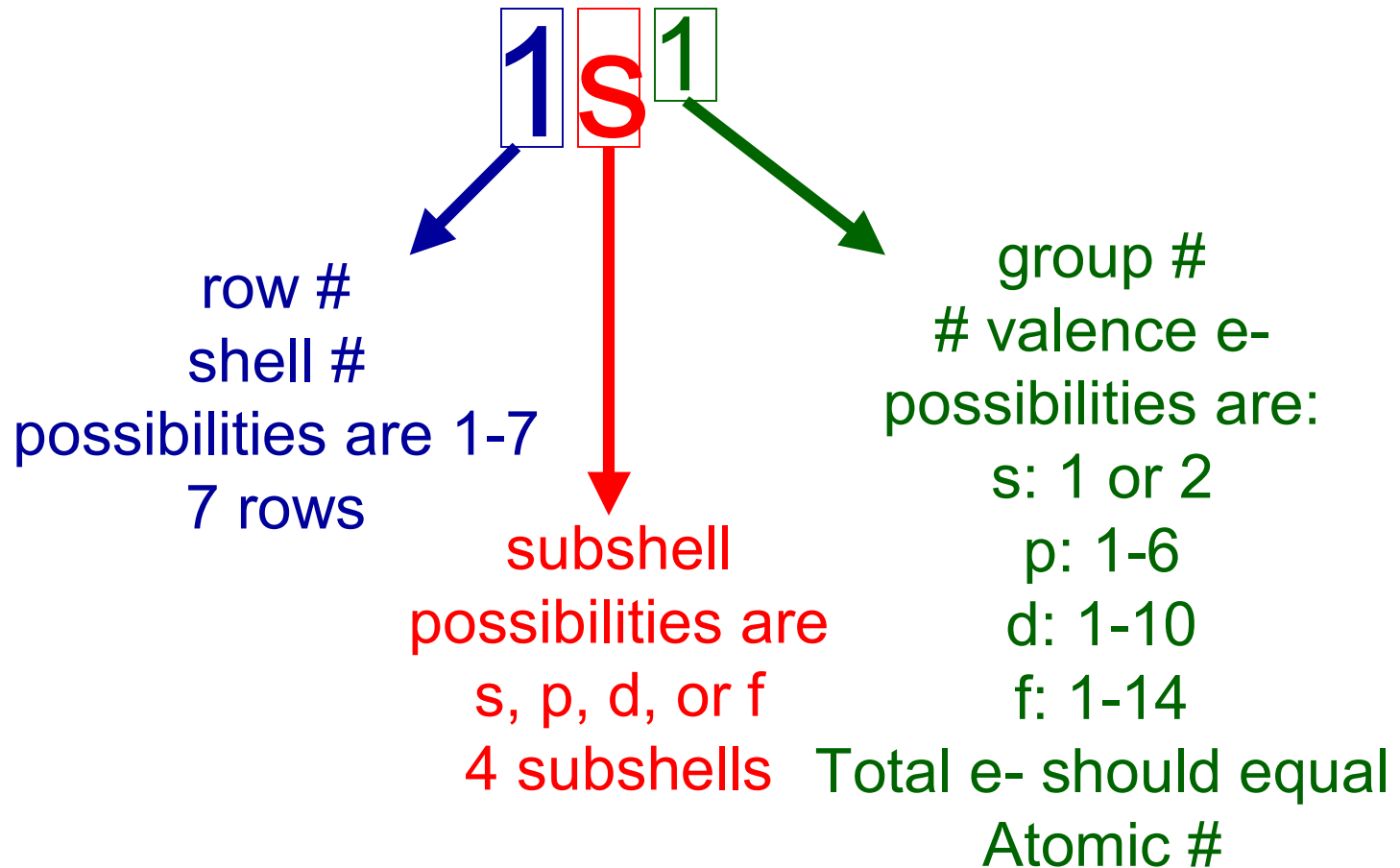


Electron Configuration

group # = # valence (outside) e-



Electron Configuration



What element has an electron configuration of $1s^1$?

