AP BIOLOGY
MOLECULAR GENETICS
ACTIVITY #1

NAME_____

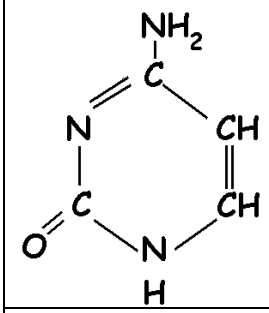
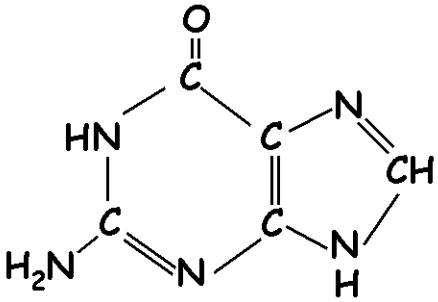
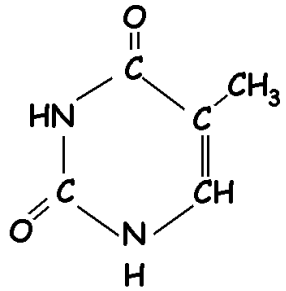
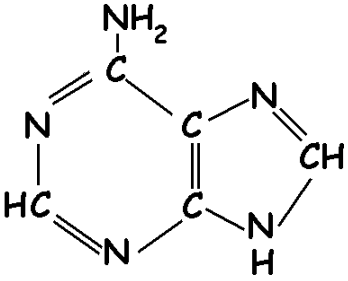
DATE_____HOUR_____

DNA STRUCTURE AND REPLICATION

BUILDING BLOCKS OF DNA:

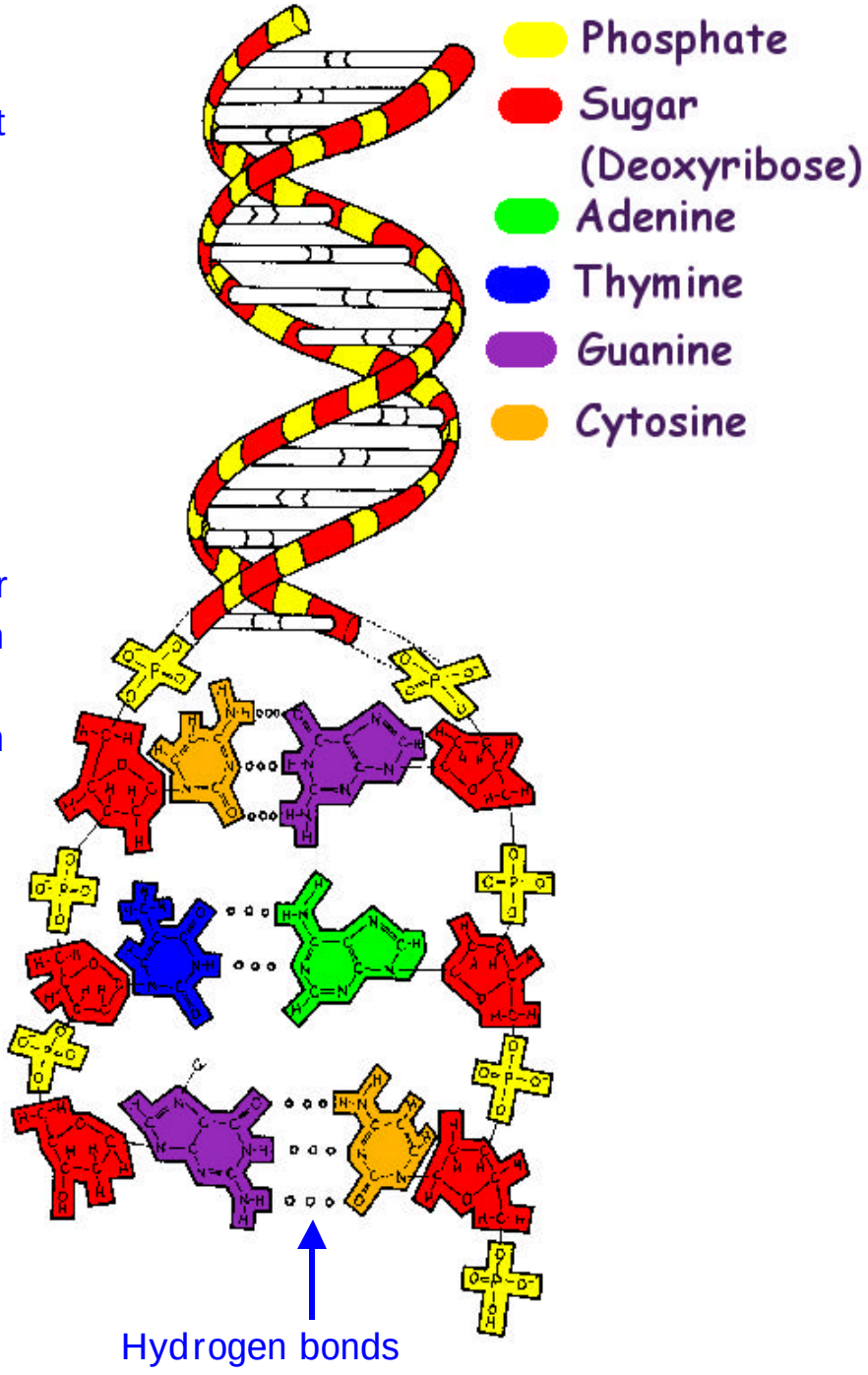
Nucleotides:

