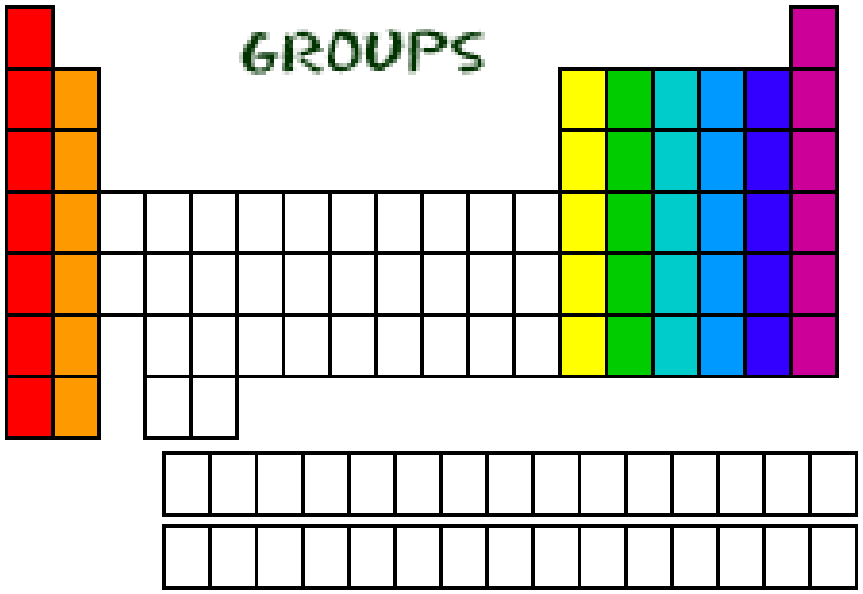
Electron Dot Diagrams & Bohr Models

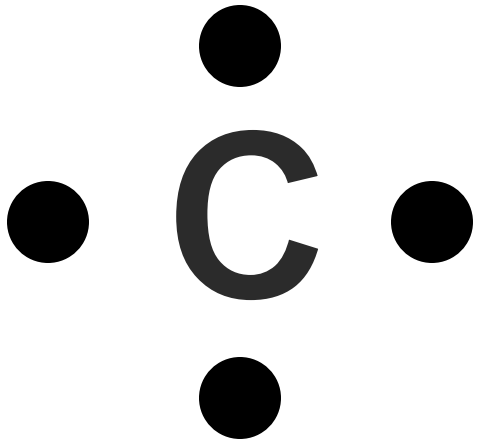
- Valence electrons are electrons in the outermost energy level

Electron Dot Diagrams = Lewis Structures



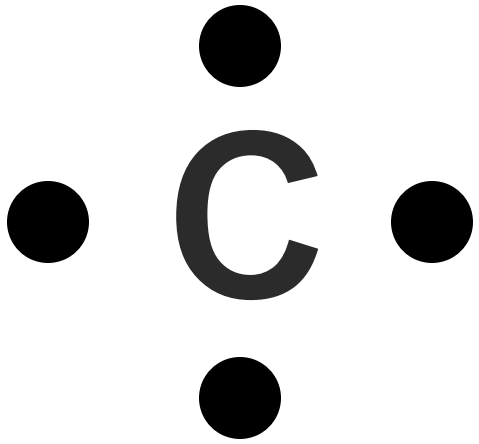
- Find out which group (column) your element is in.
- This will tell you the number of valence electrons your element has.
- You will only draw the valence electrons.

Lewis Structures



1) Write the element symbol.
2) Carbon is in the 4th group, so it has 4 valence electrons.
3) Starting at the right, draw 4 electrons, or dots, counter-clockwise around the element symbol.

