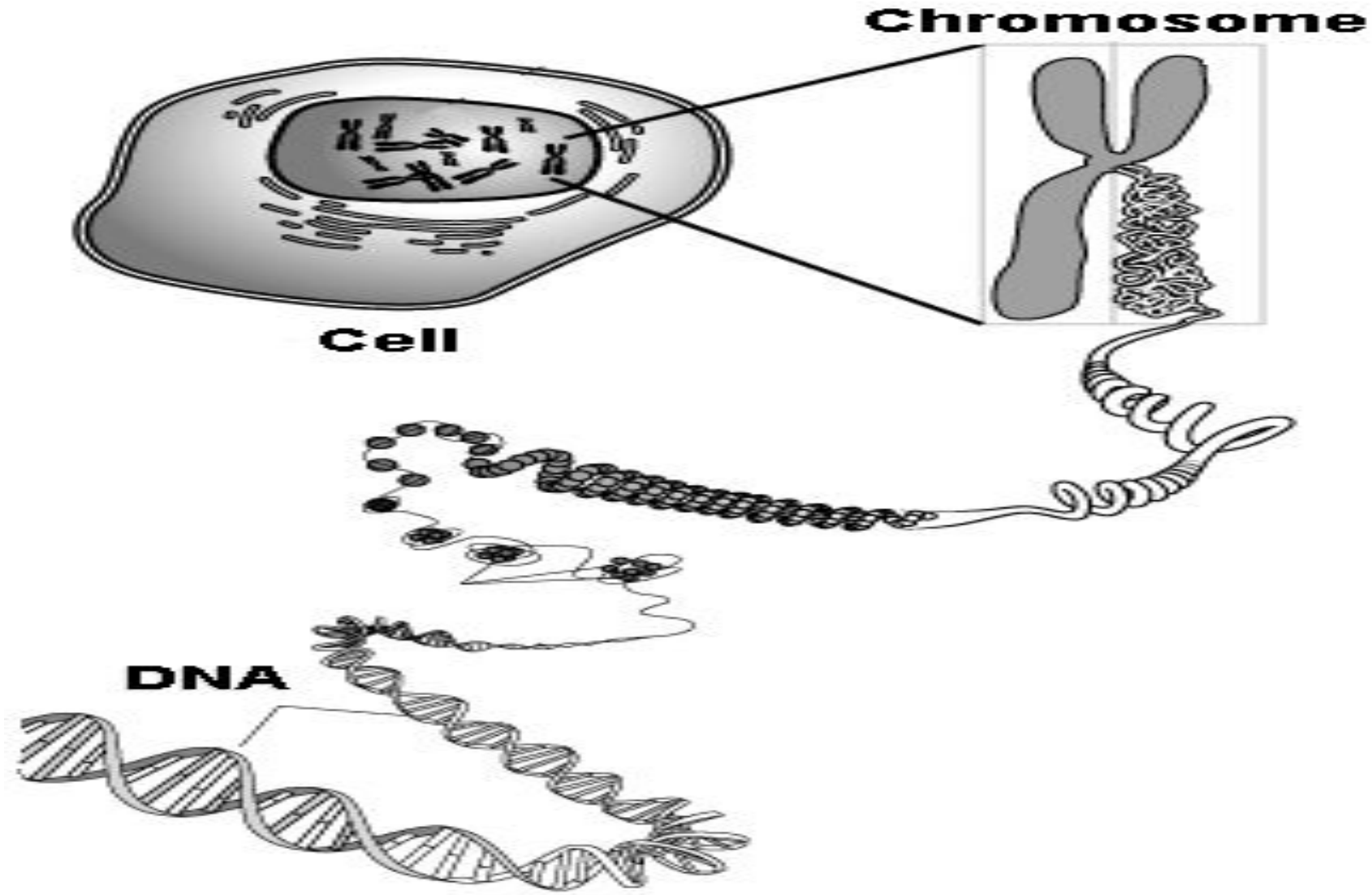
UNIT II

Genetic Structure

DNA vs. RNA STRUCTURE AND FUNCTION

DNA



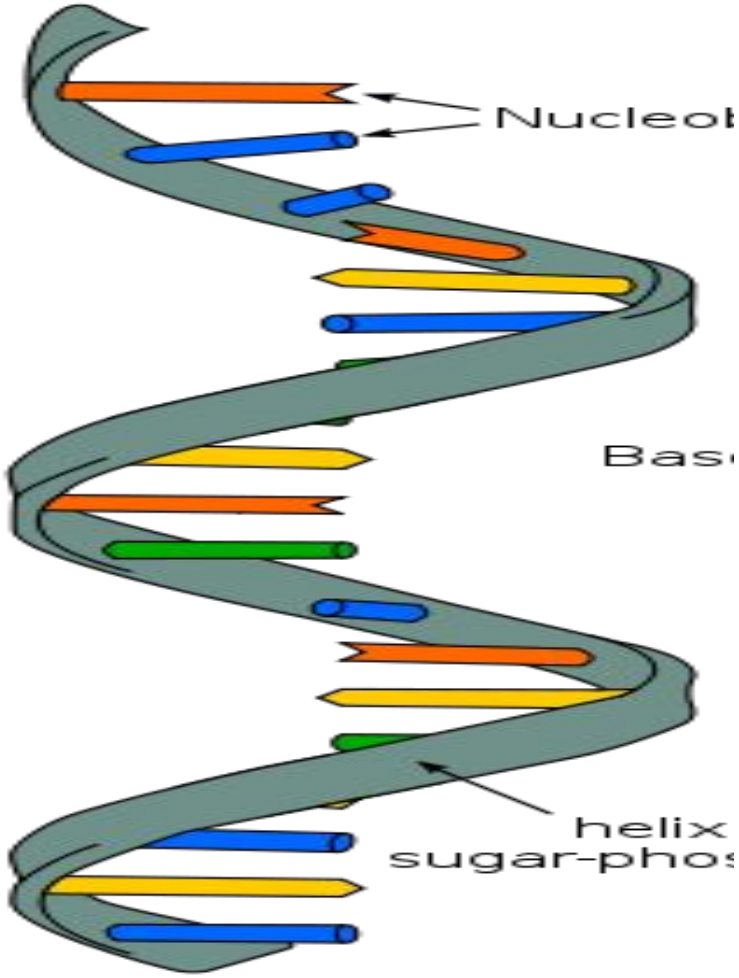
Portions of DNA are called genes.

DNA is tightly wound into chromosomes and located in the nucleus of cells.

DNA cannot leave the nucleus.

DNA is **DOUBLE STRANDED(2** sides)

