

Instructor: Aasiya-Bey
AP Biology
COLTON HIGH SCHOOL
Room 58/Lab 57
dawud_aasiya-bey@cjusd.net
909-580-5005

Instructor: Pelletier
AP Biology
COLTON HIGH SCHOOL
Room 56/Lab 55
valerie_pelletier@cjusd.net
909-580-5005

AP Biology Summer Assignment 2016-2017

Welcome to AP Biology at Colton High School where you will gain a deeper comprehension and appreciation for the living world. Being enrolled in an advanced placement course requires the work ethic of studying progressively, being punctual in every sense, having a strong interest and love for biology/sciences, a willingness to attend after-school and Saturday school study sessions, reading, comprehending, analyzing written text, and committing information to memory. The following summer assignments will ease the transition to this course and refresh your memory of content that will be studied in greater depth. Pacing your study and budgeting your time will be a mark to your success in this course/AP exam, which ultimately starts now.

Keep the following in mind when using sources for your research/study as it is important to use trusted and valid sources. Focus on educational and government sites even while*.com, and *.org sites can have valid information. While visiting websites consider these questions:

- i. Why was it written?
- ii. Who published it? -- Author
- iii. Where and when was the info published?
- iv. How is the information organized?

Assignments:

1. Use the library, text book, or educational sites on the Internet to review the parts of a cell and virus and list sources where you obtain your information.
 - a. What is a virus? Sketch and label the structures.
 - b. What is a prokaryotic cell? List and label the structures.
 - c. What is a eukaryotic cell? Draw a plant and animal cell and label the structures.
 - d. Describe the function of the organelles found in plant and animal cells and underline/highlight the organelles found in plant cells only.
2. Compare mitosis and meiosis – noting what happens in each phase.
 - a. What is the purpose of mitosis and meiosis?
 - b. Sketch, label and describe what happens in each phase in the animal cell and the plant cell.
 - c. Describe what happens with the chromosomes in each phase.
 - d. List and describe the organelles involved.

Instructor: Aasiya-Bey
AP Biology
COLTON HIGH SCHOOL
Room 58/Lab 57
dawud_aasiya-bey@cjusd.net
909-580-5005

Instructor: Pelletier
AP Biology
COLTON HIGH SCHOOL
Room 56/Lab 55
valerie_pelletier@cjusd.net
909-580-5005

Reference the following website on “How Cells Divide”: <http://www.pbs.org/wgbh/nova/body/how-cells-divide.html>

3. Review basic chemistry:
 - a. What are covalent and ionic bonds? Diagram an example.
 - b. What are hydrogen bonds?
 - c. Draw Lewis structures for **Carbon**, Nitrogen, Hydrogen, Oxygen, and Phosphorous.
 - d. Explain the octet rule
 - e. Describe the properties of water
 - f. Contrast cohesion and adhesion.
 - g. What is a polar molecule?
 - h. Describe why water is such a great solvent
 - i. What is specific heat? What is its relationship to the calorie? Gram? And water?
4. Watch this interesting approach on some basic chemistry...
https://www.youtube.com/watch?v=QnQe0xW_JY4&list=EC3EED4C1D684D
5. The various themes in AP Biology such as Science as a Process, Evolution, Cells, Genetics, Botany, Ecology, Technology & Safety, and Anatomy & Physiology will have related research articles. Below are links to 10 articles where you will choose any 5 to complete tasks (a-e).
 - a. On your document, print your first and last name on the top-right corner of your paper as you are the reviewer of the article
 - b. Title of the Article, Publication, Date, and Author will go beneath your name.
 - c. Write a 1-2 paragraph summary or abstract about the article in your own words
 - d. Create 2 questions about the article or the content of the article
 - i. The first question should ask about anything vague in the article, which possibly needs further clarification or research.
 - ii. The second question should ask how the article deals with social, ecological, political, or ethical issues.
 - e. The last portion of this task involves use of your **metacognitive skills**.
 - i. This involves a one-page essay that imparts your view/assertion of the topic. Create a 1-sentence thesis in the first paragraph of your essay where you will make an assertion or take a side on something in the article. You will need to back up your assertions with scientific data throughout your essay.

Choose any 5 of the 10 links on the next page.

Instructor: Aasiya-Bey AP Biology COLTON HIGH SCHOOL Room 58/Lab 57 dawud_aasiya-bey@cjusd.net 909-580-5005	Instructor: Pelletier AP Biology COLTON HIGH SCHOOL Room 56/Lab 55 valerie_pelletier@cjusd.net 909-580-5005
--	---

Ecology: Article 1 Article 2	Technology and Safety: Article 3 Article 4 Article 5
Genetics: Article 6 Article 7 Article 8	Botany Article 9 Article 10

Below is a table for how you complete your summer work. It is recommended that you pace yourself and do the work throughout the summer rather than waiting a week or two before school starts. If you are able to check out your AP textbook over the summer, it is highly recommended that you read chapters 1-6.

Assignments	Date completed	Your Initials
1		
2.		
3.		
4.		
5. Article __		
Article __		
Article __		
Article __		
Article __		