NAME _____ CLASS _____ DATE _____

Basics of Chemistry

Section Review

2.2

The Big Idea!

Living things are made of chemicals with characteristic structures and functions. 2.1–2.2

Concepts

- An atom is the smallest particle of an element. Uncombined atoms are neutral because they contain equal numbers of protons (+) and electrons (–).
- Atoms of different elements combine to form compounds, which are held together by chemical bonds. Ionic bonds form when atoms gain or lose electrons. Covalent bonds form when atoms share electrons.

Words

element compound organic compounds ion isotopes chemical bonds

PART A *Match each term in the Data Bank with its description below. Write the letter of the correct term on the line provided.*

Data Bank				
a. proton	b. atom	c. energy level	d. isotopes	e. element
f. neutron	g. ionic bond	h. compound	i. electron	j. covalent bond

_____ **1.** two or more elements chemically combined in definite proportions

_____ **2.** substance that cannot be broken down by chemical processes into a simpler substance

_____ **3.** smallest particle of an element with all the properties of that element

_____ **4.** positively charged particle located in the nucleus of an atom

_____ **5.** particle with no electrical charge, located in the nucleus of an atom

_____ **6.** negatively charged particle located outside the nucleus of an atom

_____ **7.** region in which electrons move

_____ **8.** type of bond in which electrons are lost by one atom and gained by another

_____ **9.** type of bond in which electrons are shared by atoms

_____ **10.** atoms of the same element that have different numbers of neutrons

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PART B

1. Explain how protons and electrons are similar and how they are different.

_____

_____

_____

2. Name four substances that are elements.

_____

3. Name four compounds.

_____

4. What kind of compounds contain carbon and are associated with living things?

_____

5. Give an example of how scientists use radioactive isotopes.

_____

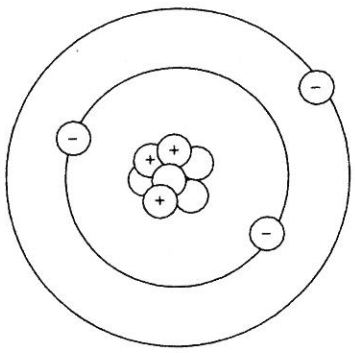
_____

6. What is a polar molecule?

_____

_____

PART C *Study the drawing of the atom, and answer the questions that follow.*



1. What is the number of protons?

_____

2. What is the number of electrons?

_____

3. What is the number of neutrons?

_____

4. What is the total number of negative charges in the atom?

_____

5. What is the total number of positive charges in the atom?

_____

6. What is the net charge on the atom?

_____

7. Change the drawing to represent a negative ion of the atom.

8. How would an isotope of this atom differ from the drawing?

_____

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