

Name: \_\_\_\_\_

Block: \_\_\_\_\_

Date: \_\_\_\_\_

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Chemistry 11H

**Electron Configuration Worksheet**

Assignment

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1) Draw the energy level diagrams for the following atoms/ions.

a. C

d.  $\text{Al}^{3+}$

b. Ca

e. B

c. Chlorine ion

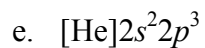
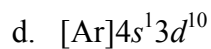
f. Zn

2) Given the following electronic configuration of neutral atoms, identify the element and state the number of unpaired electrons in the ground state:

a.  $[\text{Ar}]4s^23d^4$

b.  $[\text{Ne}]3s^23p^5$

c.  $[\text{Kr}]5s^24d^{10}5p^4$



3) Write the electron configurations for the following atoms/ions.

a. P

b.  $\text{Cu}^+$

c.  $\text{Sn}^{2+}$

d. Fe

e. Osmium

f. Iodide ion

g.  $\text{Na}^+$

h. Nd

i. Sr

j. Fluoride ion

k. Beryllium

l. Si

4) Using core notation, write the electron configurations for the following atoms and ions.

a. K

b.  $\text{O}^{2-}$

c. Cr

d. V

e. Tellurium

f. Xe

g.  $\text{Cl}^-$

h.  $\text{Zn}^{2+}$

5) How many valence electrons are in each of the atoms/ions from #4?

a. K

e. Tellurium

b.  $\text{O}^{2-}$

f. Xe

c. Cr

g.  $\text{Cl}^-$

d. V

h.  $\text{Zn}^{2+}$