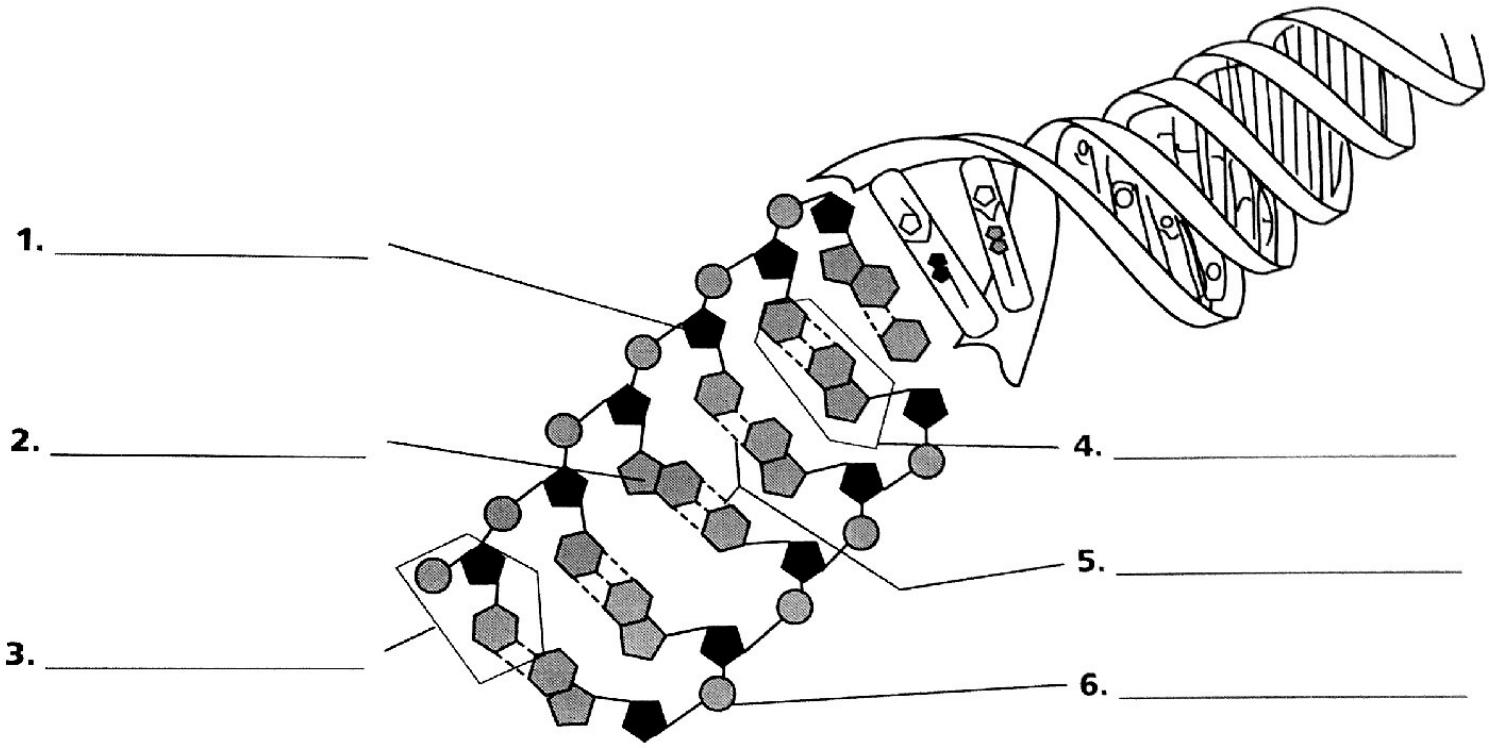
Chapter 11 **DNA and Genes**

Reinforcement and Study Guide

Section 11.1 DNA: The Molecule of Heredity

In your textbook, read about what DNA is and the replication of DNA.

Label the diagram. Use these choices: nucleotide, deoxyribose, phosphate group, nitrogenous base, hydrogen bonds, base pair.



Complete each statement.

7. _____ , guanine (G), cytosine (C), and thymine (T) are the four _____ in DNA.

8. In DNA, _____ always forms hydrogen bonds with guanine (G).

9. The sequence of _____ carries the genetic information of an organism.

10. The process of _____ produces a new copy of an organism's genetic information, which is passed on to a new cell.

11. The double-coiled shape of DNA is called a _____ .

In your textbook, read about genes and proteins and RNA.

Complete the chart on the three chemical differences between DNA and RNA.

Structure	DNA	RNA
1. strand of nucleotides	a.	b.
2. sugar	a.	b.
3. nitrogenous base	a.	b.

In your textbook, read about the genetic code.

Complete each statement.

4. Proteins are made up of _____ .

5. There are twenty different types of _____ .

6. The message of the DNA code is information for building _____ .

7. Each set of three nitrogenous bases that codes for an amino acid is known as a _____ .

8. The amino acid _____ is represented by the mRNA codon ACA.

9. _____ and _____ are mRNA codons for phenylalanine.

10. There can be more than one _____ for the same amino acid.

11. For any one codon, there can be only one _____ .

12. The genetic code is said to be universal because a codon represents the same _____ in almost all organisms.

13. _____ , _____ , and _____ are stop codons.

14. _____ and _____ are amino acids that are each represented by only one codon.