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**

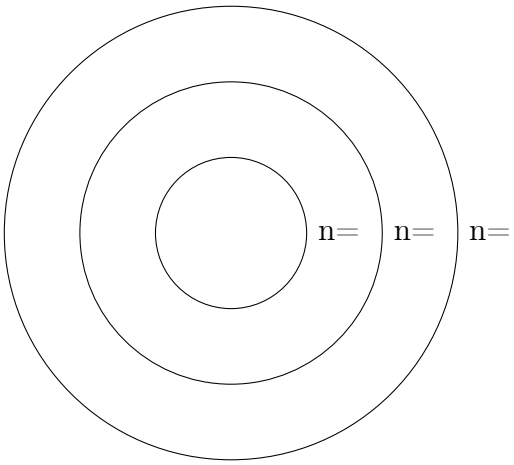
## 1.2 The Bohr model

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

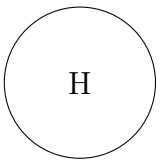
9. Electrons can only have certain energy values known as **energy levels**

## 1.3 Electron Configuration

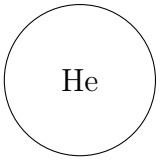
10. The electrons closest to the nucleus have the **lowest** energy, while those further from away have **higher** energy.



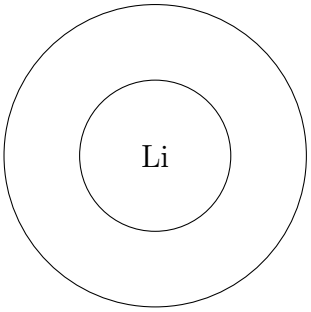

11. draw the electron configuration for H



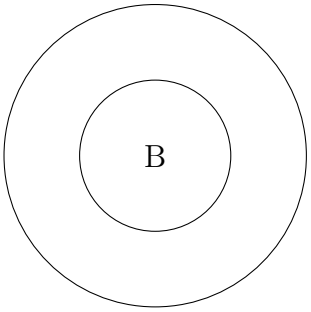

12. draw the electron configuration for He



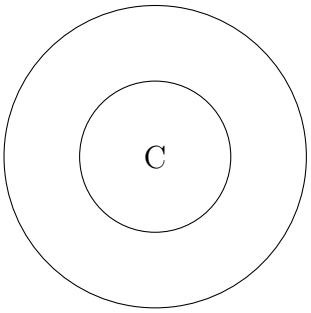
13. draw the electron configuration for Li



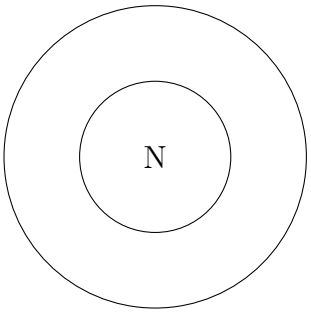

14. draw the electron configuration for Boron B



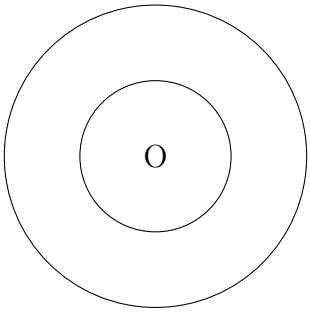

15. draw the electron configuration for Carbon C



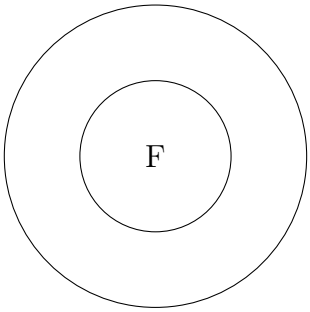

16. draw the electron configuration for Nitrogen N




17. draw the electron configuration for Oxygen O




18. draw the electron configuration for Flourine F




19. draw the electron configuration for Neon Ne