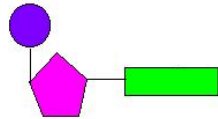


## DNA vs. RNA

- DNA has deoxyribose, RNA has ribose (these are the sugars that make up the nucleotides)
- DNA has double helix shape, RNA is single stranded
- DNA has C, G, A & T; RNA has C, G, A & U
- DNA stays in nucleus, RNA can leave
- Nucleotides for both is made of sugar, phosphate, and nitrogen base



## DNA Replication

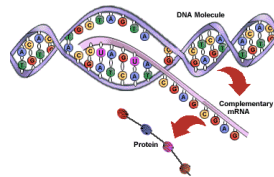
- Making DNA copies for new cells
- Occurs in nucleus, uses bases ATCG
- DNA “unzips” at weak H bonds, adds bases, DNA polymerase “checks”
- End result is 2 identical DNA strands

## Mutations

- Can occur during DNA Replication
- Point deletions & additions =frameshift
- Translocation -a different chromosome gets info mixed in
- Inversion is a “mirror image”

## Transcription

- Makes single-stranded mRNA from DNA
- Uses bases AUCG
- Occurs in nucleus
- Result is mRNA strand that is edited (introns/exons) and sent out of the nucleus with a message



## Translation

- mRNA carries the code to the ribosome, tRNA gets amino acids from cytoplasm
- mRNA has 3-letter codons, tRNA has anticodons
- Results in a protein (polypeptide chain) from amino acids
- If mutations have occurred, when the codons are read, the protein may be different, and the protein may not work!!

C U G A C C

