

DNA is a nucleic acid.

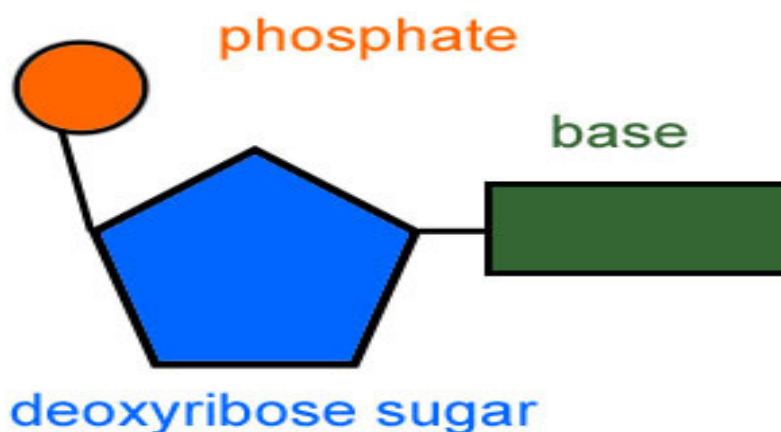
DNA stands for deoxyribonucleic acid

DNA is genetic material.

It is found in the nucleus of the cell.

DNA is made up of nucleotides.

A nucleotide consists of a sugar, a phosphate, and a base.



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The nucleotides fit together to form a twisted ladder shape called a **double helix**.



The hand rails of the ladder are made of **sugar** (deoxyribose) and **phosphate** molecules.

The steps of the ladder are made up of **nitrogen bases** (A,T,C,G).

A- **Adenine**

T- **Thymine**

C- **Cytosine**

G- **Guanine**

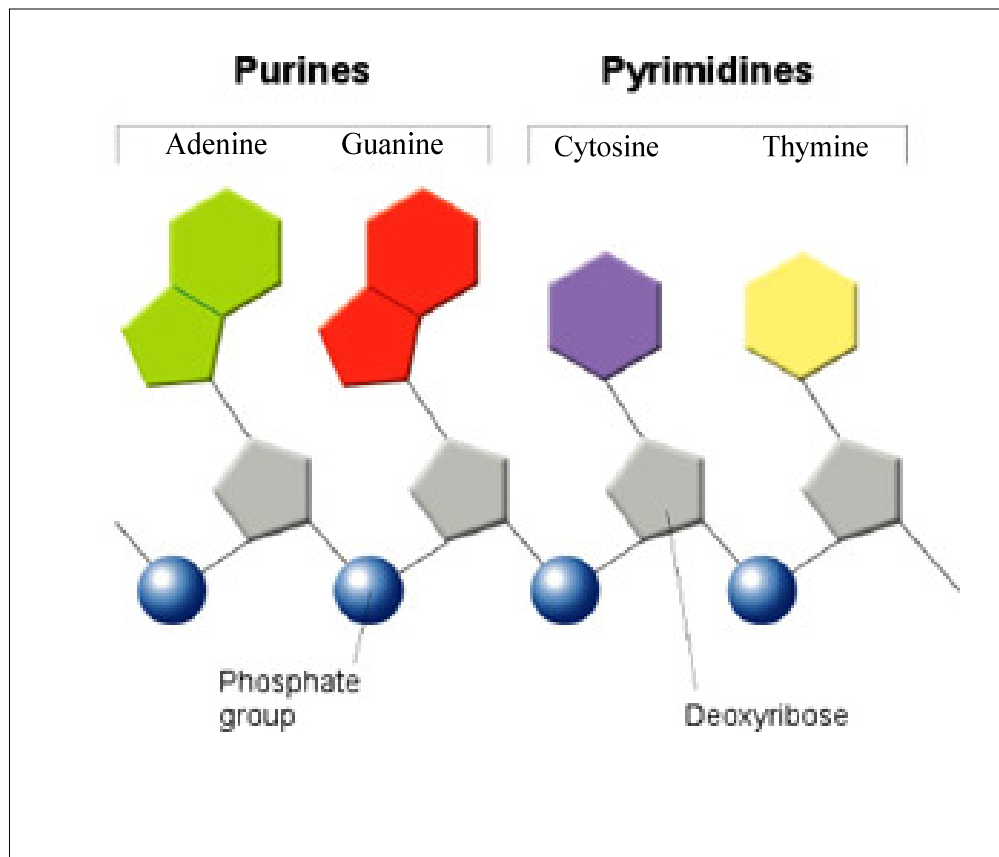
There are two categories of nitrogen bases: **purines** and **pyrimidines**.