RIBONUCLEIC ACID



RNA

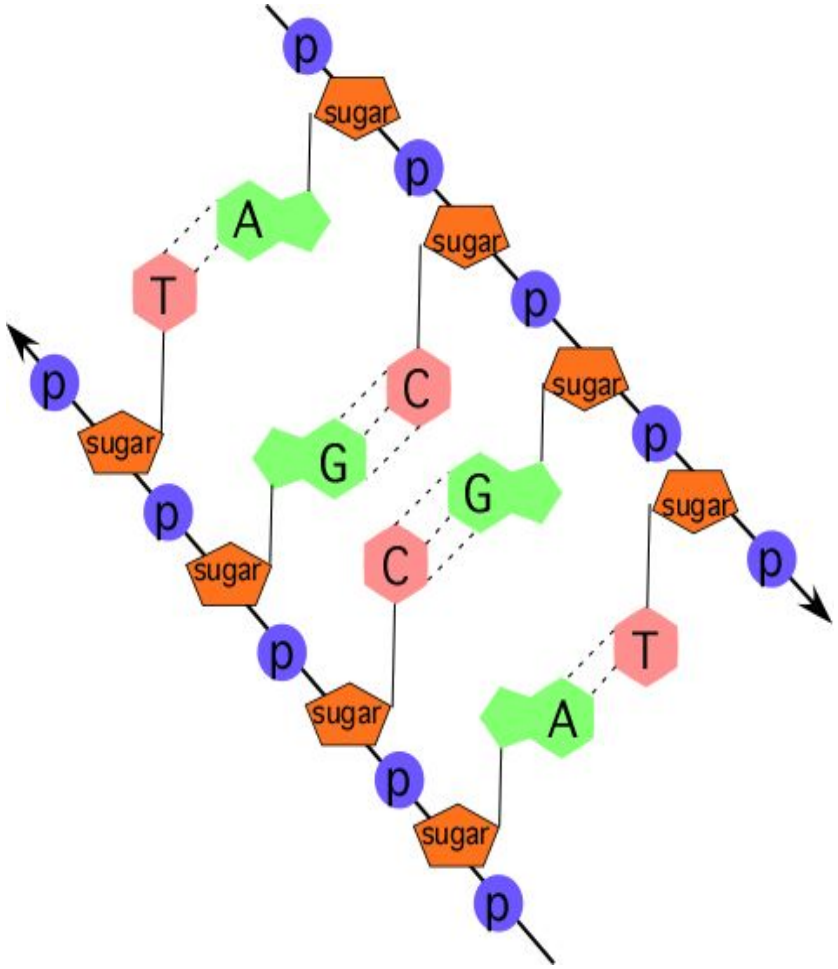
Ribonucleic acid

RNA is **SINGLE STRANDED** and does not have to stay in the nucleus!

RNA is not found in chromosomes because it does not carry the genetic code, however it can read the **DNA code and take the information out of the nucleus.**

RNA's main job is to build proteins!

DNA STRUCTURE



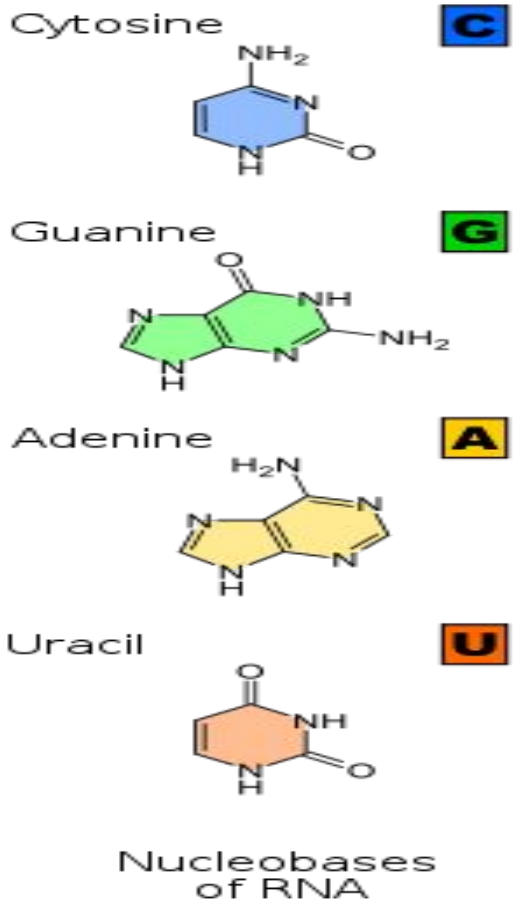
- The building blocks of DNA are called Nucleotides.

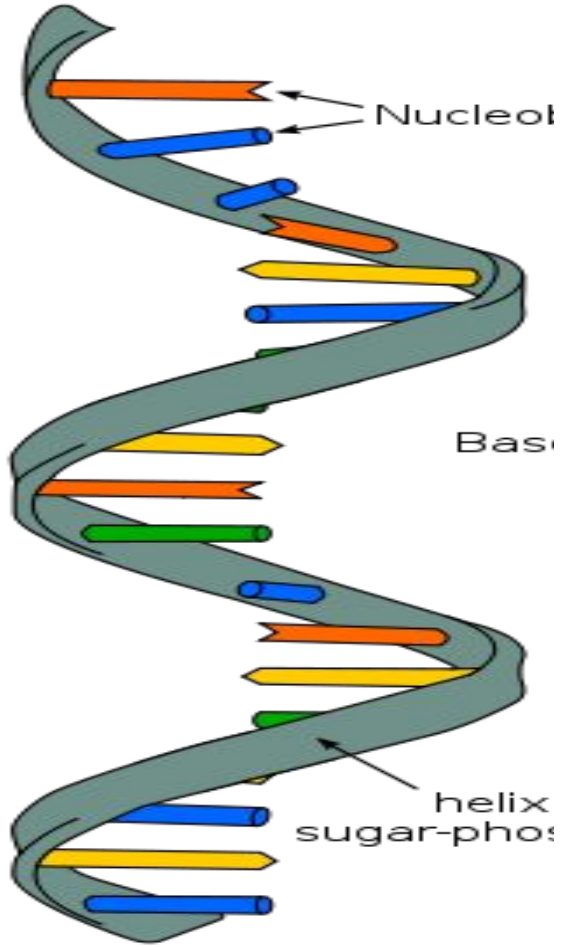
- One nucleotide is made of 3 important things:
  1. 5-Carbon Sugar **Deoxyribose**
  2. Phosphate
  3. Nitrogen base

