Ionization Energy

1. Choose the element with the greatest first ionization energy:
   - Carbon or aluminum
   - Calcium or strontium
   - Helium or lithium
   - Chlorine or argon
   - Chlorine or fluorine
   - Sulfur or chlorine

2. Which has the larger ionization energy, sodium or potassium? Why?

3. Explain the difference in first ionization energy between lithium and beryllium.

Complete the passage below using the terms below.

Atomic radius  First ionization energy  Noble gases
Decrease       Increase                Nonmetals
Electron affinity  Ionization energy  Metalloid
Electronegativity  Metals             Shielding effect
Noble gas configuration

1. ____________ is the energy required to remove an electron from an atom.

2. The energy change associated with the addition of electron is called ______________.

3. The energy needed to remove the most loosely held electron from a neutral atom is called ______________.

4. Along with the increased distance of the outer electrons from the nucleus, the ________________ of the inner electrons causes ionization energy to decrease going down a column of the periodic table.

5. A low ionization energy is characteristic of a(n) ______________.
6. Ionization energies tend to _______________ across periods of the periodic table.

7. An element with a high ionization energy is classified as a (n) _________________.

8. The attraction an atom has for electrons is called ____________________.

9. The distance from the nucleus to the outer most electron is known as ____________________.

10. The ____________________ do not have measured electronegativity’s since they do not commonly form compounds.
References

1. https://secondaryscience4all.wordpress.com/2014/08/09/physical-properties-of-period-3-elements/
Ionization Energy

1. Choose the element with the greatest first ionization energy:
   - Carbon or aluminum
   - Calcium or strontium
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   - Chlorine or argon
   - Chlorine or fluorine
   - Sulfur or chlorine

2. Which has the larger ionization energy: sodium or potassium? Why?
   - Na > K because Na has less shielding than K

3. Explain the difference in first ionization energy between lithium and beryllium.
   - Li < Be because Li has less ENC than Be

Complete the passage below using the terms below.

1. **Ionization Energy** is the energy required to remove an electron from an atom.

2. The energy change associated with the addition of electron is called **Electron Affinity**.

3. The energy needed to remove the most loosely held electron from a neutral atom is called **First Ionization Energy**.

4. Along with the increased distance of the outer electrons from the nucleus, the **Shielding Effect** of the inner electrons causes ionization energy to decrease going down a column of the periodic table.

5. A low ionization energy is characteristic of a(n) **Metals**.

6. Ionization energies tend to **INCREASE** across periods of the periodic table.

7. An element with a high ionization energy is classified as a (n) **Nonmetals or Noble Gases**.
8. The attraction an atom has for electrons is called electronegativity.

9. The distance from the nucleus to the outer most electron is known as Atomic Radius.

10. The noble gases do not have measured electronegativities since they do not commonly form compounds.