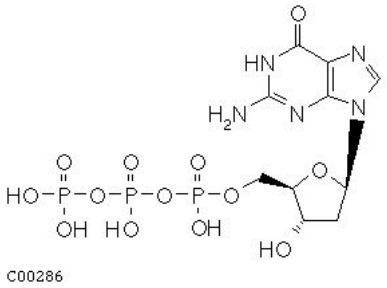
# CHE 102 - Extra Practice - Ch 31

Name: _____ Date: _____

1. Draw dG.

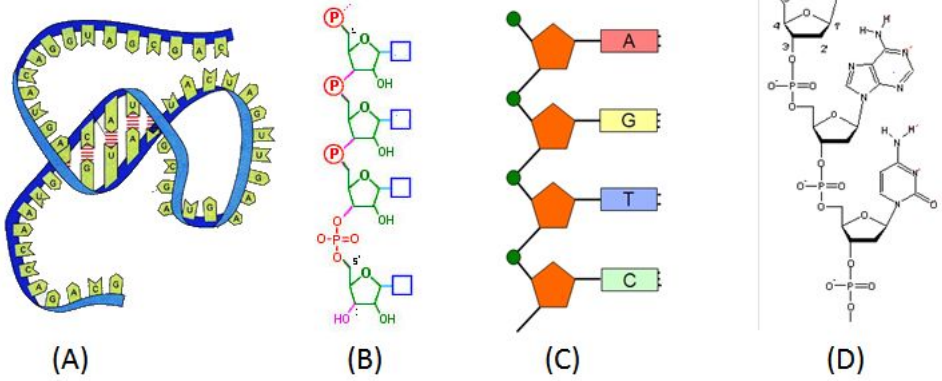
2. Draw 3'-CDP.

3. Give the name **and** abbreviation for the molecule below.




4. What is a high-energy phosphate bond? In the figure above draw an arrow pointing to any high-energy phosphate bonds.

5. For each of the following a pictures, is it an example of DNA or RNA? Explain.

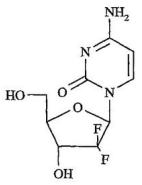



6. What process (Replication, Transcription, or Translation) is best described by the following "reactions":
   (a) DNA $\longrightarrow$ RNA
   (b) DNA $\longrightarrow$ 2 DNA
   (c) RNA + AA $\longrightarrow$ Protein

7. Why does DNA make an excellent storehouse for genetic information?

8. What is "cancer". List 3 ways to combat cancer.

9. Why would the following molecule be a good anti-cancer drug?




10. Sketch a picture of tRNA and describe (a) its purpose, (b) how its structure is formed, and (c) how it is uniquely suited to do its job.

11. What does the term "modification" refer to? What are some examples of modifications that can occur. Sketch a picture illustrating 2 possible modification of the base Cytosine.

12. What is the amino acid sequence coded for by the following DNA sequence:


13. What two codons code for the "start" of a protein. What is one codon that codes for "stopping" protein synthesis.

14. What are the four steps involved in translation. Briefly describe what occurs in each step.

15. In the initiation stage of translation, what functional group is attached to the first amino acid added to the protein chain to prevent translation in the wrong direction.

16. Define the following terms:
    (a) Apoptosis
    (b) Mutation
    (c) Mutagen
    (d) Oncogenes
    (e) Tumor-suppressor Genes
    (f) Codon
    (g) Mitosis
    (h) Meiosis
    (i) Heredity
    (j) Genome
    (k) Complementary
    (l) Nucleotide
    (m) Nucleoside
    (n) High Energy Phosphate Bond