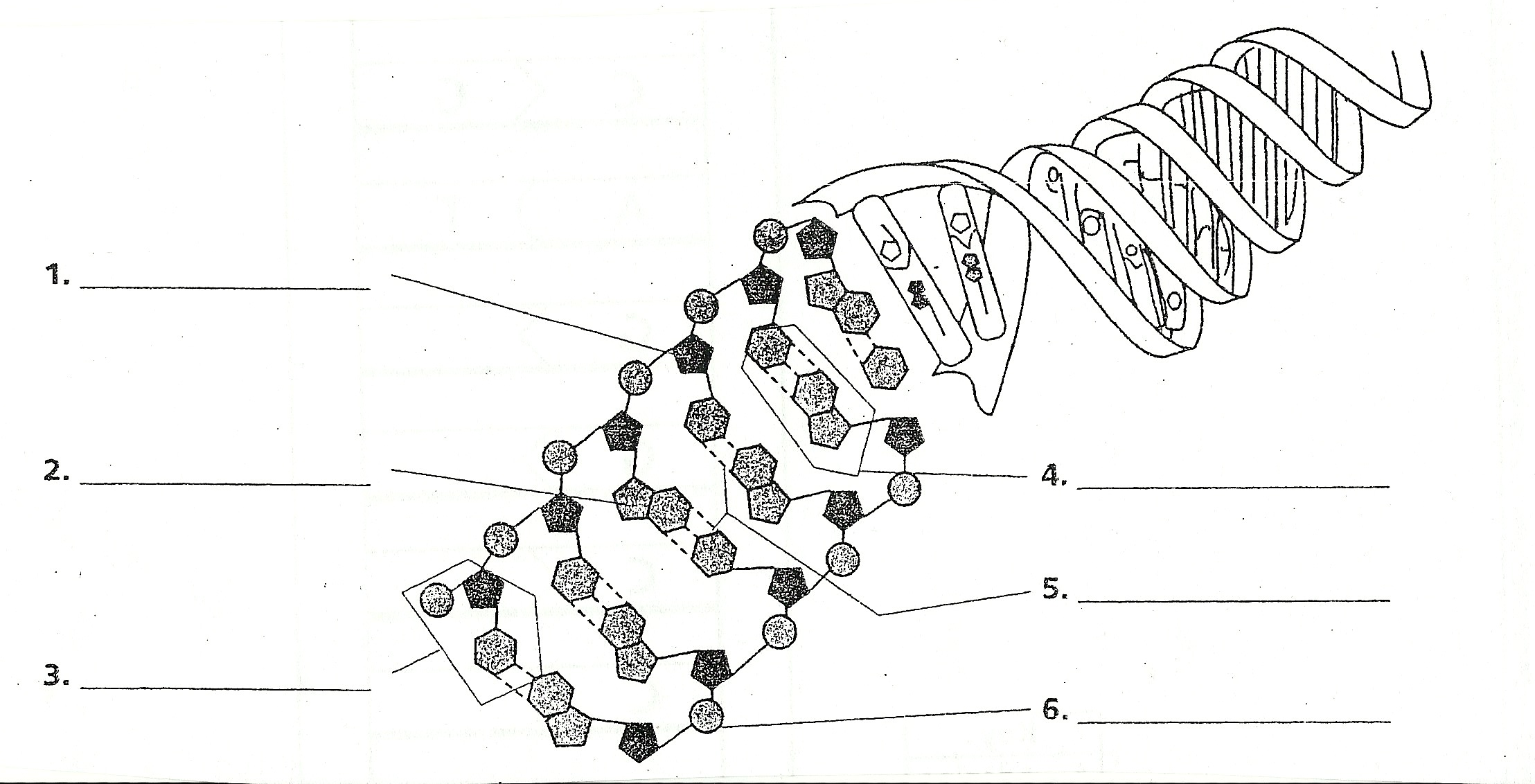
**Structure of DNA/Base Pairing**

*In your textbook, read section 12.1 (pages 287-294) about the structure and history of DNA.*

**Label the diagram below using the following choices:**

Nucleotide, deoxyribose, phosphate group, nitrogen base, hydrogen bonds, base pair

