### Atomic Structure 1

#### atomic number and mass 1.1

- 1. The \_\_\_\_\_\_ is the number of in the nucleus of an atom.
- 2. The \_\_\_\_\_\_ is the total number of \_\_\_\_\_ and \_\_\_\_ in the nucleus of an atom.
- 3.

 $^{1}\mathrm{H}$ 

What does the 1 mean?

<sup>4</sup>He

- 4. What does the 4 mean?
- 5. What does the 2 mean?
- 6.

 $_{3}^{7}$ Li

How many protons does Lithium have? 11. draw the electron configuration for H

How many neutrons does Lithium have?

7.

 $^{2}H$ 

based on this symbol, how many protons does Hydrogen have? \_\_\_\_\_

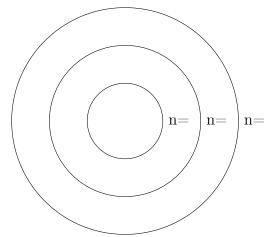
How many neutrons? \_\_\_\_\_

#### 1.2The Bohr model

- 8. The Bohr Model Bohr proposed that an atom was a nucleus with electrons "orbiting" in different \_\_\_\_\_.
- 9. Electrons can only have certain energy values known as \_\_\_\_\_

## **Electron Configuration** 1.3

10. The electrons closest to the nucleus have the \_\_\_\_\_ energy, while those further from away have \_\_\_\_\_ energy.

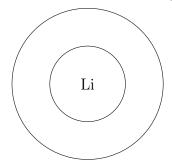




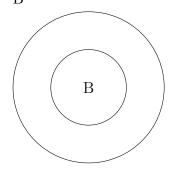
12. draw the electron configuration for He



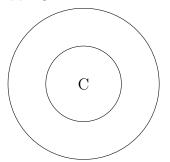
13. draw the electron configuration for Li



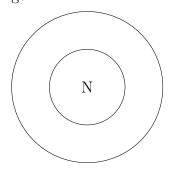
14. draw the electron configuration for Boron



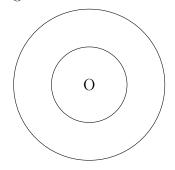
15. draw the electron configuration for Carbon C



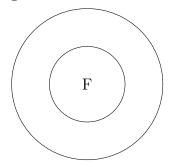
16. draw the electron configuration for Nitrogen N  $\,$ 



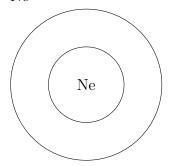
17. draw the electron configuration for Oxygen O



18. draw the electron configuration for Flourine  $\mathcal{F}$ 



19. draw the electron configuration for Neon  $_{\mbox{Ne}}$ 



# 2 periodic table

Group → Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	H																	He
2	Li	8e											B	ć	7 N	ő	9 F	Ne
3	Na Na	Mg											Al	Si	15 P	16 S	CI	Ar
4	19 K	Ca	Sc Sc	Ti	23 V	Cr	Mn	Fe	Co	28 Ni	Cu	Zn	Ga	Ge	As	34 Se	35 Br	36 Kr
5	37 Rb	Sr	39 Y	Zr	Nb	Mo	Tc	Ru	45 Rh	46 Pd	Ag	Cd	In	Sn	Sb	Te	53 	Xe
6	Cs Cs	56 Ba	57-71	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	TI	Pb	Bi	84 Po	as At	86 Rn
7	87 Fr	88 Ra	89-103	104 Rf	Db	Sg	Bh	108 Hs										
			6.	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71
				La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	ТЬ	Dy	Ho	Er	Tm	Yb	Ĺu
			7**	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	os Cf	99 Es	100 Fm	Md Md	No.	103   r

- 20. The Periodic Table has \_\_\_\_\_ periods and \_\_\_\_\_ groups.
- 21. The periods are \_\_\_\_\_ and the groups are \_\_\_\_\_.
- 22. You can know the \_\_\_\_\_ configuration of an element from its \_\_\_\_ in the periodic table.
- 23. The number of electron \_\_\_\_\_ (or energy levels) is equal to the \_\_\_\_\_ number.
- 24. The number of valence electrons is related to the \_\_\_\_\_ number.
- 25. atoms in groups \_\_\_\_\_ and \_\_\_\_ are equal to the group number.
- 26. atoms in groups \_\_\_\_\_ to \_\_\_\_ are equal to the group number minus 10.

# 2.0.1 Practice

27. draw the electron configuration for H



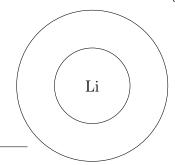
How many valence electrons does it have?

28. draw the electron configuration for He



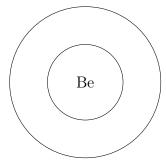
How many valence electrons does it have?

29. draw the electron configuration for Li



How many valence electrons does it have?

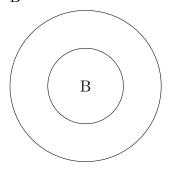
30. draw the electron configuration for Be



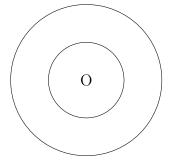
How many valence electrons does it have?

gen O

31. draw the electron configuration for Boron 34. draw the electron configuration for Oxy-



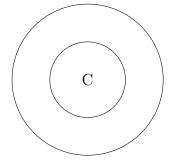
How many valence electrons does it have?



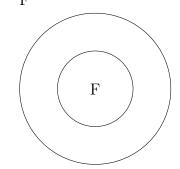
How many valence electrons does it have?

35. draw the electron configuration for Flourine

32. draw the electron configuration for Carbon C



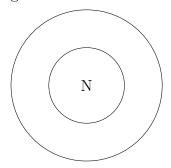
How many valence electrons does it have?



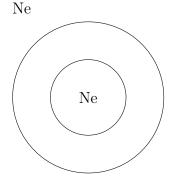
How many valence electrons does it have?

36. draw the electron configuration for Neon

33. draw the electron configuration for Nitrogen N



How many valence electrons does it have?



How many valence electrons does it have?