Lewis Structures



In your notes, try these elements on your own:

a) H
b) P
c) Ca
d) Ar
e) Cl
f) Al

Lewis Structures

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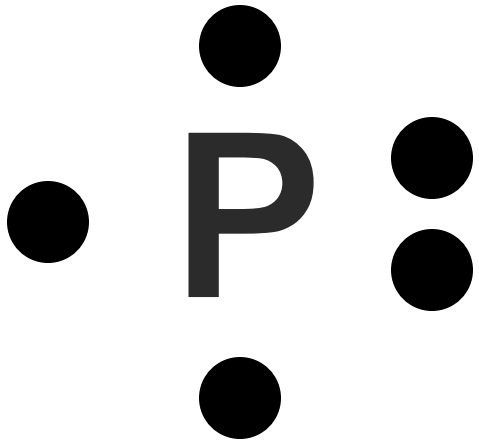

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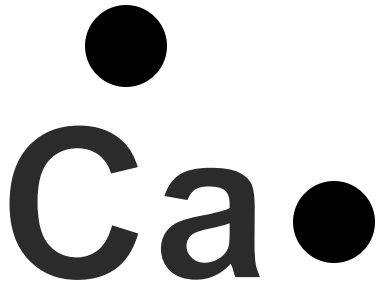

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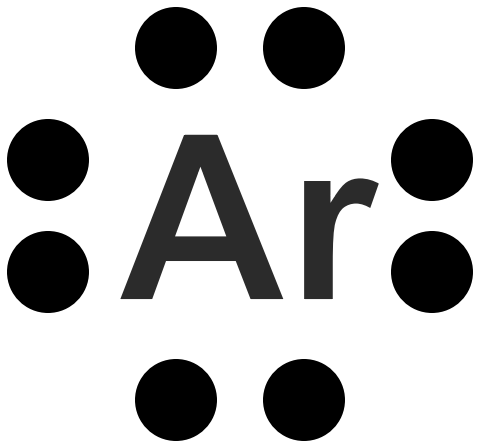

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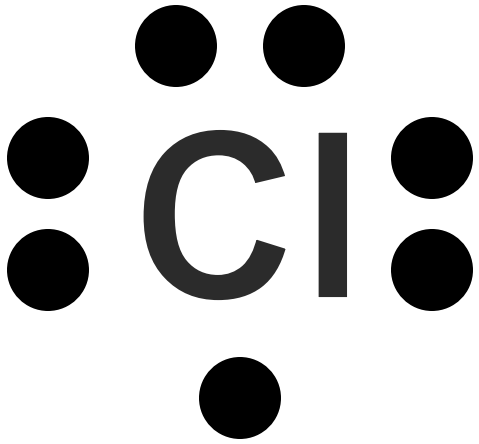

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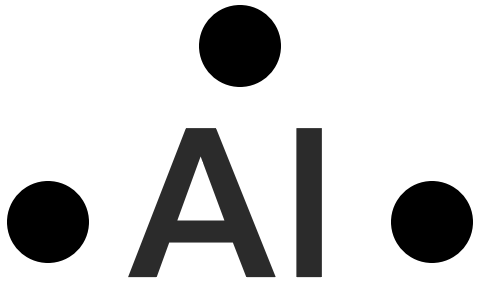

