

# Exam #2 Objectives



## CHEM 1050 Chemistry and the Citizen

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### Text Reading

- Chapter 4: sections 1-5, 7 (only valence electrons)  
Chapter 6: sections 1-5 (no electron-dot structures)

### Homework Assignment

- Chapter 4: 5, 8, 10, 11, 13, 16, 17, 19, 22, 23, 28, 30, 31, 34, 48  
Chapter 6: 2, 4, 8, 9, 11, 13, 14, 16, 17, 19, 21, 26, 31, 34, 36, 41, 45

### Concepts

1. Demonstrate a working knowledge of Dalton's atomic theory as discussed in lecture.
2. Discuss the three subatomic particles as discussed in lecture and the book and their locations in the atom.
3. Demonstrate the ability to write proper isotopic symbols and isotope names.
4. Diagram the periodic table according to representative (main group), transition metal, inner transition metal, metal, and nonmetal elements.
5. Identify the group names and the basic organization of the periodic table as discussed in class.
6. Given room temperature and 1 atm of pressure, identify whether you'd expect a given element to be a solid, liquid, or a gas.
7. Using a periodic table, determine the number of valence electrons in atoms and ions.
8. Using a periodic table, determine the charge of an ion made from a representative element.
9. Name ionic compounds when given the chemical formula and write the chemical formula when given the name (use Roman numerals, called the Stock system, when appropriate).
10. Name molecular compounds when given the chemical formula and write the chemical formula when given the name.
11. Demonstrate a working vocabulary of the following terms:

alkali metal	group	nonmetal
alkaline earth metal	halogen	octet
anion	ion	nucleus
atom	ionic bond	period
atomic number	isotope	periodic table
binary compound	isotopic symbol	polyatomic compound
cation	mass number	proton
chalcogen	metal	Stock system
compound	mixture	substance
covalent bond	molecule	valence electrons
electron	neutron	
element	noble gas	