

Drawing Bohr Models:

1. Determine the number of protons, neutrons, and electrons:

$P^+ =$ atomic number

$P^+ = e^-$ because the atoms are neutral in charge

$n =$ atomic mass - p^+

2. Draw a circle for the nucleus and write the number of p^+ and n inside.
3. Draw the correct number of circles to represent the number of energy levels needed in order to place the electrons around the nucleus.

Each level has a maximum level of electrons that it can hold.

Level	Maximum number of electrons
1	2
2	8
3	18
4	32
5	32
6	32
7	32

In levels 3-7, only 8 electrons will be placed in the level to begin with. More can be added only after 2 electrons are placed in the next level.

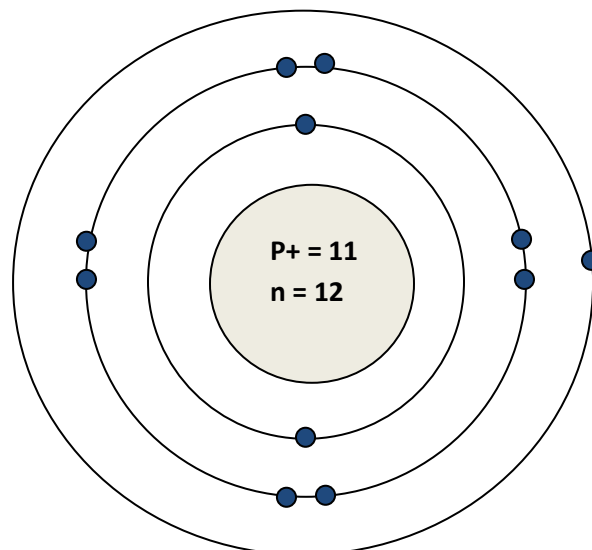
Example:

Sodium

$p^+ = 11$

$n = 12$

$e^- = 11$



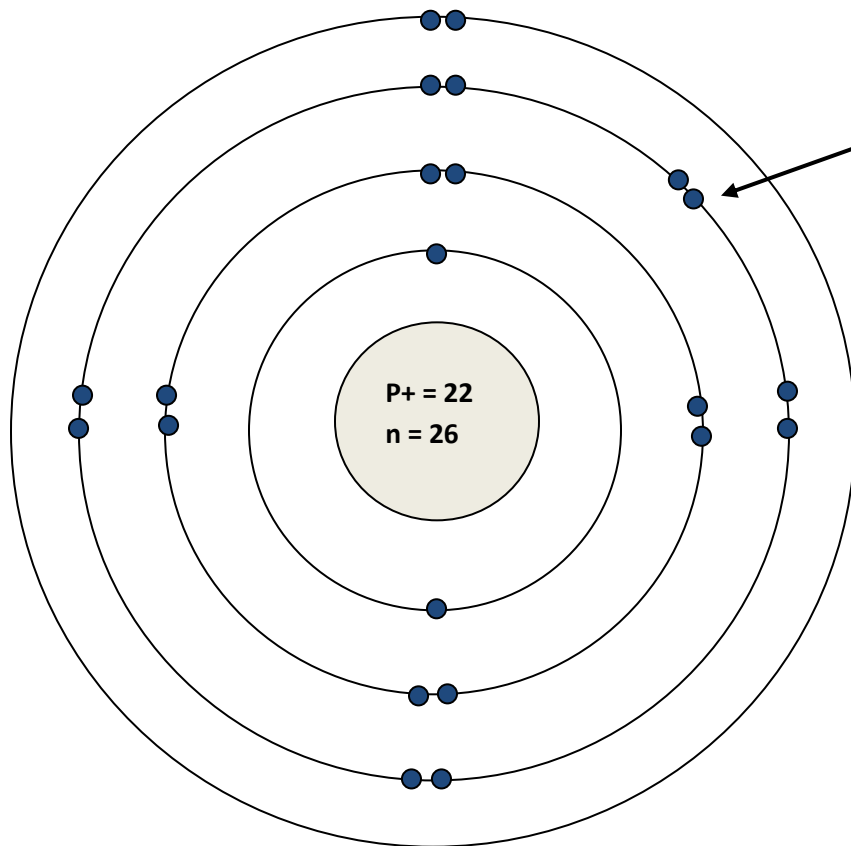
Example:

Titanium

$P+ = 22$

$n = 26$

$e- 22$



The 2 electrons can only be added to the 3rd level AFTER the 2 electrons are placed in the 4th level.

Because the 3rd energy level can hold 18 total, 8 more electrons can be placed in the 3rd before having to go out to the 4th energy level again.

No matter what the maximum number of electrons is for that level, the outermost level will NEVER have more than 8 electrons.

Practice: On your own paper draw the Bohr model for the following atoms

Boron

Argon

Bromine

Fluorine

Potassium

Strontium

Aluminum

Nickel

Phosphorus

Zinc