  there are 4 nitrogen bases in DNA: Adenine, Guanine, Cytosine, and **Thymine** that pair together)

  A □ **T** C □G

RNA STRUCTURE





RNA
Ribonucleic acid

DNA STRUCTURE

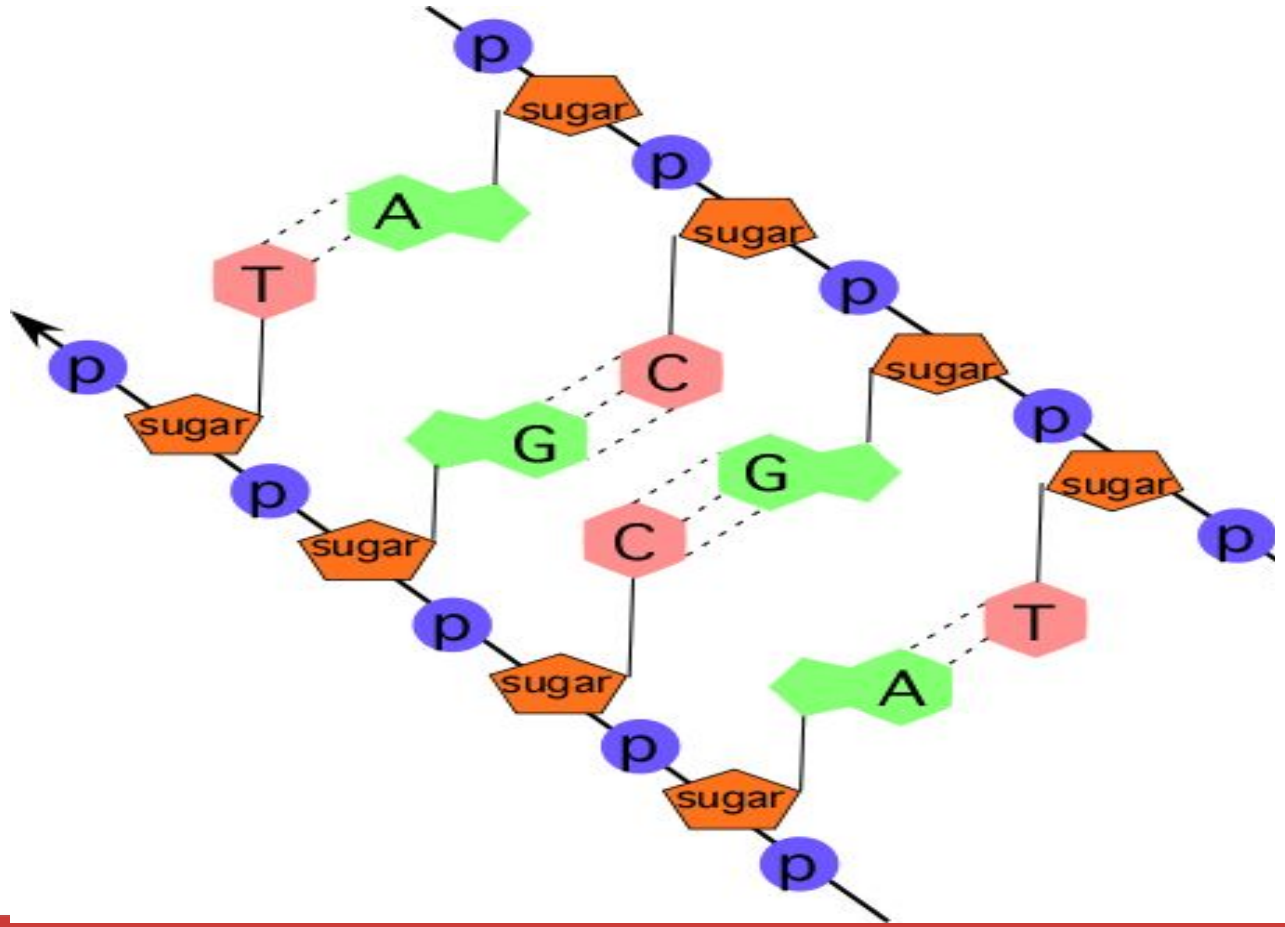
- The building blocks of RNA are Nucleotides, just like DNA.