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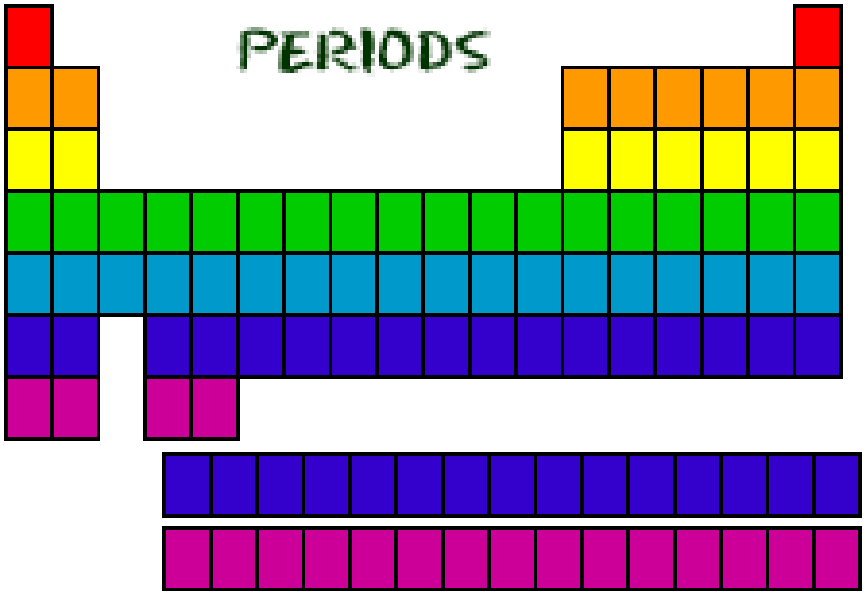
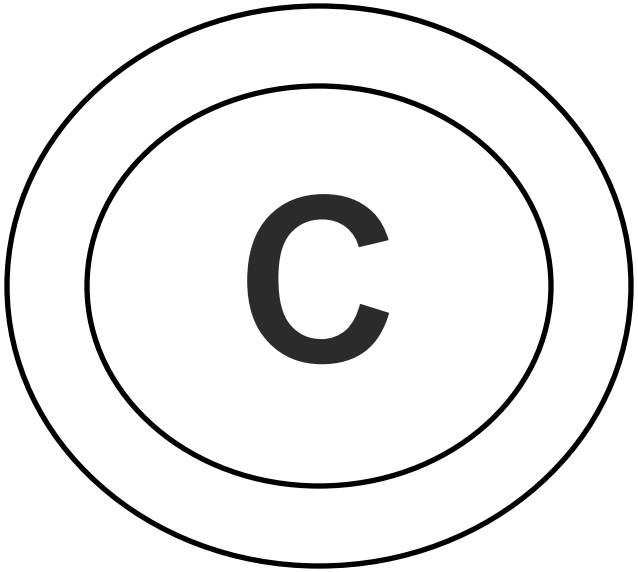
Bohr Diagrams



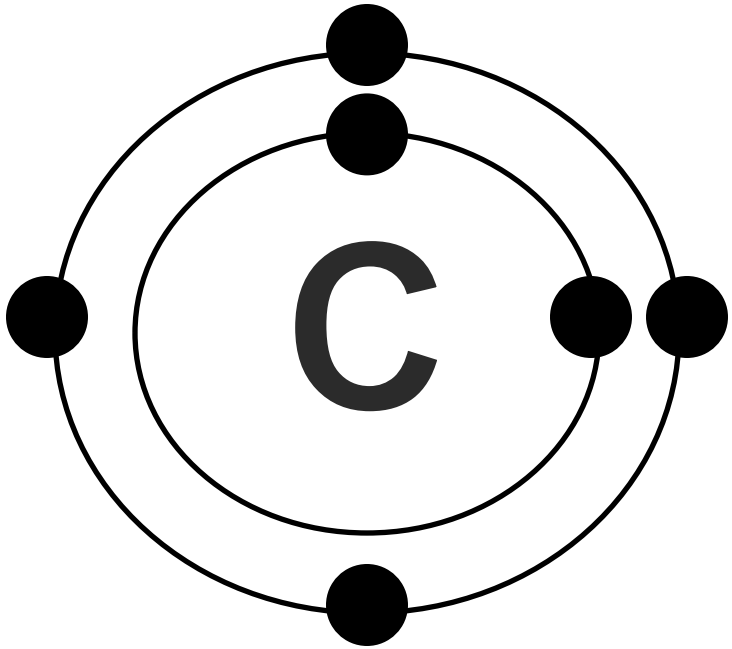
- Find out which period (row) your element is in.
- The period number tells you how many energy levels there are.

