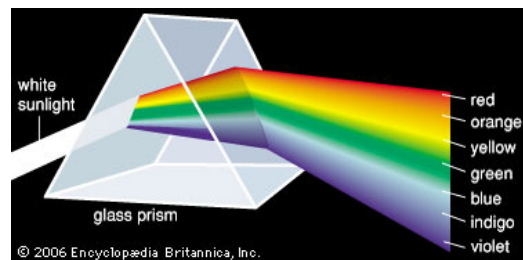


- 1) Draw the electron configuration for Ag using the boxes. Make sure I can easily see where each electron is.
- 2) What element has the electron configuration of $1s^2 2s^2 2p^6 3s^2 3p$
- 3) What is the abbreviated (noble gas configuration) of $1s^2 2s^2 2p^6 3s^2 3p^6 4s^2 3d^6$
- 4) What element has the configuration of $[\text{Xe}]6s^2$

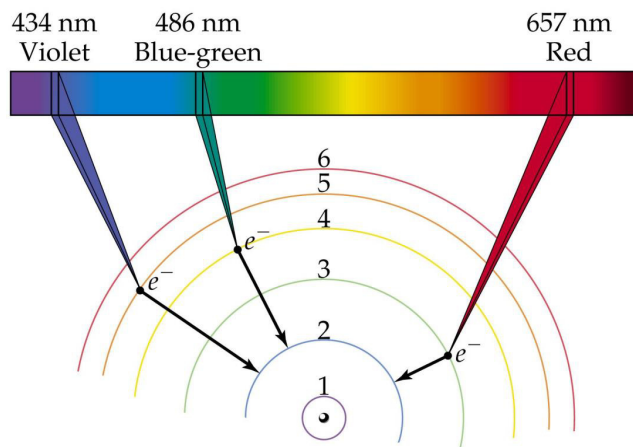
Sep 28-3:16 PM

White light and prisms



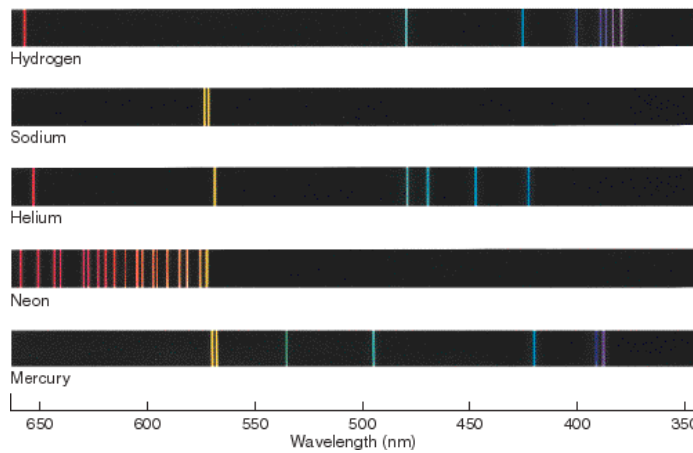
Sep 29-8:07 AM

Electrons moving up and down



Sep 29-8:05 AM

Electron absorption and emission spectrum



Sep 28-3:31 PM

Every element has a unique emission spectrum

Using equipment called a spectrophotometer, scientist can identify elements.

Sep 29-7:46 AM

Planck's Constant

$$h = 6.626 \times 10^{-34} \text{ J(s)}$$

Rydberg Constant

$$R_H = 1.097 \times 10^7 \text{ m}^{-1}$$

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Formulas using h and R_H

$$E = h\nu = \frac{hc}{\lambda}$$

$$\frac{1}{\lambda} = R_H \left(\frac{1}{n_1^2} - \frac{1}{n_2^2} \right)$$

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Using the formulas:

1) What is the energy associated with light that has a frequency of 7.04×10^{14} Hz?

Sep 29-7:58 AM

2) What wavelength of light is released when an electron falls from $n = 3$ to $n = 2$?

Sep 29-8:01 AM

Heisenberg uncertainty principle.

We can either know where an electron is, or how fast (how much energy it has) at any given moment.

In other words, you cannot simultaneously know both the location and the velocity of a particle

Sep 29-8:02 AM



Sep 29-8:13 AM

Electron Configuration and the Periodic Table

Location, location, location!!

Elements have similar chemical properties because of their vertical location on the periodic table and the configuration of their electrons.

Sep 29-8:13 AM

Summary of Electron Configurations

What is n ?

What relationship do s , p , d , and f have with n ?

How many electrons can be in each orbital?

Maximum electrons in $n = 1$, $n = 2$, $n = 3$, $n = 4$?

What is Noble gas configuration?

Why are elements in the groups they are in?

Sep 29-8:18 AM

The desire to be happy.

Noble gases do not react because they are happy, they have what is known as an octet. This means that their outer shell of electrons is full. All noble gases have s^2p^6 in their outside layer of electrons. These outside electrons are called valence electrons.

Sep 29-8:22 AM

Groups 1A - 7A and trying to be happy.

Sep 29-8:24 AM