1. 5 carbon sugar (deoxyribose)
2. Nitrogenous base (A, T, C, or G)
3. Phosphate group

NITROGENOUS BASES	
PYRIMIDINES	**PURINES**
Single ring structure C and T	Double ring structure G and A
Cytosine 	Guanine 
Thymine 	Adenine 

DNA Structure

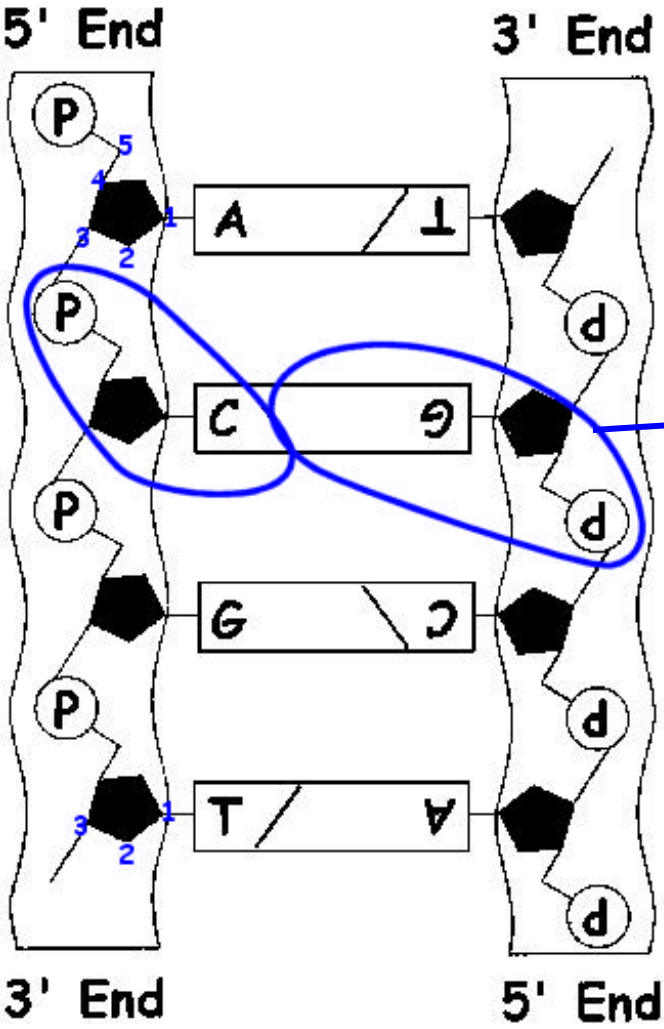
- Double helix
- Double stranded
- Twisted ladder
- Sides of ladder consist of alternating sugar & phosphate groups
- Rungs of ladder
  - 2 bases
  - Purine – pyrimidine
  - A – T
  - C – G
  - Hydrogen bonds hold bases together
  - 2 H bonds between A and T
  - 3 H bonds between C and G



ANTIPARALLEL STRANDS

One strand 5' at top & 3' at bottom
Other strand: 5' at bottom & 3' at top

5' end
5th carbon in deoxyribose



Nucleotide

3' end
3rd carbon in deoxyribose

DNA REPLICATION