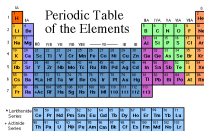
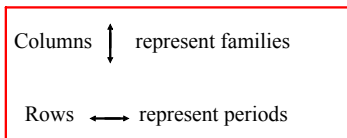


The Periodic Table

Elements are organized by their atomic numbers.

Elements are also grouped into **families** and **periods**.



ex: Nomme un élément dans la même famille que le sodium.

Nomme un élément dans la même période que le carbone.

Characteristics of the periods

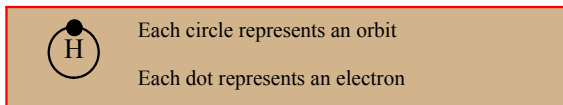
Electrons travel around their nucleus in **orbit**.

Each period represents the number of orbits shared by all elements in that period.

- ex: period 1 = 1 electron orbit
- period 2 = 2 electron orbits
- etc...

Visual Representation:

Hydrogen - period = 1 (so, one electron orbit)
atomic number = 1 (so, 1 p+ and 1 e-)



Each electron orbit can hold a maximum number of electrons.

1st Orbit: **2** electrons MAX

2nd - 7th orbits: **8** electrons MAX

● He has 2 electrons and one orbit, so: He

○ Li has 3 electrons and 2 orbits, so: Li

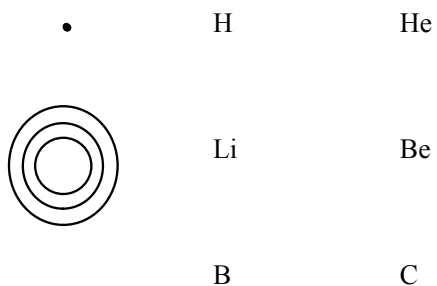
○ Ne has 10 electrons and 2 orbits, so: Ne



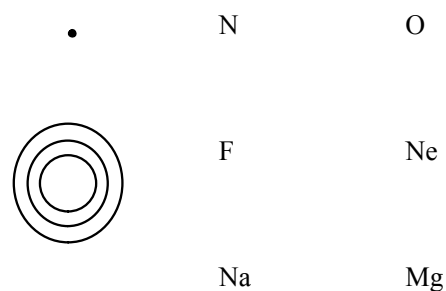
Assignment:

Draw the electron orbits for the first 20 elements.

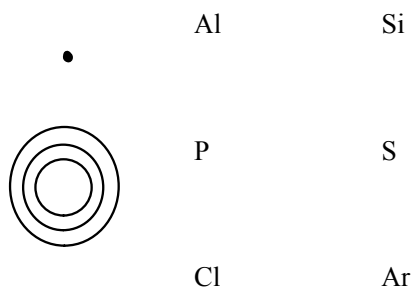
Correction



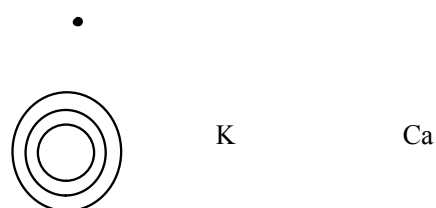
Correction



Correction



Correction

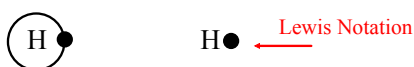


Lewis Notation

The **Lewis Notation** is a way of representing only the valence electrons of an atom.

Valence electrons are the electrons on the outermost orbit only.

ex: H has one orbit and one electron, so:



ex: O has two orbits and 6 valence electrons



Rules for electron dot placements

- 1) Electron dots are placed on the **top, right, bottom** and **left** sides of the chemical symbol only.
- 2) Each side must contain **at least one dot** before a second dot can be placed there.

ex: Draw the Lewis Notation for the following elements:

- a) Helium
- b) Carbon
- c) Sodium
- d) Chlorine
- e) Neon

Correction

He C Na Cl Ne



Assignment:

Draw the Lewis Notation for the first 20 elements

Extension: Try to find a pattern that will help you identify the Lewis Notation more quickly in the future...



Quiz -



Material to study:

- 8 basic terms:
Atom, Element, Proton, Neutron, Electron,
Chemical Symbol, Atomic Number, Atomic
Mass
- Periodic Table Organization
 - periods and families
 - electron orbits
 - Lewis Notation