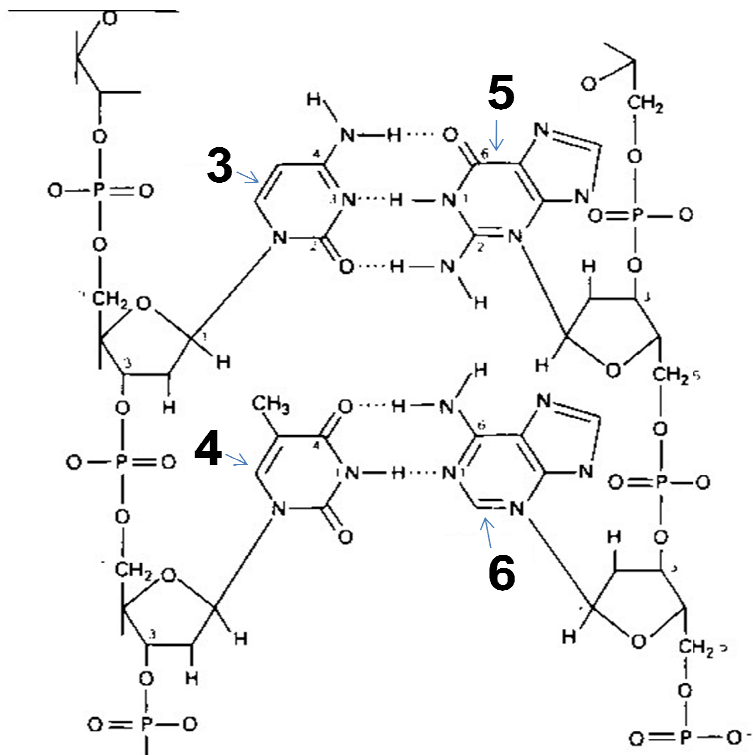


Modern Biology  
Section 1  
Fall 2010  
Chapters 3 and 4 worksheet

What are the 4 major types of macromolecules in the cell? Please fill in the chart below:

| Name of molecule | Monomer or subunits | Bond type to form polymer | Function in the cell | Example of macromolecule in the cell |
|------------------|---------------------|---------------------------|----------------------|--------------------------------------|
|                  |                     |                           |                      |                                      |
|                  |                     |                           |                      |                                      |
|                  |                     |                           |                      |                                      |
|                  |                     |                           |                      |                                      |

1. How many different proteins are possible from a protein composed of 40 amino acids?
2. Please describe what is occurring at the molecular level: as a solution that contains the enzyme lysozyme is heated, the enzyme activity decreases; as the solutions cools, enzyme activity increases. What does the return of enzyme activity upon cooling indicate about protein folding?
3. Do unfolded proteins have specific properties? (consider scrambled eggs and Jello)
4. Describe the meaning of the Central Dogma in your own words:
5. Compare and contrast the processes of transcription and translation:



1. What kind of bond is represented by the dotted lines?

What is compound:

- 3.
- 4.
- 5.
- 6.

7. If heat was applied to this molecule, how would its strength differ if it were composed mostly of the compounds 3 and 5 vs. with 4 and 6?