Name: _____ Atomic Structure Notes Period _____

1 Atomic Structure

1.1 atomic number and mass

1. The **atomic number** is the number of **protons** in the nucleus of an atom.

2. The **mass number** is the total number of **protons** and **neutrons** in the nucleus of an atom.

3. ^{1}H

   What does the 1 mean?

   # of protons and neutrons

   $^{4}_{2}He$

4. What does the 4 mean?

   # of protons and neutrons

5. What does the 2 mean?

   # of neutrons

6. $^{7}_{3}Li$

   How many protons does Lithium have? **3**

   How many neutrons does Lithium have? **7 - 3 = 4**

7. ^{2}H

   based on this symbol, how many protons does Hydrogen have? **1**

   How many neutrons? **1**

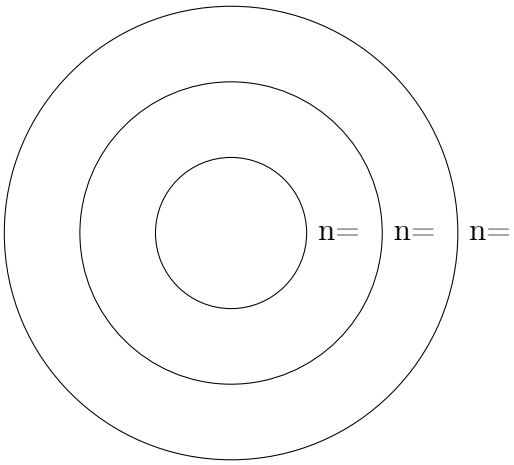
1.2 The Bohr model

8. The Bohr Model - Bohr proposed that an atom was a nucleus with electrons "orbiting" in different **energy levels**.

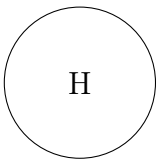
9. Electrons can only have certain energy values known as **energy levels**

1.3 Electron Configuration

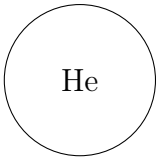
10. The electrons closest to the nucleus have the **lowest** energy, while those further from away have **higher** energy.



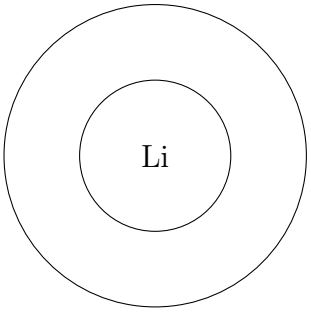
11. draw the electron configuration for H



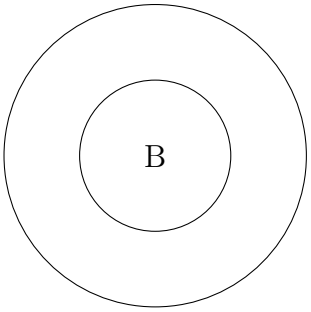
12. draw the electron configuration for He



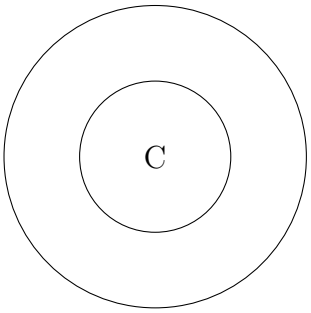
13. draw the electron configuration for Li



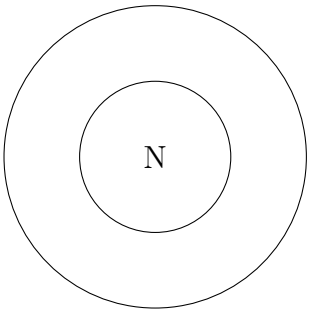
14. draw the electron configuration for Boron B



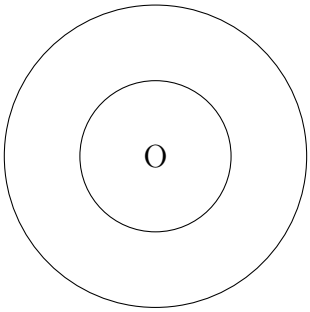
15. draw the electron configuration for Carbon C



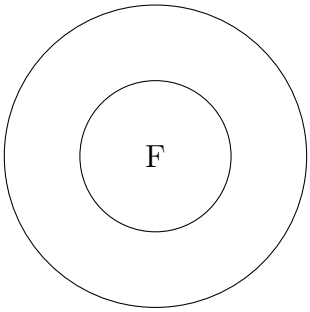
16. draw the electron configuration for Nitrogen N



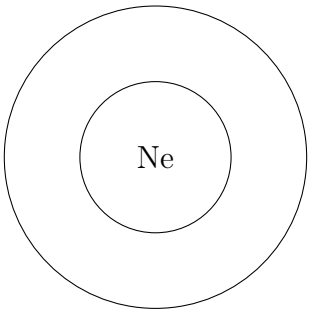
17. draw the electron configuration for Oxygen O



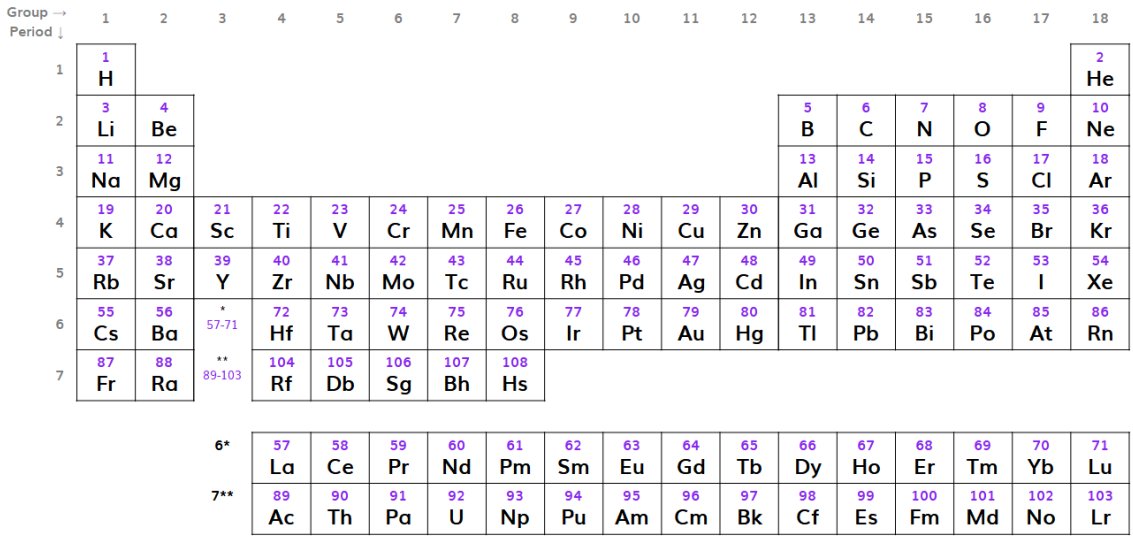
18. draw the electron configuration for Flourine F



19. draw the electron configuration for Neon Ne



2 periodic table



20. The Periodic Table has __**7**__ periods and __**18**__ groups.

21. The periods are __**horizontal**__ and the groups are __**vertical**__.

22. You can know the __**electron**__ configuration of an element from its __**position**__ in the periodic table.

23. The number of __**shells**__ is equal to the __**Period**__ number.