

## Biology Review – Intro to Chemistry

### Terms to know and review:

Matter  
Atom  
Subatomic particle: Proton/electron/neutron  
Nucleus  
Energy level (electron cloud)  
Core/valence electron  
Element  
Ion  
Compound  
Covalent bond/Ionic bond  
Bohr model  
Lewis dot structure  
Atomic mass  
Atomic number  
Periodic Table  
Scientific method  
qualitative/quantitative  
observation/inference  
problem, hypothesis, controlled experiment  
control group, experimental group  
variable (control, independent, dependent)  
conclusion  
Compound light microscope  
Objective lens  
Ocular lens  
Magnification  
Total Magnification  
Disc diaphragm  
Working distance  
Focus

### Old Info that will be tested:

1. Lab safety/Equipment
2. Scientific method
3. Controlled experiments
4. Microscope use and focusing an object
5. Understand the parts and functions of the microscopes

### Objectives:

1. Know the parts of an atom – subatomic particles, charges and locations
2. Know the importance of valence electrons
3. Know how to locate a valence electron on an atomic picture (bohr model)
4. Be able to use your periodic table to do the following:
  - a. Atomic number/protons/electrons
  - b. Find the atomic mass (protons + neutrons)
  - c. Neutrons (atomic mass – protons = neutron #)
  - d. Lewis dot structure
  - e. Bohr model (be able to locate valence electrons, nucleus and energy levels)
5. Know the difference between an ionic bond and a covalent bond
6. Know why atoms are neutral
7. Know why atoms want to bond to form compound or molecules

### What to Study?

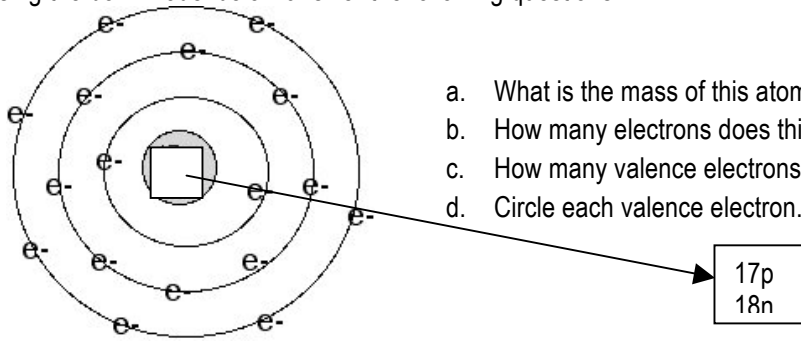
1. Introduction to chemistry notes
2. Introduction to chemistry: Periodic table notes
3. Intro to chemistry questions
4. Parts of an atom handout
5. Color coded bohr model
6. Bohr model handouts
7. Lewis dot structures
8. Periodic table
9. Old test reviews: microscope and scientific method
10. Lab safety and equipment

1. What is the central region of the atom called? \_\_\_\_\_. In this region of the atom the subatomic particles that are located here are the \_\_\_\_\_ and \_\_\_\_\_.
2. What are the outside regions of the atom called? \_\_\_\_\_. In these regions the subatomic particles that are located here are \_\_\_\_\_.
3. The subatomic particles with a positive charge are \_\_\_\_\_ and the negative charged particles are \_\_\_\_\_.
4. What type of electrons bond atoms together? \_\_\_\_\_. Where are they located? \_\_\_\_\_.
5. When using the periodic table, the atomic number also equals the number of \_\_\_\_\_ and \_\_\_\_\_.
6. What is the atomic number of carbon (C)? \_\_\_\_\_, Hydrogen (H)? \_\_\_\_\_.
7. How do you calculate the atomic mass? \_\_\_\_\_ + \_\_\_\_\_. What is the atomic mass of Fluorine (F)? \_\_\_\_\_.
8. If an unknown element has 16 protons and 16 neutrons, what is the atomic mass? \_\_\_\_\_. What is this element on the periodic table? \_\_\_\_\_.
9. Use the periodic table