Practice:

Ask these questions every time you have to write an electron configuration

- Lithium:
 1. find the element on the periodic table **atomic # = 3**
 2. what is the period number? **2**
 3. how many shells? **2**
 4. what is the group number? **1**
 5. how many valence electrons? **1**
 6. what subshell(s) does Li have? **s**
 7. what is the electron configuration? **$1s^2 2s^1$**

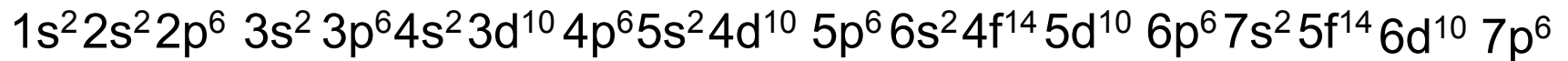
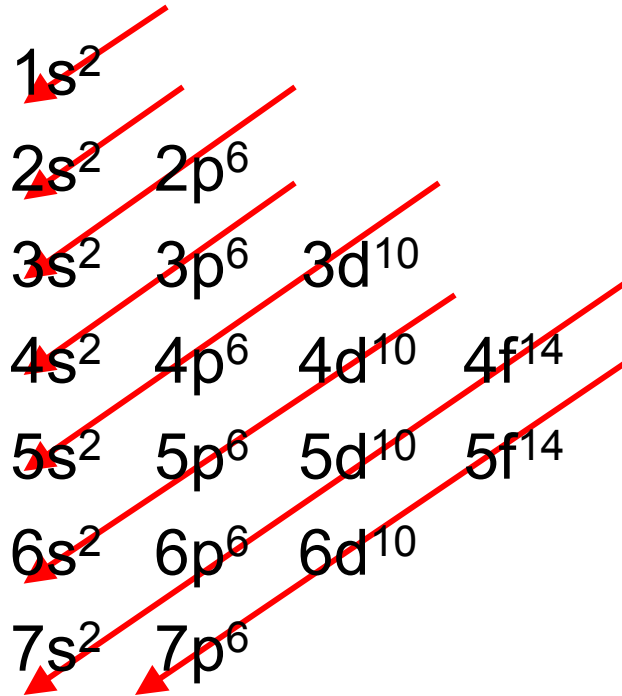
Practice:

Ask these questions every time you have to write an electron configuration

- Boron:
 1. find the element on the periodic table atomic # = 5
 2. what is the row #? 2
 3. how many shells? 2
 4. what is the group #? 3
 5. how many valence electrons? 3
 6. what subshell(s) does B have? p
 7. what is the electron configuration? $1s^2 2s^2 2p^1$

Order of Electron Subshell Filling:

It does not go “in order”



Subshells d and f are “special”

