**Read Concept 5.5, pp. 84-86: Nucleic acids store, transmit, and help express hereditary information**

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| **You need to know:*** **DNA and RNA are polymers of nucleotides**
* **Each nucleotide consists of a sugar, a phosphate group and one of four nitrogen bases A,G,C, and T (or U)**
* **Describe the role of mRNA, tRNA, and rRNA**
* **The role of DNA is to store and transmit hereditary information**
* **The roles of RNA are many and include using DNA information to guide the construction of proteins and to regulate gene expression and protein activity.**
 |

**Distinguish among (you need to know this but I will not be collecting this. Expect to participate in discussion or be quizzed)**:

a) DNA and RNA

b) purines and pyrimidines

c) mRNA, tRNA, rTNA

d) ribose and deoxyribose

e) gene expression and replication

f) double helix and antiparallel

g) ATP, GTP, CTP, TTP

**Read Concept 5.6, pp. 87: Genomics and proteomics have transformed biological inquiry and applications**

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| **You need to know:*** **How DNA sequences and protein sequences are used to determine evolutionary relationships among organisms.**
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**Assignment Due in class, 3/25 or 3/26:**

1. Explain proteomics and genomics

2. Examine the “Make Connections” on p. 88, choose one and describe how the approaches of genomics and proteomics help us to address a variety of biological questions.

3. Level 3: Synthesis / Evaluation Question #12 and 13, p. 91

4. Mastering Biology: Skills Exercise: Analyzing Protein Sequence Data; Draw a cladogram from this data.

**AP Exam Review Suggestion**

* Review text p. 90, Organic Molecule Structure and Function
* Additional References: Holtzclaw prep book.

**Read Chapter 12: The Cell Cycle, pp. 232-250; we’ll start this on Monday / Tuesday so you want to have read and dealt with the following by Wednesday / Thursday.**

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| **You need to know:*** **The stages of the cell cycle and how the cell cycle is regulated**

**Key Concept:*** **As you review the chapter notice that the amount of DNA is doubled after the S phase of Interphase and returns to normal after mitosis is complete**
 |

Do Mastering Biology for Chapter 12, The Cell Cycle. Do on Friday, 3/27, 11:30 pm

* Pay attention to differences in cytokinesis for plants and animals, binary fission and mitosis for prokaryotes and eukaryotes, and the phases of interphase in mitosis.