

Bauck's CHEMISTRY Ch. 5 Test Review

This is an optional assignment due the day of the test.

Materials: loose leaf paper, pen and/or pencil, calculator (You will be given a periodic table.)

Test date: _____

Test value: 200 points

Test format: multiple choice, short answers, periodic trend questions (like the chapter practices), “element analysis” questions (similar to the following format):

For each element, give the following:

- | | |
|------------------|-----------------------------------|
| a) group number | d) metal, nonmetal, or metalloid? |
| b) period number | e) Draw the electron dot diagram |
| c) atomic number | (Lewis structure). |

Topics to study:

- 1) **Alkali metals**—Which group is this? List the chemical symbols of the elements in that group.
- 2) **Alkaline earth metals**—Which group is this? List the chemical symbols of the elements in that group.
- 3) **Atomic size**—What is it? Describe trends across a period and down a group.
- 4) **Chalcogens**—Which group is this? List the chemical symbols of the elements in that group.
- 5) **Conductivity**—What is this? Where and how does this occur?
- 6) **Diatomic molecules; diatomic elements**—Give the chemical formulas of what we call the “Super Seven.”
- 7) **Electron dot diagrams (Lewis Structures)**—How should the dots be placed (use the method given in the notes)? Be able to do them for any atom. Give one example for this review.
- 8) **Electronegativity**—What is this? Describe trends across a period and down a group.
- 9) **Groups**—Where are they? What does the “A” group number tell you about the number of valence electrons in an atom?
- 10) **Halogens**—Which group is this? List the chemical symbols of the elements in that group.
- 11) **Inert**—What does this mean? Which elements are inert?
- 12) **Inner transition elements**—Where are they? What are other names for this area? Contrast with **transition elements**.
- 13) **Ionic size of cations**—Is a cation’s radius larger or smaller than the original atom? Explain.
- 14) **Ionic size of anions**—Is an anion’s radius larger or smaller than the original atom? Explain.
- 15) **Ionization energy**—What is it? Describe trends across a period and down a group.
- 16) **Law of Octaves**—What does this law say? Give an example of an “octave” on the periodic table.
- 17) **Mendeleev**—What was his contribution to the periodic table?
- 18) **Metals**—Where are they? Identify examples and characteristics.
- 19) **Metalloids**—Where are they? What are other names for these elements? List some examples and characteristics.
- 20) **Noble Gases**—Which group is this? List the chemical symbols of the elements in that group. Why are they inert?
- 21) **Nonmetals**—Where are they? Identify examples and characteristics.
- 22) **Octet rule**—How does this work? What are some exceptions to this rule?
- 23) **Periodicity**—What is this? Give examples.
- 24) **Periods**—Where are they? How many are there? What does the period number tell you about the number of electron “shells” in an atom?
- 25) **Representative elements**—Where are they? Contrast with **transition elements**.
- 26) **Shielding effect**—What is this? How does this affect atomic size trends across periods?
- 27) **Semiconductors**—What are they? (see **metalloids**)
- 28) **Transition elements**—Where are they?
- 29) **Triad**—What is this? Give an example of what is a triad and what isn’t.
- 30) **Valence number**—What is this? How does this relate the electron dot diagrams and the placement of an atom in the periodic table?

*** Note *** There will be at least one question pertaining to material in past chapter(s) or unit(s).