1 Atomic Structure

1.0.1 Atomic Number

1. The ______ is the number of _____ in the nucleus of an atom.

1.0.2 Mass Number

2. The ______ is the total number of _____ and ____ in the nucleus of an atom.

3.

 ^{1}H

What does the 1 mean? _

 ${}_{2}^{4}\mathrm{He}$

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

6.

⁷₄Li

How many protons does Lithium have?

How many neutrons does Lithium have?

7.

 $^{2}\mathrm{H}$

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

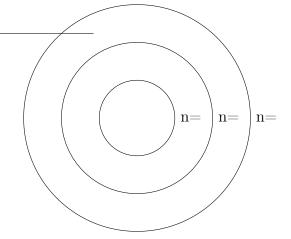
How many neutrons? _____

1.1 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 _____

1.2 Energy Levels

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

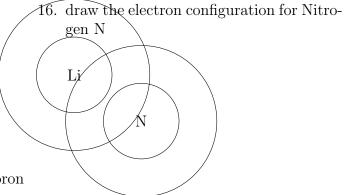


11. draw the electron configuration for ${\bf H}$

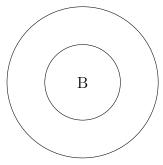


12. draw the electron configuration for He

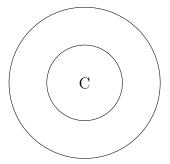




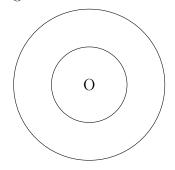
- 13. draw the electron configuration for Li
- 14. draw the electron configuration for Boron B



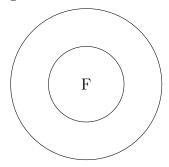
15. draw the electron configuration for Carbon C



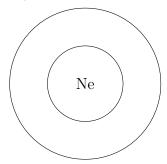
17. draw the electron configuration for Oxygen O



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



19. draw the electron configuration for Neon 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	3 Li	Be											5 B	ć	7 N	ő	9 F	Ne
3	Na	Mg											Al	Si	15 P	16 S	LI7 CI	18 Ar
4	19 K	Ca	Sc Sc	Ti	23 V	Cr	Mn	Fe	Co	28 Ni	Cu	Zn	Ga	Ge	As	Se	35 Br	36 Kr
5	37 Rb	Sr	39 Y	Zr	41 Nb	Mo	Tc	Ru	45 Rh	46 Pd	Ag	Cd	In	Sn	Sb	Te	53 	Xe
6	Cs	56 Ba	57-71	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	TI	82 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	Но	Er	Tm	Yb	Lu
			7**	89 A.c	90 Th	91 Pa	92	93 Np	94 Pu	95 Am	96 Cm	97 Rk	98 Cf	99 Ee	100 Em	101 Md	102 No	103

- 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. For atoms in groups _____ and __ the number of _____ electrons are equal to the group number.
- 26. For atoms in groups ______ to ___ the number of _____ electrons are equal to the group number minus 10.

27. draw the electron configuration for H



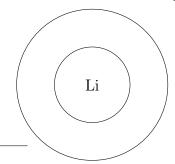
How many valence electrons does it have?

28. draw the electron configuration for He



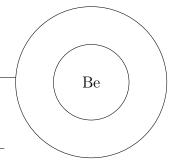
How many valence electrons does it have?

29. draw the electron configuration for Li



How many valence electrons does it have?

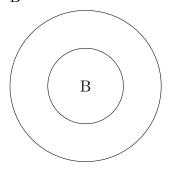
30. draw the electron configuration for Be



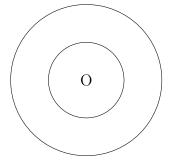
How many valence electrons does it have?

gen O

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



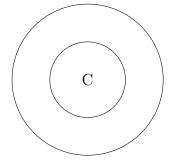
How many valence electrons does it have?



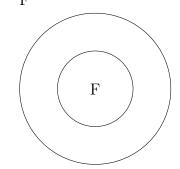
How many valence electrons does it have?

35. draw the electron configuration for Flourine

32. draw the electron configuration for Carbon C



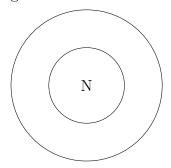
How many valence electrons does it have?



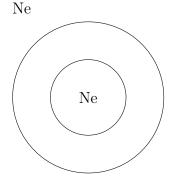
How many valence electrons does it have?

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?