

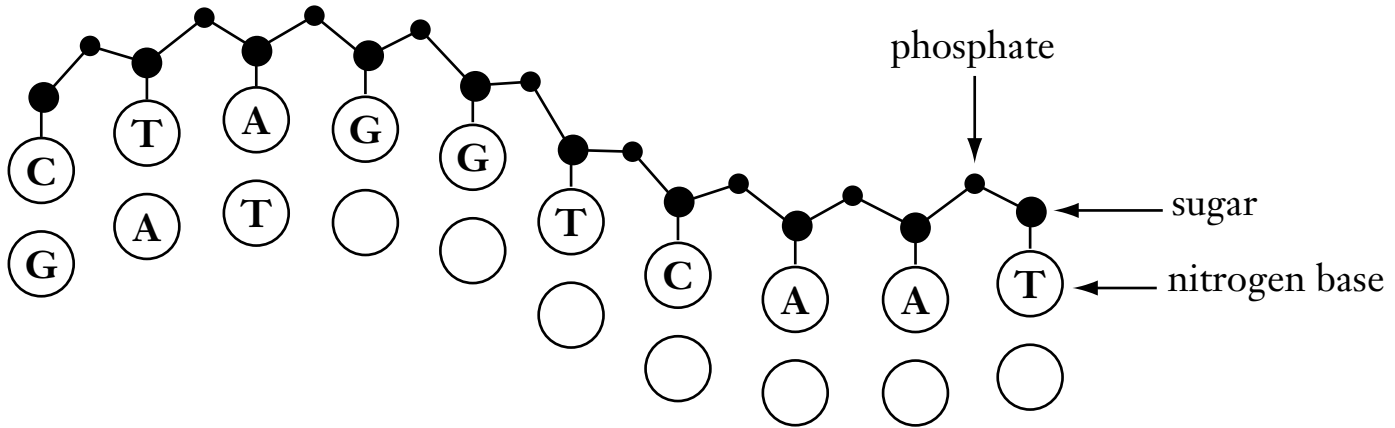
CHAPTER 13 GENES AND CHROMOSOMES

Section 13.1 DNA: The Molecule of Heredity

Study the Diagram

When the DNA ladder replicates—copies itself—the ladder breaks apart. You can think of the ladder breaking apart as a zipper unzipping. When the two sides of the ladder are apart, free nucleotide bases attach to the bases already on the sides of the ladder, and two copies of the DNA are formed. The copies are the same as the original because adenine (A) usually pairs with thymine (T). Cytosine (C) usually pairs with guanine (G).

The diagram below shows an unzipped strand of DNA. Write the letters—A, T, C, or G—of the bases that will pair with the bases on the strand. Some of the bases have been paired for you.



- True or false?** Nucleotide bases already attached to proteins form the copied side of the DNA ladder. _____
- True or false?** The process of DNA replication results in a copy of the original strand of DNA.

- True or false?** Sugar and phosphates provide the energy for DNA replication.

- True or false?** The final result of DNA replication is two copies of the original DNA strand.
