



**High School Science Virtual Learning**

**College Chemistry**

**Atomic Structure & Periodic Trends**

**Virtual Lab**

**May 21, 2020**



# High School College Chemistry

## Lesson: May 21, 2020

### **Objective/Learning Target:**

**Students will complete lab activities to learn about atomic structure and periodic trends.**



## Let's Get Started:

1. What is the speed of light equation?
2. What Planck's Constant ( $h$ )?



# Let's Get Started:

## Answer Key

1.  $c = \lambda \nu$

2.  $h = 6.626 \times 10^{-34} \text{ J s}$



## Lesson Activity:

### Directions

- Use this [answer key](#) to check your work from yesterday.

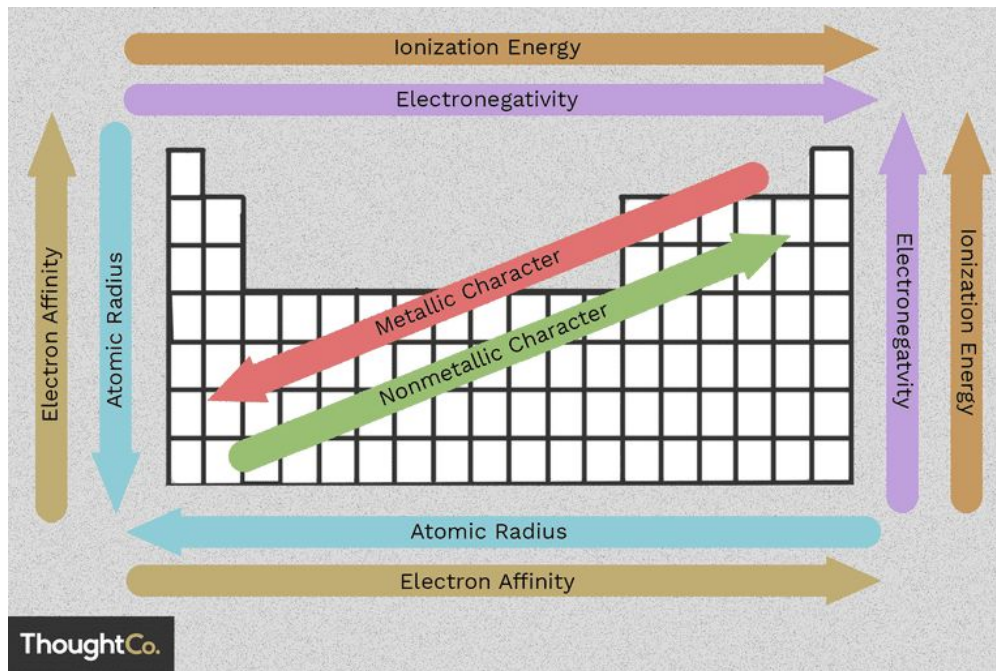


## NOTES:

- Periodic Trends are specific patterns in the properties of chemical elements that are revealed in the periodic table of elements. Major periodic trends include electronegativity, ionization energy, electron affinity, atomic radii, ionic radius, metallic character, and chemical reactivity.
- Use this [link](#) is from Khan Academy to watch all the videos about the various Periodic Trends. Make sure to take note of the major features of periodic trends.

# NOTES:

- Summary of Periodic Trends





# Practice

*Complete the following questions using the information you learned during the lesson activity.*



## Questions:

1. Rank the following elements in order of increasing atomic radius:  
Carbon, Aluminum, Oxygen, Potassium
2. Rank the following elements in order of increasing electronegativity: Sulfur, Oxygen, Fluorine, Aluminum
3. Rank the following elements in order of decreasing ionization energy: Lithium, Calcium, Barium, Nitrogen
4. What is the difference between ionization energy and electronegativity?

## Answer Key:

1. Oxygen < Carbon < Aluminum < Potassium
2. Aluminum < Sulfur < Oxygen < Fluorine
3. Nitrogen < Lithium < Calcium < Barium
4. Ionization energy is the energy required to remove an electron. Electronegativity is the ability of an atom to gain an electron.



Additional Practice:

Click on the link below for additional practice.

[Wave Functions Quiz](#)

[Periodic Trends Quiz](#)