Directed Reading B *continued*

11. Name the six elements that make up most of the human body.

Carbon, Oxygen, Hydrogen, Nitrogen, Phosphorus, and Calcium.

12. What do carbon's special bonding abilities allow carbon to do?

It can make 4 covalent bonds to make many possible combinations of molecules

13. Name two types of organic compounds that can be manufactured.

Plastics, diamond

Name _____ Class _____ Date _____

Skills Worksheet

Directed Reading B

Section: Compounds of Living Things

Write the letter of the correct answer in the space provided.

biochemicals

1. Carbohydrates, lipids, proteins, and nucleic acids are the four categories of
- **a.** living things.
- **b.** carbons.
- **c.** organic compounds.
- **d.** biochemicals.

CARBOHYDRATES

sugar molecules

2. Carbohydrates are biochemicals that are composed of one or more
- **a.** lipids.
- **b.** sugar molecules.
- **c.** organic compounds.
- **d.** starch molecules.

simple sugars (few hexagons)

3. Simple carbohydrates are made up of
- **a.** simple sugars.
- **b.** cellulose.
- **c.** proteins.
- **d.** lipids.

simple sugars (many hexagons)

4. Complex carbohydrates may be made of thousands of
- **a.** lipids.
- **b.** simple sugars.
- **c.** proteins.
- **d.** nucleic acids.

energy

5. Living things commonly use carbohydrates as a source of
- **a.** fat.
- **b.** genetic material.
- **c.** energy.
- **d.** protein.

LIPIDS

dissolve in water

6. Lipids are biochemicals that do not
- **a.** store excess energy.
- **b.** make up cell membranes.
- **c.** dissolve in water.
- **d.** store vitamins.

lipids

7. Fats, oils, and waxes are
- **a.** lipids.
- **b.** carbohydrates.
- **c.** proteins.
- **d.** sugars.

PROTEINS

amino acids

8. Proteins are biochemicals made up of "building blocks" called
- **a.** sugars.
- **b.** amino acids.
- **c.** nucleic acids.
- **d.** lipids.

hemoglobin

9. An example of a protein is
- **a.** olive oil.
- **b.** sugar.
- **c.** hemoglobin.
- **d.** fiber.

10. List three roles that proteins have in the human body.

1. Proteins can be structural like the cytoskeleton and muscle fibers.
2. Proteins can be enzymes, chemical tools in the cytoplasm.
3. Proteins can also be hormones, chemical messengers.

11. What are the largest molecules made by living organisms called?

Nucleic Acids (DNA)

12. What are nucleic acids made up of?

Nucleotides (Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus, and Sulfur)

13. How do nucleotides cause living things to differ from one another?

Different species have different DNA sequences.
A different arrangement of the nucleotides.

14. What are nucleic acids sometimes called because they contain all the information needed for a cell to make its proteins?

The blueprints of life

15. What are the two main kinds of nucleic acids, and what are their functions?

DNA - deoxyribonucleic acid "your blueprints"
RNA - ribonucleic acid "messengers and builders of proteins"

Name _____ Class _____ Date _____

Skills Worksheet

Vocabulary and Section Summary B

Elements in Living Things

VOCABULARY

After you finish reading the section, try this puzzle! Write the word or phrase being described below in the spaces provided.

1. a covalently bonded compound that contains carbon

o	r	g	a	n	i	c							
			2			1							

c	o	m	p	o	u	n	d						

2. type of bond formed when there are three bonds between carbon atoms

t	r	i	p	l	e	t		b	o	n	d
	3										

3. type of bond formed when there are four separate covalent bonds between a carbon atom and another atom

s	i	n	g	l	e		b	o	n	d
							4			

4. type of bond formed when there are two covalent bonds between carbon atoms

d	o	u	b	l	e		b	o	n	d
								5	6	

5. an oil that comes from organic material deep in Earth's crust; used to make gasoline

p	e	t	r	o	l	e	u	m
		7		8				9

Using the numbered letters above, fill in the spaces below to find what forms the backbone of many molecules needed by living things.

c	a	r	b	o	n		a	t	o	m
1	2	3	4	5	6		2	7	8	9