Chapter 4 Stations
Station #1

1. List the seven regions of the EM spectrum in order of increasing wavelength.

2. How does this order compare to the order when the regions are arranged by increasing frequency?

3. What does it mean that energy is quantized?

Chapter 4 Stations
Station #2

1. What EM wave property accounts for its color?

2. What EM wave property accounts for its energy?

3. What EM wave property accounts for its brightness?

4. At what speed does all EM radiation travel?

Chapter 4 Stations
Station #3

1. Draw the shapes of the *s*, *p*, and *d* orbitals.

2. How many electrons can each orbital hold?

3. How many electrons can each sublevel hold (*s*,*p*,*d*,*f*)?

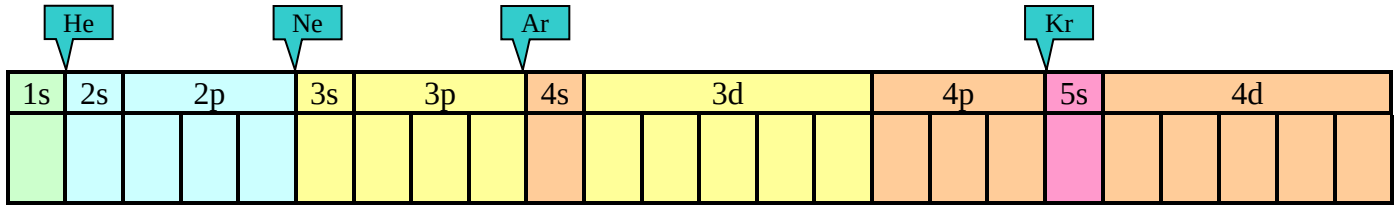
Chapter 4 Stations

Station #4

1. State each of the 3 rules for how electrons are stored in the electron cloud.

Chapter 4 Stations
Station #5

1. Using the following box orbital diagram as a guide, create box orbital diagrams for these elements.
   a. Ca
   b. S
   c. Cr



2. Write an electron configuration for each.

Chapter 4 Stations
Station #6

1. Create a Bohr model (the model with the concentric rings) of the following elements.
   a. Mg
   b. Li
   c. V

   Make sure you place the electrons in the appropriate energy levels.

2. Draw a Lewis dot diagram for each.