

# Chemistry Cycle Sheet

March 30, 2020 thru April 3, 2020



**Goals:** TLW review and work toward understanding the periodic table.

**Monday:** Download "Spring Review" from website. Watch Review Videos as needed

**Homework:** Do the Review

**Tuesday:** Do the Practice on the back of this Cycle Sheet Watch Review Videos as needed

**Homework:** Do Warm ups #71 and 72

**Wednesday:** Watch the Periodic Table Video Do Warmups #73 and 74

**Homework:** Do worksheet "Periodic Table"

**Thursday:** Class @12:00 PM Check your work (score keys)

**Homework:** Do Warm ups #75 and 76

**Friday:** Watch the Periodic Table Video Warm up #78 and 79

**Homework:** Do worksheet "Chemical Families"

## Vocabulary

group	family	transition metals
period	metal	atomic mass unit
luster	ductile	nonmetals
corrosion	malleable	metalloid

## Know the following

periodic law	alkali metals	alkaline earth metals
periodic table	noble gases	<b>valence electrons</b>
halogens	semi-metals	electron configurations
chalcogens	<b>octet rule</b>	<b>Lewis dot symbols</b>

## Periodic Table

One of the greatest scientific discoveries, the periodic table is a classification system for the elements. It is organized in a logical, useable, and meaningful way.

## Dmitri Mendeleev

Determined that elements could be arranged according to their atomic masses and assembled the first periodic table

## The Periodic Law

The chemical and physical properties of the elements are periodic functions of their atomic numbers.

## Henry Moseley

Determined that elements should be arranged according to atomic numbers and created the modern periodic law.

## Core Electrons

The inner electrons between the nucleus and the valence electrons.

## Shielding

An interference between the valence electrons and the nucleus caused by the core electrons.

## Periodic Trends

Variations in physical properties that depend on the electron configuration and help predict chemical behavior.

### Electronegativity

It is the measure of the ability of an element to **attract** electrons.

### Ionization Energy

The minimum amount of energy required to **remove** an electron from an atom.

### Atomic Radius

It is half the distance between the nuclei of two atoms of the same element.

### Electron Affinity

The amount of energy released when an electron is added to a neutral atom.

### Chemical Bond

It's an electrostatic attraction between two atoms strong enough to act as a unit.

### Ionic Bond

A chemical bond created by the transfer of one or more electrons.

### Covalent Bond

A chemical bond created by the sharing of one or more electrons.

### Polar Bond

It's a covalent bond with a partial positive end and a partial negative end.

### Metallic Bond

This a bond between atoms of a metal created by sharing free outer shell electrons.

### Polar Molecule

This is a molecule with a partial positive end and a partial negative end.

### Dipole

A dipole is a polar covalent molecule.

### 7 Diatomic Elements

hydrogen	H <sub>2</sub>	chlorine	Cl <sub>2</sub>
nitrogen	N <sub>2</sub>	bromine	Br <sub>2</sub>
oxygen	O <sub>2</sub>	iodine	I <sub>2</sub>
fluorine	F <sub>2</sub>		

### PRACTICE #9

Write a brief description for each of the following.

valence electrons –

octet rule –

Lewis dot symbols –

oxidation number –

Write the electron configuration (1s<sup>2</sup>) for these elements.

Na \_\_\_\_\_

Cu \_\_\_\_\_

Ca \_\_\_\_\_

F \_\_\_\_\_

Write the orbital notation for these elements.

P

Cr

K

Cl

Determine the number of valence electrons.

\_\_\_ I    \_\_\_ Co    \_\_\_ O    \_\_\_ Be

\_\_\_ Fe    \_\_\_ Li    \_\_\_ K    \_\_\_ N

Draw the Lewis dot symbols of the following:

I    Co    Be    Fe    K    O    N

Determine the oxidation number of the following:

\_\_\_ I    \_\_\_ Co    \_\_\_ Be    \_\_\_ Fe

\_\_\_ K    \_\_\_ Li    \_\_\_ O    \_\_\_ N