- A Nucleotide in RNA is still made of 3 important things:
  1. 6-Carbon Sugar - **Ribose** (instead of Deoxyribose)
  2. Phosphate
  3. Nitrogen base

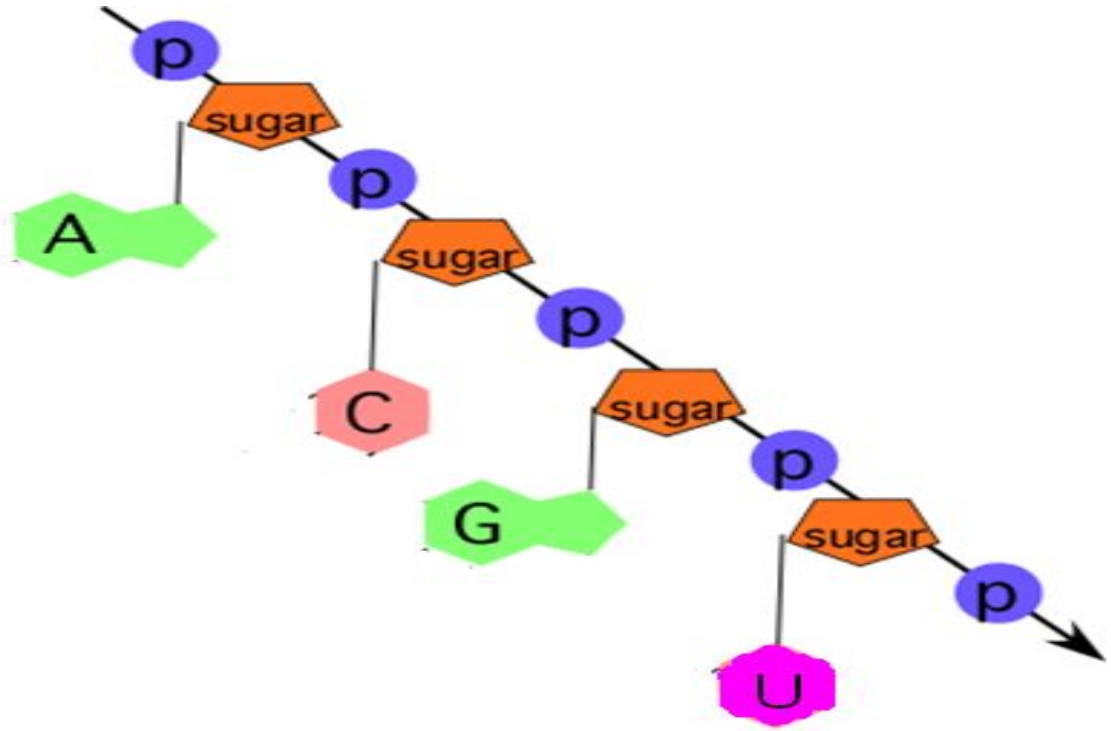
  there are 4 nitrogen bases in RNA, A,G,C, and **U** that pair together)

  A □ **U** C □G

DNA



RNA



Both DNA and RNA:

a. are single stranded

b. contain the same four nitrogenous bases

c. have the same five carbon sugars

d. contain phosphate groups

Thank You