Electron Configuration

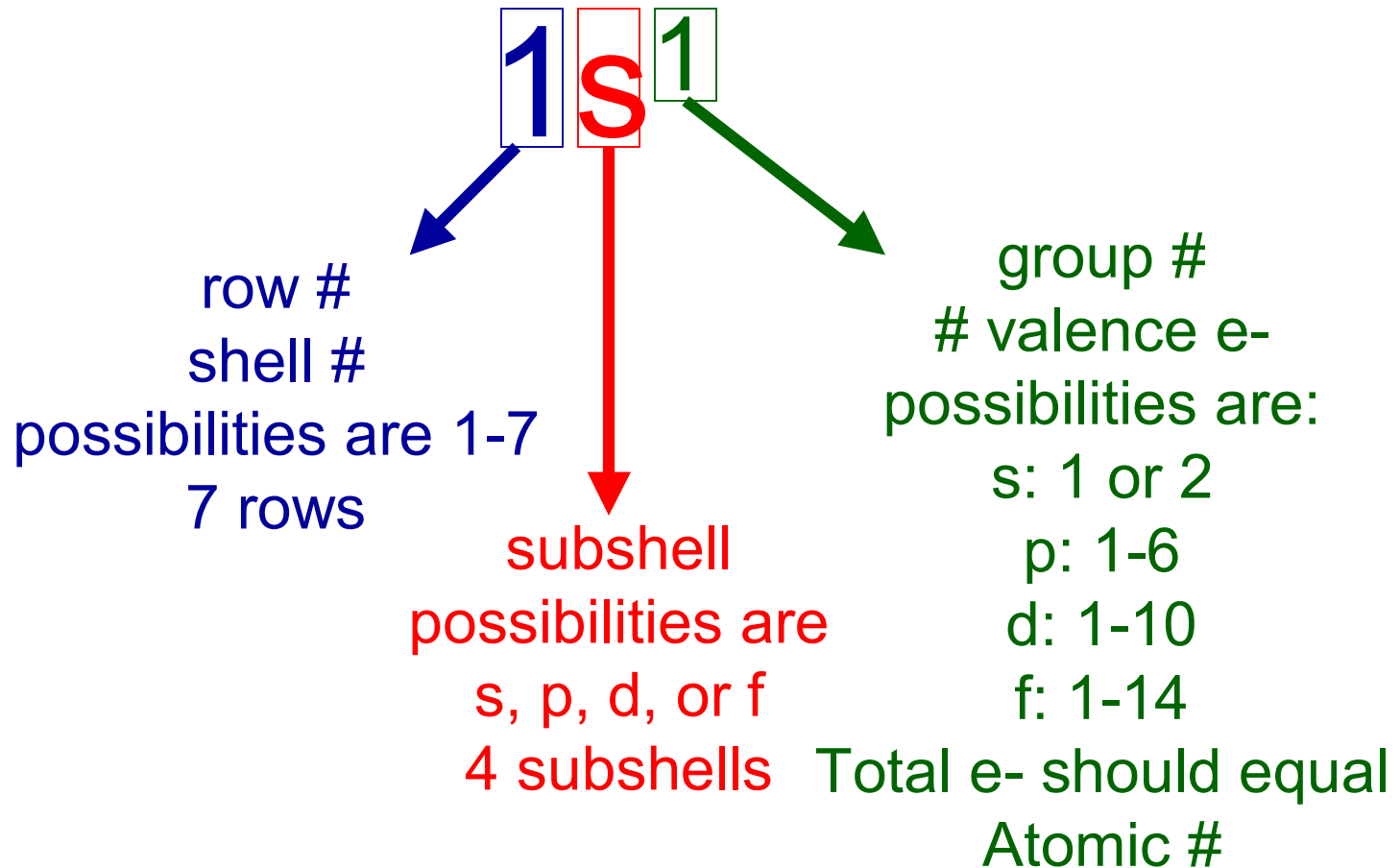
group # = # valence e-

period # = # e- shells

	1A		2A														8A								
1	1																2								
2	3	4											5	6	7	8	9	10							
3	11	12											13	14	15	16	17	18							
4	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36							
5	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54							
6	55	56	57	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86							
7	87	88	89	104*	105*	106*	107*	108*	109*				91	92	93	94	95	96	97	98	99	100	101*	102*	103*

6	58	59	60	61	62	63	64	65	66	67	68	69	70	71
7	90	91	92	93	94	95	96	97	98	99	100	101*	102*	103*

Electron Configuration



What element has an electron configuration of $1s^1$?

Practice:

Ask these questions every time you have to write an electron configuration

- Lithium:
 1. find the element on the periodic table
 2. what is the row #?
 3. how many shells?
 4. what is the group #?
 5. how many valence electrons?
 6. what subshell(s) does Li have?
 7. what is the electron configuration?

Practice:

Ask these questions every time you have to write an electron configuration

- Boron:
 1. find the element on the periodic table
 2. what is the row #?
 3. how many shells?
 4. what is the group #?
 5. how many valence electrons?
 6. what subshell(s) does B have?
 7. what is the electron configuration?

Order of Electron Subshell Filling:

It does not go “in order”

$1s^2$

$2s^2$ $2p^6$

$3s^2$ $3p^6$ $3d^{10}$

$4s^2$ $4p^6$ $4d^{10}$ $4f^{14}$

$5s^2$ $5p^6$ $5d^{10}$ $5f^{14}$

$6s^2$ $6p^6$ $6d^{10}$

$7s^2$ $7p^6$