Source: ⟦KBBiologyMasterIndex⟧

1 | DNA/RNA

1.1 | Nucleic Acids

d-Oxy Ribone Nucleic Acid: DNA Ribone Nucleic Acid: RNA

All nucleic acids are comprised of monomer units that's synthesized together into polymers. => Just like ⟦KBhBIO101Carbs⟧ or ⟦KBhBIO101AminoAcids⟧

1.2 | 3 basic parts of a Nucleic Acid

Two parts of the backbone (phosphate and sugar) + a nitrogenous base that labels what type of nucleotide this is.

1.2.1 | Backbone

- phosphate group
- sugar (Ribos => sugar in RNA, di-oxy Ribos => sugar in DNA)=> In di-oby Ribos: a OH pair is replaced with a hydrogen **only in one position.** Hence "di-oxy"

1.2.2 | nitrogenous base

- Bases in DNA
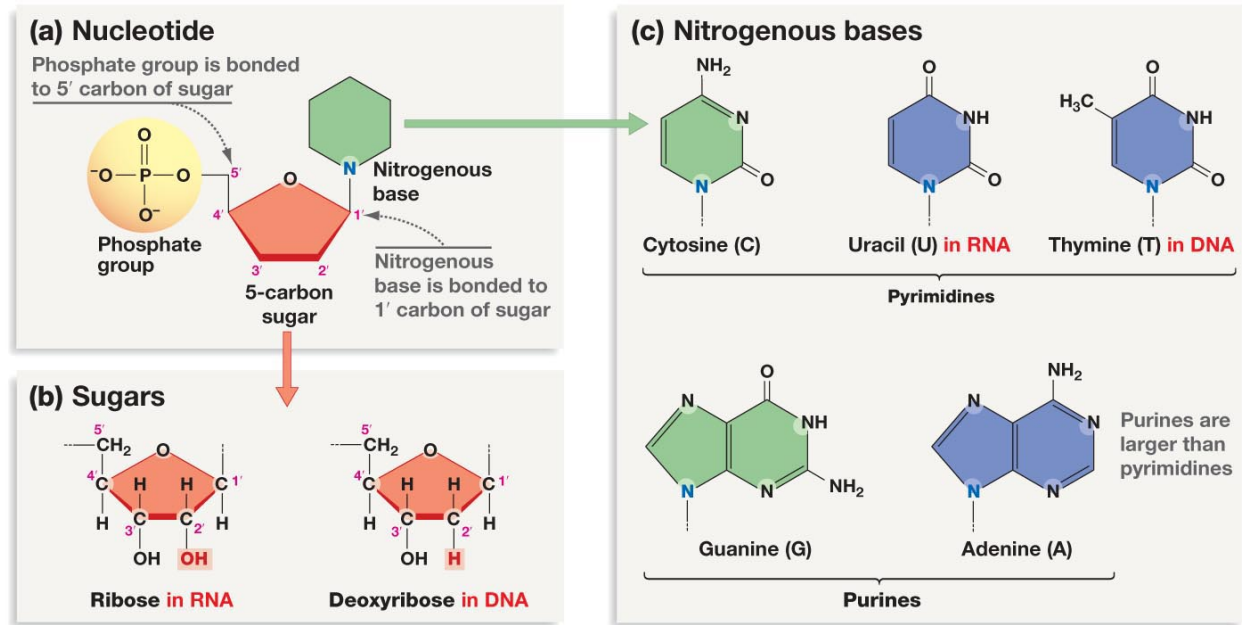   - A, T, G, C
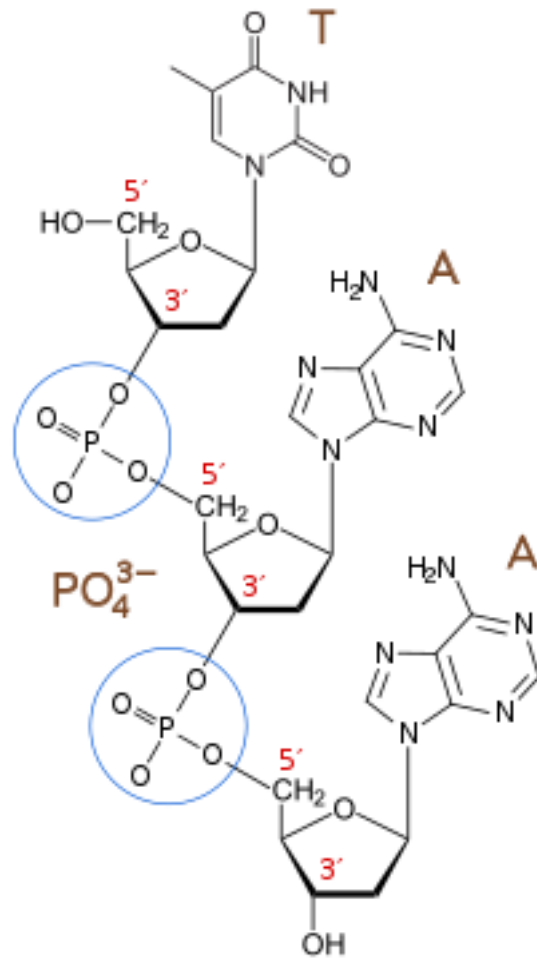- Bases in RNA
    - A, U, G, C

Figure 1: d_na.jpg

How do we make nucleic acids? Can you guess? Huh? **Dehydration synthesis!**

1.3 | **Shapes of the DNA**

1.3.1 | **DNA/RNA Primality**

- 5' => one end of an RNA/DNA part (connection from the phosphate group)
- 3' => another end of a RNA/DNA part (connection from the third carbon on the sugar counting from left)

As in...

1.3.2 | **DNA/RNA Strand**

- DNA is supposed to be double stranded: DNA is *anti-parallel* to each other => 5' to 3' backbone parallel to 3' to 5' backbone
- RNA is supposed to be single stranded

Temp copies of genome is RNA, permanent record in DNA

Throughout these chapters, the word "sense"/+/+ss/coding etc is used. These terms are all identifiers of the strand of RNA/DNA that is being talked about due to the fact that these nucleic acids are

The Central Dogma The process of the central dogma is a rough path by which DNA is converted into Proteins. This helps us understand how proteins are made in a cell, and also how viruses could hijack this process to make themselves.

See [KBhBIO101CentralDogma]

1.4 | **DNA-Made Structures**

In a [KBhBIO101Cells], DNA is organized into different shapes depending on which [KBhBIO101CellCycle] that the cell is in. These structures help facilitate cell replication.

See [KBhBIO101DNAStructures]