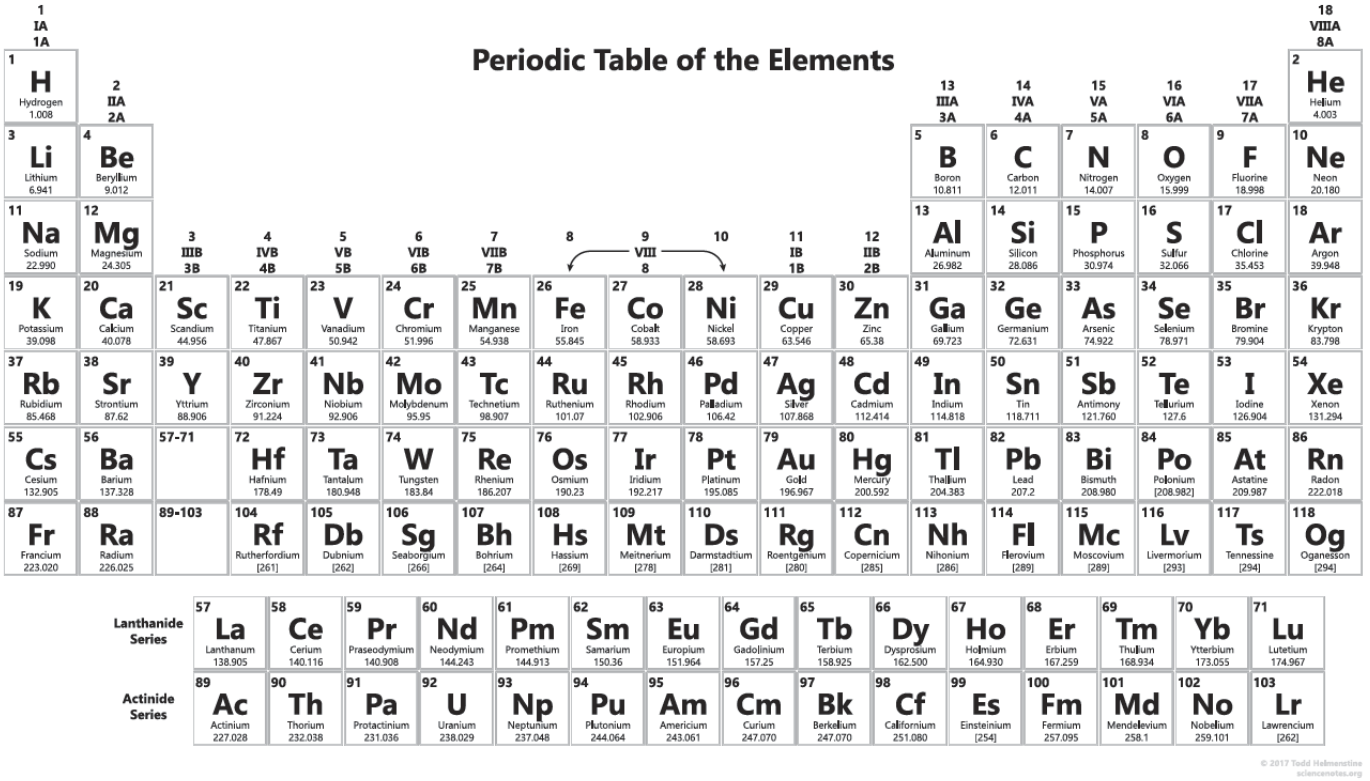
Concept Video 7- Q 1

Give the four quantum numbers that describe the 5^{th} electron of a ground state Carbon atom

Concept Videos 7 – Q 2

Write the ground state electronic configuration (condensed), and the number of valence electrons for the following elements.

1) Te
2) I
3) Rb
4) Ga
5) As



Concept Video 9
Practice Q 1

Rank each of these main-group elements in decreasing atomic size?

1) Br, Cs, Ar

2) Cl, Mg, Rb

Concept Video 9
Practice Q4

Among the following which of the following ionizations would require the least amount of energy?

1. From $Si_{(g)}$ ([Ne]$3s^2 3p^2$) to $Si^{+}_{(g)}$ ([Ne] $3s^1 3p^2$) + e^-
2. From $Si_{(g)}$ ([Ne]$3s^2 3p^2$) to $Si^{+}_{(g)}$ ([Ne] $3s^2 3p^1$) + e^-
3. From $Si^{+}_{(g)}$ ([Ne]$3s^2 3p^1$) to $Si^{2+}_{(g)}$ ([Ne] $3s^2$) + e^-

Concept Video 9
Practice Q5

Using electronic configuration, describe IE_1, IE_2, and IE_3 of the following atoms i.e. which electrons are lost in each IE reaction?
Circle the largest IE (among IE1/IE2/IE3 for that atom) for each atom

C

Na

Concept Video 9
Practice Q6

An element belonging to period 3 has the following ionization energies? Predict which element is it?

IE in kJ/mol:

IE_1 = 738; IE_2 = 1451; IE_3: 7732; IE_4: 10542

Concept Video 9
Practice Question 7

Arrange the following in decreasing ionic size:

S^{-2}, O^{-2}, Be^{2+}, Li^{+}

Concept Video 9
Practice Question 8

Provide the condensed electronic configuration of the following and determine if they are paramagnetic or diamagnetic

Ti

Zn^{2+}

Ti^{2+}

Fe^{3+}