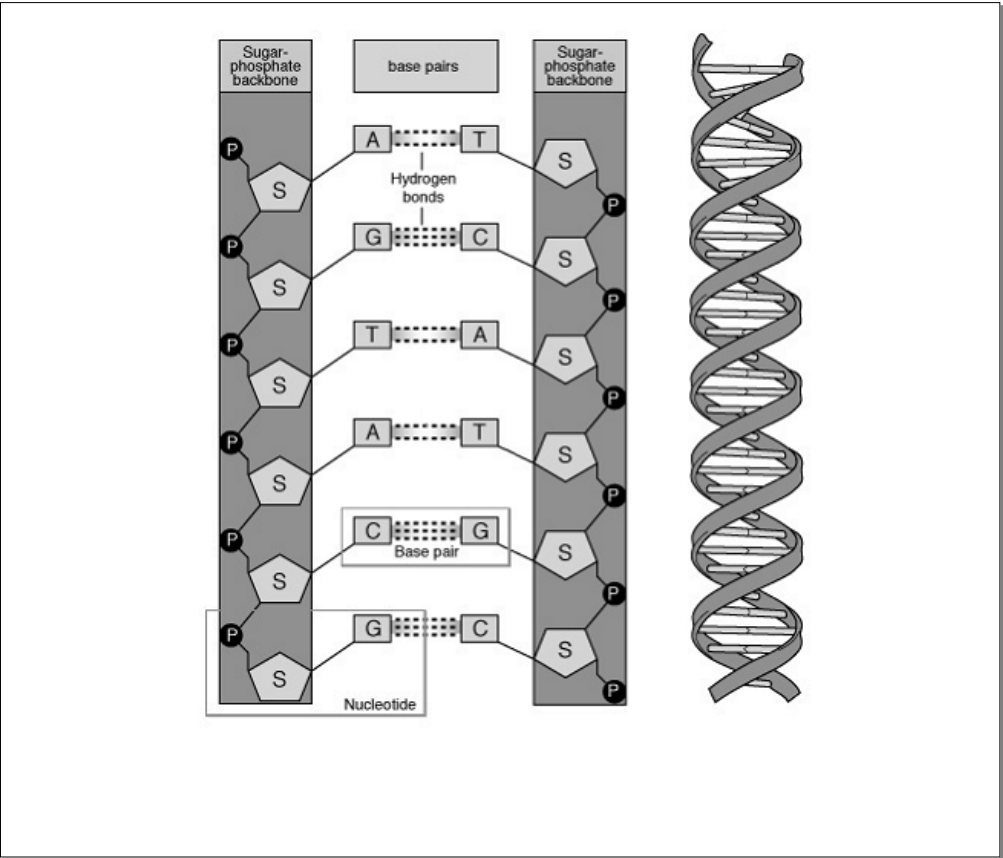
Purines:

- contain one six-sided ring AND one five-sided ring
- Adenine and Guanine

Pyrimidines:

- contain one six-sided ring
- Cytosine and Thymine

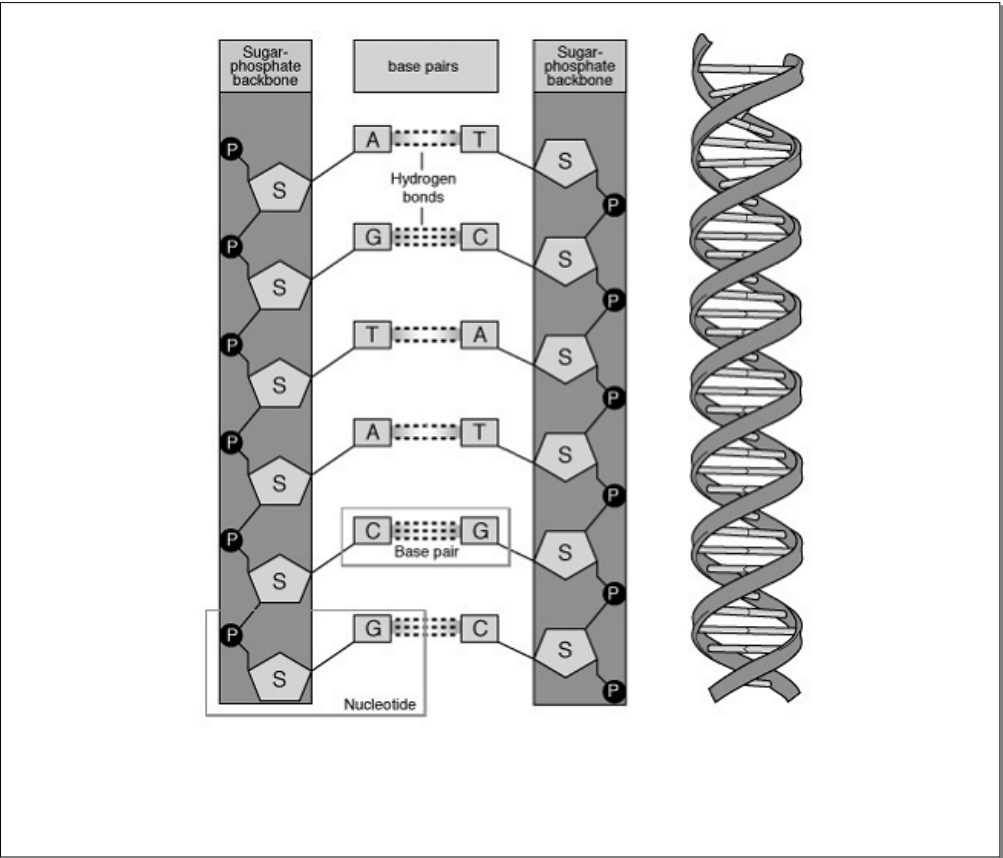




The bases are complimentary.

Adenine (A) always comes with Thymine (T).

Cytosine (C) always comes with Guanine (G).

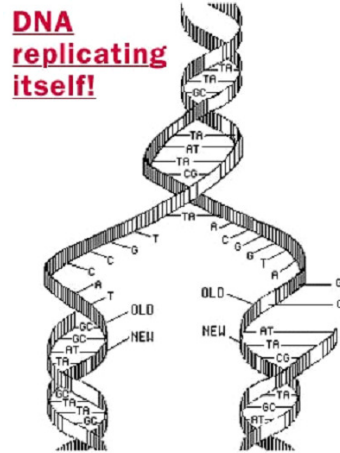


If one side of a DNA molecule has this base sequence: ATGCCGT,

what sequence of bases would the complimentary side have?

DNA replication is the process of making a copy of DNA.

In DNA replication, the DNA molecule unwinds and the two sides split apart. Then, new nucleotides are added to each side until two identical sequences result.



DNA helicase
unwinds the strand

DNA Polymerase
adds the new nucleotides.