Remember him?

He’s the one who made the discovery that the protons/neutrons were in the center of the atom (nucleus) and the electrons were on orbits surrounding the electron.
His Model

Electrons

Nucleus

1st Energy level (2 electrons max.)

2nd Energy Level (8 electrons max.)

3rd energy level (18 electrons max.)

Electron Energy Levels
Let’s try Oxygen.

Oxygen’s Atomic # is 8, so it has 8 protons.

How many electrons does it have?

*Remember:* Protons and Electrons are balanced.
Oxygen has 8 Protons, so it also has 8 electrons.

Since only 2 electrons fit in the first level, the remaining 6 electrons are placed in the 2nd energy level.

How many open spots are there for electrons to fill in the outer energy level of Oxygen?
Nitrogen #7

- Can you draw Nitrogen using the Bohr model?
- How many electrons does Nitrogen have in it’s outer–most energy level?
Can you draw Neon using the Bohr model?

How many electrons does Neon have in it’s outer–most energy level?
Can you draw Silicon using the Bohr model?

How many electrons does Silicon have in its outer-most energy level?
Valence Electrons

- Those electrons that are on the outer-most energy level are called **valence electrons**.

- They have a lot to do with which atoms bond, or connect/interact, with other atoms.
The Electron Dot Model takes those valence electrons and shows them surrounding the element’s Symbol. Like Below:
Now Let’s Compare:

Silicon

Bohr Model

Electron-Dot Model
Your Turn...

- Take the next few minutes to work on the Comparing Atomic Models exercise.

- First draw the Bohr Model for each element, then use that to draw the Electron–Dot Diagram.

- When finished with that side, flip over and answer as many of the questions as you can…(#3 and #6 are challenging)