DNA Replication:

- How DNA replicates:
 - primary structure serves as a mold or template for synthesis of a complementary strand
- contains the info required for a copy of itself to be made
 - strand separates
 - base pairs w/ template
 - polymerization occurs
 - the original molecule is copied
- parental strands serve as the templates for the daughter strands
 - maintains structural integrity of molecule
- DNA is tightly coiled to save space in the nucleus
 - it's wound around proteins called histones so that it can fit inside cell puclei
 - in order for cells to access to this DNA it must unwind it to get access certain proteins
- DNA a Catalytic Molecule?
 - DNA's stability makes it a reliable score of genetic info (it is less reactive than RNA but more resistant in the meal degradation)
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3 chemical features of DNA & their functional significance

being "deoxy" allows for more chemical stability (b/c biological info is being stored you want this to be stable & robust)

Phosphodiester bond is a covalent bond, & this makes the DNA "backbone" very stable (preserves the "order" of the nucleotides, & therefore preserves the coding of info)

Hydrogen bonds of complementary nucleotides allow this to be split while replicating ("easier" to access for repeated replication & or transcription; fidelity of complementary nucleotides)

- RNA

contains ribose sugars

contains uracil instead of thymine (uracil has a hydrogen (-H) where the thymine has a methyl group (-CH3)

single RNA molecules can form complex structures

single-stranded region forms a loop

double-stranded region forms a double helix

RNA is structurally, chemically, & functionally, intermediate b/t DNA & proteins

like DNA, RNA can function as an info containing molecule, & is capable of self-

replication

RNA can function as a catalytic molecule (ribozymes are enzyme-like RNAs)