



# Chemistry

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

Section \_\_\_\_\_ ATOMIC CONCEPTS WS Date: \_\_\_\_\_

*Directions (1-8): For each statement or question, choose the word or expression that, of those given, best completes the statement or answers the question. Some questions may require the use of the 2011 Edition Reference Tables for Physical Setting/Chemistry.*

- Which statement describes the earliest model of the atom?  
 (1) An atom is an indivisible hard sphere.  
 (2) An atom has a small, dense nucleus.  
 (3) Electrons are negative particles in an atom.  
 (4) Electrons in an atom have wave-like properties.
- An orbital is a region in an atom where there is a high probability of finding  
 (1) a neutron                       (3) an alpha particle  
 (2) a proton                          (4) an electron
- Which particles are found in the nucleus of an argon atom?  
 (1) protons and electrons  
 (2) positrons and neutrons  
 (3) protons and neutrons  
 (4) positrons and electrons
- The part of an atom that has an overall positive charge is called  
 (1) an electron                       (3) the first shell  
 (2) the nucleus                       (4) the valence shell
- Which statement describes the charge and location of an electron in an atom?  
 (1) An electron has a positive charge and is located outside the nucleus.  
 (2) An electron has a positive charge and is located in the nucleus.  
 (3) An electron has a negative charge and is located outside the nucleus.  
 (4) An electron has a negative charge and is located in the nucleus.
- Which conclusion was drawn from the results of the gold foil experiment?  
 (1) An atom is electrically neutral.  
 (2) An atom is mostly empty space.  
 (3) The nucleus of an atom is negatively charged.  
 (4) The electrons in an atom are located in specific shells.
- The discovery of the electron as a subatomic particle was a result of  
 (1) collisions theory  
 (2) kinetic molecular theory  
 (3) the gold-foil experiment  
 (4) experiments with cathode ray tubes
- Four statements about the development of the atomic model are shown below:  
A: electrons have wavelike properties  
B: atoms have small, negatively charged particles  
C: the center of an atom is a small, dense nucleus  
D: atoms are hard, indivisible spheres  
Which order of statements represents the historical development of the atomic model?  
 (1) C, D, A, B                       (3) D, B, A, C  
 (2) C, D, B, A                       (4) D, B, C, A
- Which phrase describes an Al atom?  
 (1) a negatively charged nucleus, surrounded by negatively charged electrons  
 (2) a negatively charged nucleus, surrounded by positively charged electrons  
 (3) a positively charged nucleus, surrounded by negatively charged electrons  
 (4) a positively charged nucleus, surrounded by positively charged electrons