Bohr Diagrams



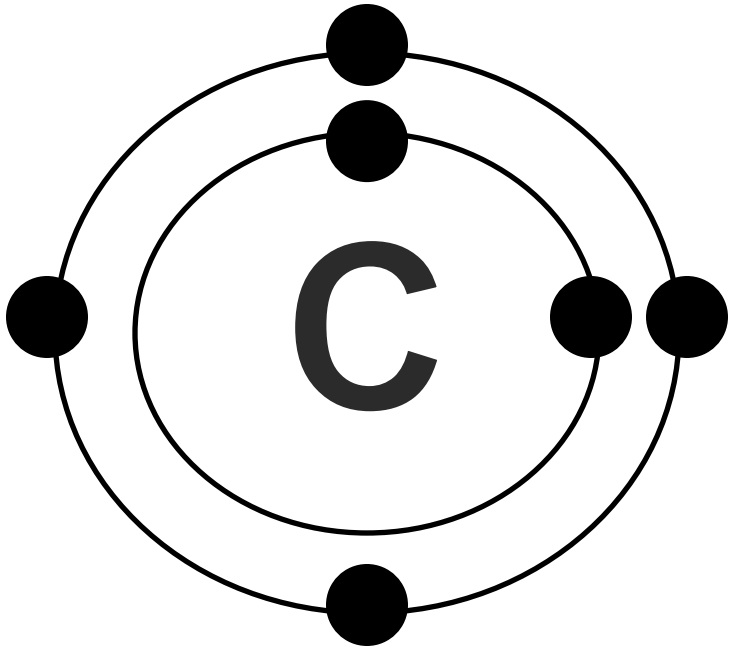
1) Draw the element symbol
2) Carbon is in the 2nd period, so it has two energy levels, or shells.
3) Draw the shells around the nucleus.

Bohr Diagrams



1) Add the electrons.
2) Carbon has 6 electrons.
3) The first shell can only hold 2 electrons.
4) (The 2nd shell can hold up to 8 electrons.)
5) (The 3rd shell can hold 18, but the elements in the first few periods only use 8 electrons.)

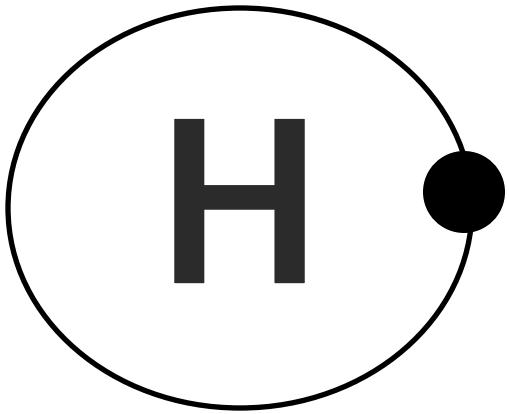
Bohr Diagrams



Try the following elements on your own:

a) H
b) He
c) O
d) Al
e) Ne
f) K

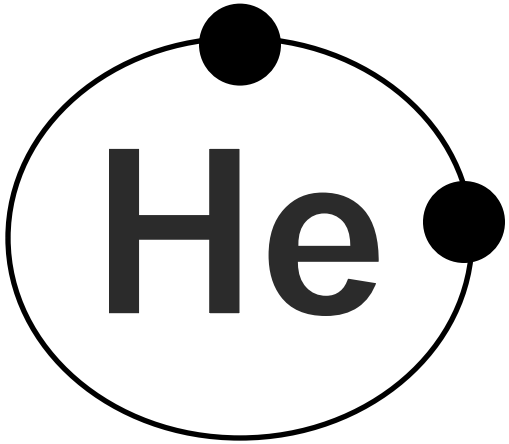
Bohr Diagrams



Try the following elements on your own:

a) H – **1 electron**
b) He
c) O
d) Al
e) Ne
f) K

Bohr Diagrams



Try the following elements on your own:

a) H

b) He **- 2 electrons**

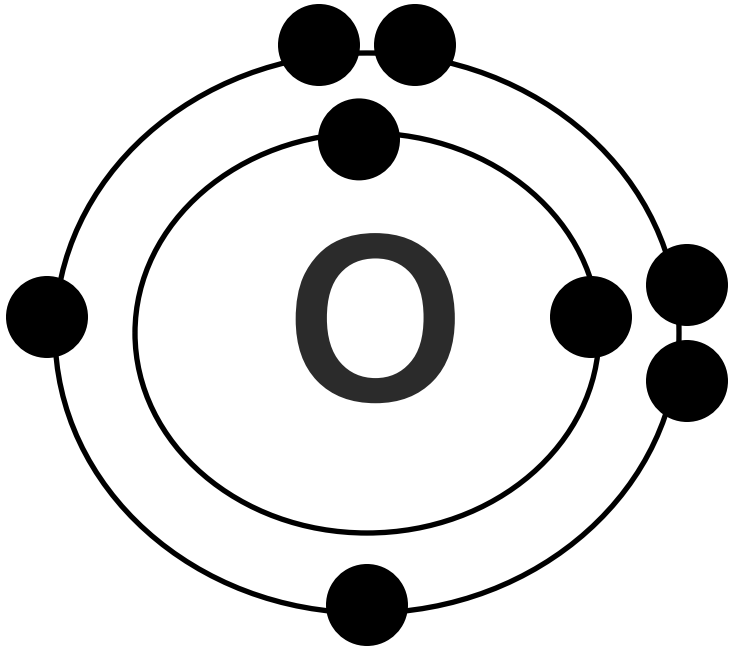
c) O

d) Al

e) Ne

f) K

Bohr Diagrams



Try the following elements on your own:

a) H

b) He

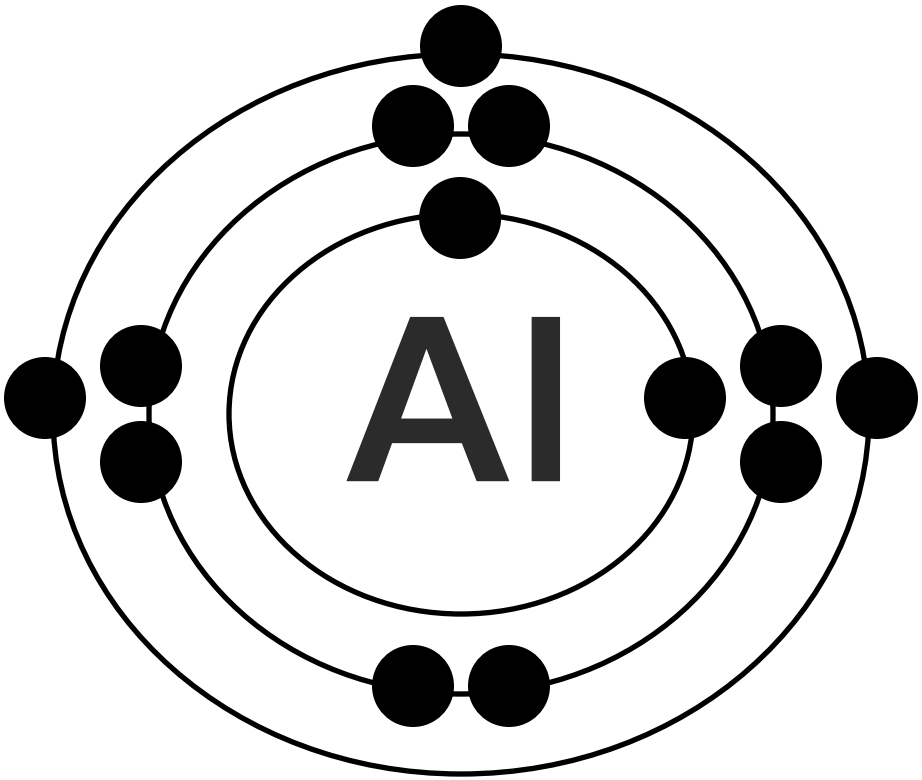
c) O **- 8 electrons**

d) Al

e) Ne

f) K

Bohr Diagrams



Try the following elements on your own:

a) H

b) He

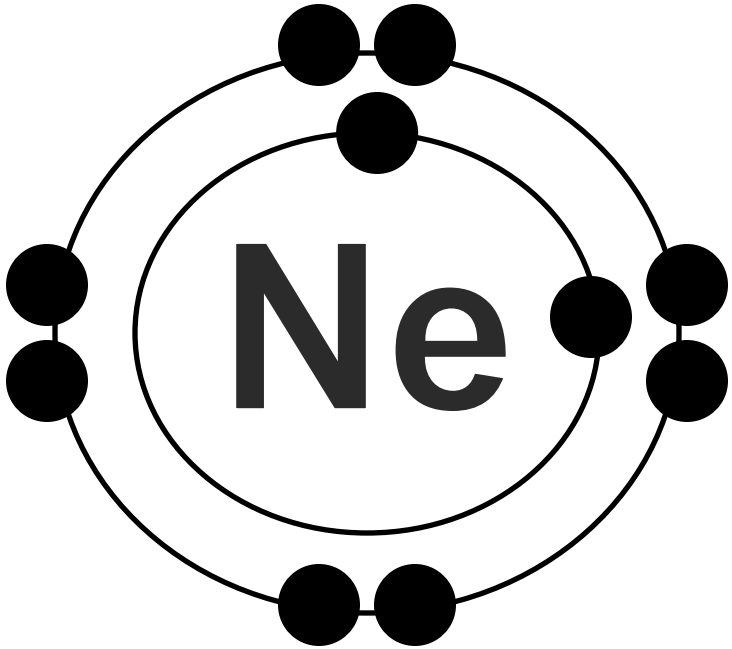
c) O

d) Al **- 13 electrons**

e) Ne

f) K

Bohr Diagrams



Try the following elements on your own:

a) H

b) He

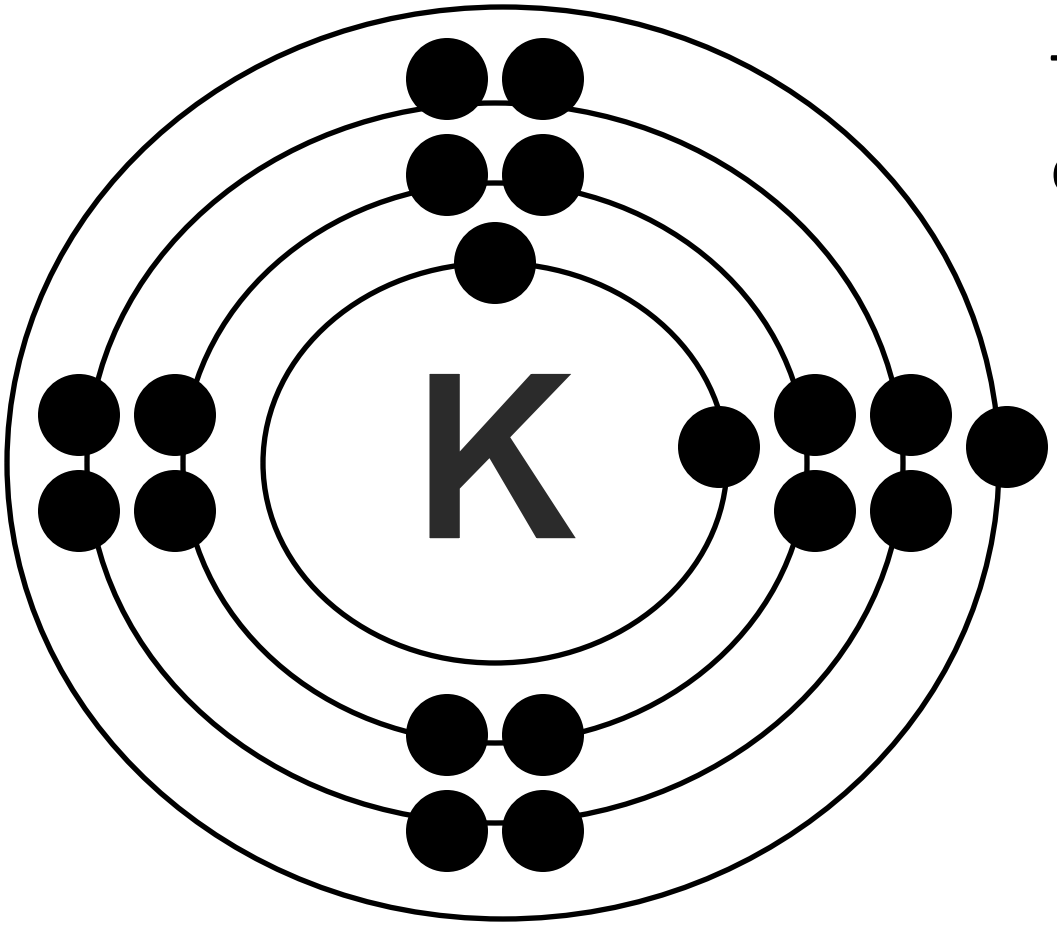
c) O

d) Al

e) Ne **- 10 electrons**

f) K

Bohr Diagrams



Try the following elements on your own:

a) H

b) He

c) O

d) Al

e) Ne

f) K **- 19 electrons**