Name _____ Date _____ Class _____

Content Practice A

LESSON 3

DNA and Genetics

Directions: *On each line, write the term from the word bank that correctly completes each sentence. Each term is used only once.*

amino acids	**DNA**	**double helix**	**genes**
genetic disorder	**mutation**	**nitrogen**	**nucleotides**
phosphate	**proteins**	**replication**	**RNA**
traits	**transcription**	**translation**	

1. Chromosomes are made of _____ and _____.

2. An organism's _____ are encoded in segments of its chromosomes called _____.

3. A DNA molecule is shaped like a twisted ladder, a shape that is called a(n) _____.

4. The genetic units called _____ are made of a sugar, a(n) _____ group, and a(n) _____ base.

5. The process by which a new copy of a DNA molecule is created is called _____.

6. Three kinds of _____ molecules carry out genetic instructions for the production of proteins.

7. This process involves two main steps, called _____ and _____.

8. In the second of those steps, units called _____ are linked together.

9. A change in a gene's sequence of nucleotides is called a(n) _____.

10. A change in a gene's sequence of nucleotides can lead to a(n) _____, such as cystic fibrosis.

Name _____ Date _____ Class _____

Content Practice B

LESSON 3

DNA and Genetics

Directions: *Answer each question on the lines provided.*

1. Which two substances are chromosomes made of?

_____

2. What are the three parts of a nucleotide?

_____

3. What is name for the process by which new copies of DNA are made?

_____

4. What are the three kinds of RNA?

_____

5. What is the process by which the coded DNA information for making a protein is copied into RNA?

_____

6. What process is carried out by RNA to produce a protein?

_____

7. What is a mutation, and what are the three types of mutations discussed in the lesson?

_____

_____

_____

_____

8. Which three genetic disorders are caused by mutations?

_____

9. How can a mutation be beneficial?

_____

_____