Element	Atomic #	Mass #	Protons	Neutrons	Electrons
Na					
Ne					

10. What type of bonds share electrons? \_\_\_\_\_  
**Ionic or Covalent**
11. Why are atoms neutral? \_\_\_\_\_
12. Make a bohr model for Silicon (Si)
  
  
  
  
  
  
  
  
  
  
13. How many valence electrons does Hydrogen have? \_\_\_\_\_. How many valence electrons does C have? \_\_\_\_\_.
14. Draw the Lewis dot structure for Boron (B). Draw the Lewis dot structure for Carbon (C)

15. Using the bohr model below answer the following questions.



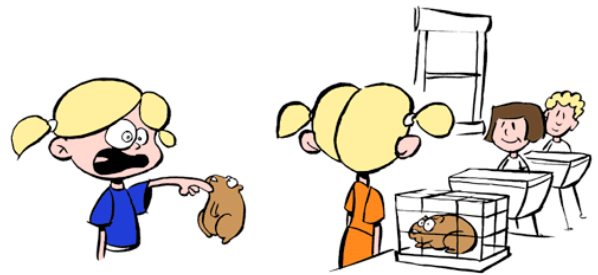
- What is the mass of this atom? \_\_\_\_\_
- How many electrons does this atom have? \_\_\_\_\_
- How many valence electrons does this atom have? \_\_\_\_\_
- Circle each valence electron.

16. Complete questions on the scientific method.

a. Write the complete steps of the scientific method.

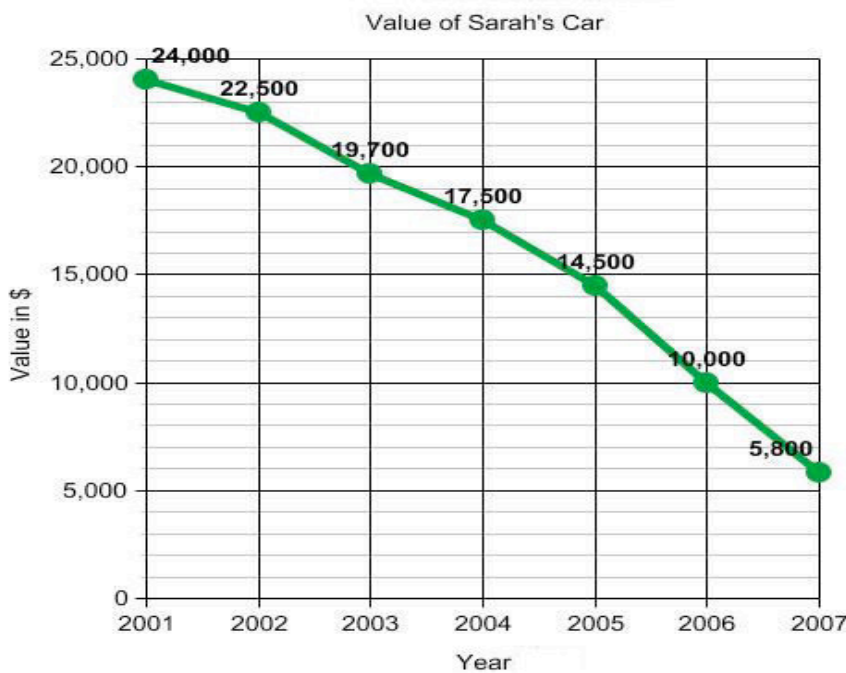
b. Which of these is not a step of the scientific method?

- ▶ Hypothesis
- ▶ Experiment
- ▶ Conclusion
- ▶ Plagerism



c. Write an observation statement about the picture above. \_\_\_\_\_

d. Make a conclusion statement about the data below that was collected. \_\_\_\_\_



Copyright © 2007 Mrs. Glosser's Math Goodies, Inc. All Rights Reserved.  
<http://www.mathgoodies.com>