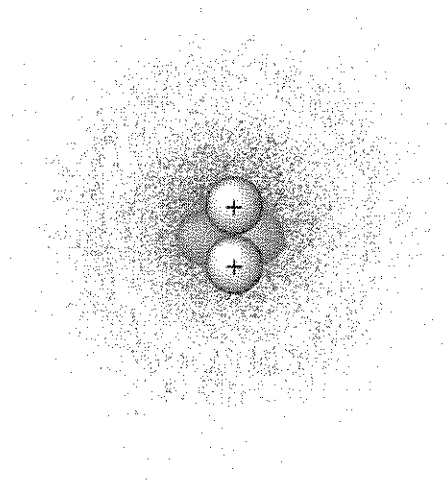


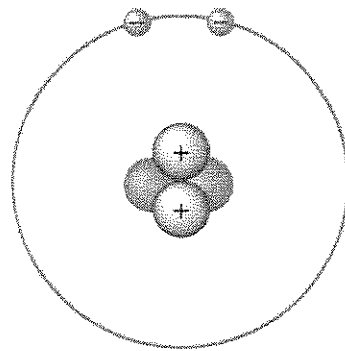
MCC Biology
Chapter 2 Guided Reading Assignment

Name SUGGESTED ANSWERS
- See page #1 (Campbell) BIO
8th ed.

1. Contrast the term element with compound. *p. 31*
2. Label the diagram below and define the terms that you label. *p. 33*



(a)



(b)

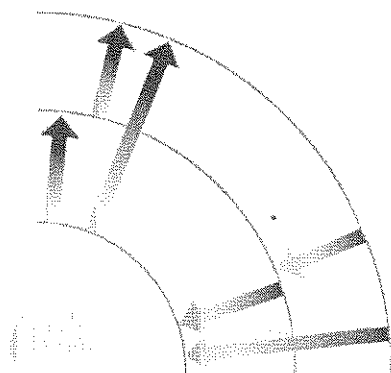
3. Contrast the terms atomic mass and atomic number. *p. 33*
4. What is the difference between the terms atomic mass and atomic weight?
ATOMIC MASS = # of protons + # of neutrons
ATOMIC WEIGHT = AVG MASS of ATOMS of an element's isotopes
5. What is an isotope and what is "special" about radioactive isotopes?
p. 33 + 34
FIG. 2.6
6. Explain how radioactive tracers are used in science?
FIG 2.6 p. 34

7. Explain how the movement of electrons relates to the concept of potential energy – use the diagram below to help answer the question. *P. 35*

(a)



(b)



8. What determines interactions between atoms? Why are valence electrons important? *P. 38*

9. Define the following terms:

- a. Chemical bond *P. 38*
- b. Covalent bond *P. 38*
- c. Single bond *P. 38*
- d. Double bond *P. 38*
- e. Valence *P. 39*
- f. Electronegativity *P. 39*
- g. Nonpolar covalent bond *P. 39*
- h. Polar covalent bond *P. 39*

10. What is the difference between a structural and molecular formula?

Fig 2.12 P. 38

11. How do ionic bonds compare with covalent bonds?

p. 38-40

12. Compare and contrast hydrogen bonds and van der Waals interactions.

p. 40-41

13. Based on the reading, what is an example, in a living system, of how molecular shape is critical?

p. 42

14. Define a dynamic chemical equilibrium in terms of quantities of reactants and products. This is a critical concept!

p. 43