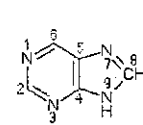
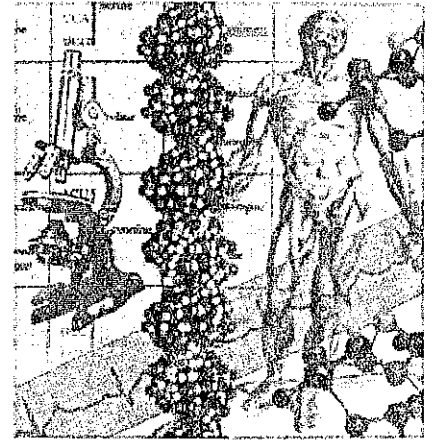


# REVIEW: DNA, RNA/Protein Synthesis

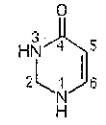
What part of the cell cycle does DNA replication take place in?

DNA RNA = Protein synthesis

- Components of DNA/ RNA → nucleotides
- Compare and Contrast DNA/RNA
- Double helix
- Structural formulas for both DNA/RNA (see color sheets/study sheets): ladder/rungs/uprights, etc
- DNA replication
- DNA base pairing/ Name bases in DNA
- RNA base pairing/ Name bases in RNA
- Difference between purine / pyrimidines
- Which bases are purines: \_\_\_\_\_
- Which bases are pyrimidines \_\_\_\_\_
- Know enzymes involved: helicase DNA polymerase, RNA polymerase



Purine



Pyrimidine

What did these men/women contribute? Describe each of their experiments and results:

- Griffith
- Avery/Mcloud
- Watson/Crick
- Franklin & Wilkins
- Hershey & Chase
- *What are Chargaff's Rules?* Applies to DNA. A = T; C = G; purine = pyrimidine which means A + G = T + C.

Define and tell where do these processes take place. Be able to recognize processes from diagrams.

- Replication
- Transformation
- Transcription
- Translation
- Protein synthesis

Know the 3 types of RNA, what they look like, and their function

Define: codon, anticodon, termination codon, start codon

Amino Acids, proteins

Be able to make DNA/RNA sequences

- (DNA replication) AAT → TTA
- DNA (transcription) AAT → UUA
- DNA (translation) AAT → UUA → AAU

Be able to read the Amino Acid Chart

**Define mutations:** gene, (Point mutations=substitutions, insertion, deletion = frameshift mutations)  
chromosomal, (duplication, inversion, deletion, translocation)

Polyploidy (*How about those giant strawberries dipped in white chocolate with a little coffee from Star Bucks!*)

Gene regulation and Differentiation

KNOW MATERIALS: Starting materials: enzymes/ structures involved function in process, end product of DNA replication, translation, transcription, protein synthesis

REVIEW LABS and COLOR SHEETS and Study Sheets.