Name:

Date:

AP Biology Summer 2018 Assignment

Task #1:
(Task #1 is worth two homework assignments) (Outline can be on loose leaf or typed)
Read and **outline** the following content from the Campbell AP Biology 9th edition textbook:

- Chapter 3: Water and Life
  -Concept 3.1: Polar covalent bonds in water molecules result in hydrogen bonding (textbook pages 46-47)
  -Concept 3.2: Four emergent properties of water contribute to Earth's suitability for life (textbook pages 47-52)
  -Concept 3.3: Acidic and basic conditions affect living organisms (textbook pages 52-56)

- Chapter 4: Carbon and the Molecular Diversity of Life
  -Concept 4.1: Organic Chemistry in the study of carbon compounds (textbook pages 58-59)
  -Concept 4.2: Carbon atoms can form diverse molecules by bonding to four other atoms (textbook pages 60-63)

- Chapter 5: The Structure and Function of Large Biological Molecules
  -Concept 5.1: Macromolecules are polymers, built from monomers (textbook pages 68-69)
  -Concept 5.2: Carbohydrates serve as fuel and building material (textbook pages 69-74)
  -Concept 5.3: Lipids are a diverse group of hydrophobic molecules (textbook pages 74-77)
  -Concept 5.4: Proteins include diversity of structures, resulting in a wide range of functions (textbook pages 77-86)
  -Concept 5.5: Nucleic acid store, transmit, and help express hereditary information (textbook pages 86-89)

Task #2:
(Task #2 is worth 1 quiz grade, worth a total of 12 points)
Answer the following free-response question:
The unique properties (characteristics) of water make life possible on Earth. Select three properties of water and:

- **For each property**, **identify and define** the property (name the property and give the definition of the property) (3-4 sentences) (6 points)
- **For each property**, **explain the property in terms of the physical/chemical nature of water** (What about the physical/chemical make-up of water allows water to have this property?) (3-6 sentences) (3 points)
- **For each property, describe one example** of **how the property affects the functioning of living organisms** (How does the property of water affect the functioning of living things when these living things interact with water?) (3-6 sentences) (3 points)

AP Biology Note-Taking Skills

- Read through the entire paragraph/section, first, prior to taking notes. However, while reading, be mindful of and try to identify the main points and concepts that you are planning to take notes on.
- After reading the entire paragraph/section, then go back and skim the paragraph/section again and then take notes, focusing on the key terms, main points and concepts. You don't need to write down every detail from the textbook word to word.
- While taking notes, use symbols (#, %, @) and short hand (w/ (with), w/in (within), w/o (without)) that you can understand, which will allow you to take notes at a faster rate. Be sure you can understand your notes, since you will need to read them when you study for a test.
- In addition to reading the text, be sure to correlate the text to any figures or tables or graphs that are accompanied by the text in the textbook.
- Notes can consist of text and diagrams, when necessary.
- Use different colors to organize your notes, when necessary.
- Write down and look up the definition of any term that you come across in the textbook that you don't know the meaning of.

It is suggested that you take notes using the sentence note-taking format.

THE SENTENCE METHOD OF NOTE-TAKING:

- Jot down key words, main points and concepts
- Jot down notes to describe, explain or define key words, main points and concepts (you may jot down examples, as well and any diagrams, when helpful)
- Use headings for each main topic
- Start a new sentence or point for each new detail

Example of sentence note-taking:

AP Bio. Ch.3-Water and Life
Water-solid (ice); -gas (water vapor)
Earth is habitable b/c of abundance of H_2O
Emergent properties-trace water's unique behavior to structure & interactions of its molecules
Polar covalent bonds
Polar molecule-overall charge is unevenly distributed