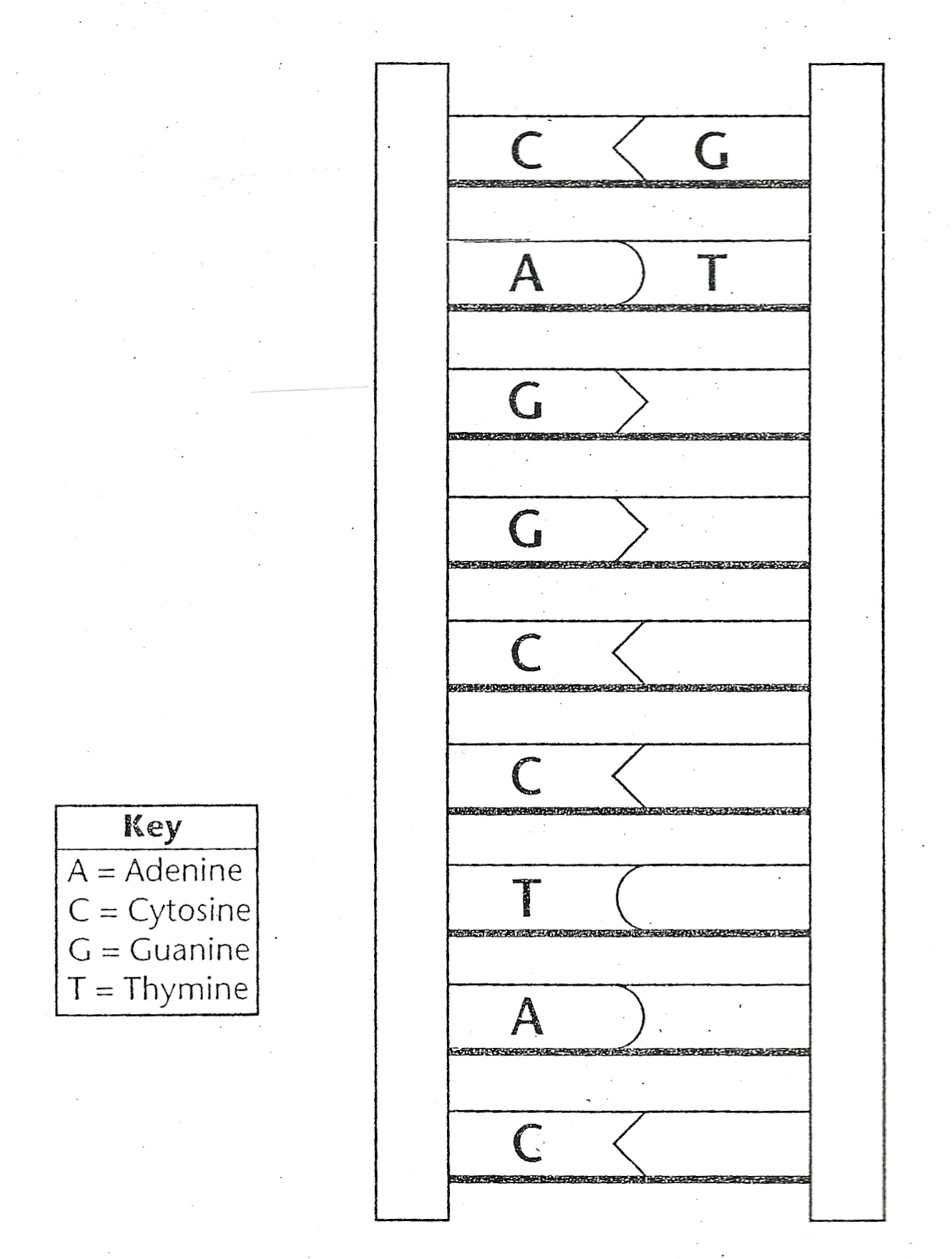


**Complete each statement.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, guanine (G), cytosine (C), and thymine (T) are the four \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in DNA.
2. In DNA, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ always forms \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bonds with guanine (G).
3. The sequence of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ carries the genetic information of an organism.
4. The process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ produces a new copy of an organism’s genetic information, which is passed on to a new cell.
5. DNA synthesis occurs during \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of interphase.
6. The double-coiled shape of DNA is called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Base Pairing**

I. Four nucleotides make up DNA: adenine, cytosine, guanine, and thymine. These nucleotides always occur in pairs call base pairs. *Write the missing letter to complete each base pair. The first two have been done for you.*



II. *Use the diagram to answer the following questions.*

1. What nucleotide is always paired with thymine?
2. What nucleotide is always paired with guanine?
3. What type of bond connects base pairs?