

Stop! Print this out and sit with it in a quiet place.
Bring a highlighter, a pencil and a planner.
Read the document, in its entirety, in one sitting.



Welcome to AP Biology at DSA!

This course has a reputation in academia for being overwhelming. We will cover, in ten months, approximately 1500 pages of dense text that no introductory Biology course at a college level could touch. If you're not a biophiliac, if you're not able to produce consistent, hi-quality academic work, or if you're looking for a course you can manage with minimal effort—walk away NOW. Students will engage in at least an hour (sometimes two) of homework every evening in order to keep pace. Many who have sailed through other courses (including other AP classes) find significant struggle here. If, however, you are a student who enjoys learning for its own sake, if you're motivated by extreme academic challenges—please read on! The rewards are many.

You have three main assignments this summer. Each assignment will be graded, and the **deadlines must be met on time**. Your performance on this assignment will set the tone for our year. Every student in the course is expected to produce an impeccably-organized, academically-impressive work.

Assignment # 1. **Due by 11:59pm, July 31, 2019**. Email me at Brooke.Sauer@dpsnc.net with an introductory paragraph about yourself.

Subject Line: AP Biology 2019-2020, Your First and Last Name

Body:

- Your full name (and preferred name if you have one) & stuff about you!
- **If you have pronoun preferences, please let me know!**
- Who was your last science teacher? What class?
- What are you looking forward to the most in AP Biology?
- What are you most anxious about in AP Biology?
- Why are you taking AP Biology? What do you hope to accomplish/gain?

Include relevant details and any ancillary information that can help me to develop a sense of who you are and how you learn. Anticipate challenges and describe your plan for succeeding in the class; *include your requirements for me—how can I help you to make this year a success?*

While you may be tempted to create an informal message, please keep in mind that you are representing yourself in a written piece for an academic setting. Therefore, you should use appropriate formatting, grammar, and professional language. This will (hopefully) be the only time I'll remind you of this for the AP Biology course. You must maintain the highest academic standards for yourself at all times.

Assignment # 2: Digital Specimen Collection. **Due no later than the first day of class, August 26, 2019, by 9:15am.**

**** Send me the link to your digital specimen collection via email, with the subject line, "(First Name Last Name), Digital Specimen Collection" ****

For this part of your summer assignment, you will be familiarizing yourself with science terms that we will be using at different points in the year. On the next page is the list of terms.

1. Each item is worth 4 points. You must earn 200 points (50 items) by Monday, August 26th.

- a. Earn 200 points by "collecting" 50 items from the list of terms.
 - i. When I say "collect," I mean you should collect the item by finding it and taking a **photograph** (digital or printed) of the item.
- b. You will post your photographs with appropriate **explanations/descriptions/captions** and post them in an online forum.
 - i. Acceptable forums: Tumblr, Weebly, Instagram/Twitter (please create an account just for this project), YouTube, Blogger; for other formats, please ask Ms. Sauer for permission!

SOCIAL MEDIA ACCOUNTS MUST BE PUBLICLY ACCESSIBLE AND SEPARATE FROM YOUR PERSONAL ACCOUNT(S)

- ii. Captions should be at least 40 words and contain:
 1. Definition of the term **(2 points)**
 2. The significance of the term/item in your photograph (i.e. how does this picture demonstrate the term/concept?) **(2 points)**

Hashtags may not be used to supplement the word count of your caption!

2. Please be creative!

- a. If you choose an item that is internal to a plant or animal, like the term "phloem," you could submit a photograph of the whole organism or a close up of one part, and then explain in your caption *what* a phloem is and specifically *where* the phloem is in your specimen, along with its significance in the photograph.
- b. Consider creating a unique hashtag for your posts!

3. ORIGINAL PHOTOS ONLY!

- a. You may NOT use images from any publications, websites, or Google Images. You must have taken the photograph yourself.
 - i. The best way to prove that your photo is an original is to place an item in all of your photographs that only you could have added. E.g. take a selfie with each organism, put a playing card or small trinket next to each specimen, make an appropriate hand gesture next to the specimen, etc.

4. **Natural Items ONLY!**

- a. All items must be from something that you have found in nature OR that are organic (carbon-based). Take a walk around your yard, neighborhood, downtown, or park. **DON'T SPEND ANY MONEY ON THIS PROJECT!** Research what the term means and in what organisms it can be found, then go out and find an example. You may use items from your pantry or the grocery store, as long as they are carbon-based.

5. **TEAMWORK:**

- a. You may work with other students in the class to complete this project, but **each student is responsible for turning in his/her/their own unique project** with a unique set of terms chosen. Working with other students means brainstorming, discussing, and going on collection trips together. It does NOT mean using all of the same items. There are 100 choices; I don't want to see the same 50 items over and over again!

6. **EXAMPLES:**

- a. https://www.instagram.com/areeb_the_bio_boy/?hl=en
- b. <https://www.instagram.com/christinasapbioproject/?hl=en>
- c. <https://www.instagram.com/apbioisfun/>

7. **RUBRIC**

Points will be subtracted from your total score if the photo(s) are not originals (-1 point per term) or you have used items that are not carbon-based (-1 point per term).

Digital Specimen Collection (criteria for each item)		
Justification	Points Possible	Score
Term Identified/Definition	2	
Significance or function of the term in the photo	2	
Total Points Earned		_____/4
Notes:		

Below are the items that you are to “collect.” An individual organism can only be used **once** (e.g. a picture of a daisy may not be used for both an autotroph and angiosperm). Each specimen (picture and explanation) is worth 4 points. Each term below may only be used once.

1. Abiotic Factor
2. Active Transport
3. Adaptation of an animal
4. Adaptation of a plant
5. Amino Acid
6. Anabolism
7. Analogous structure
8. Anther and filament of stamen
9. Archaeobacteria
10. Asexual reproduction
11. ATP
12. Autotroph
13. Biotic Factor
14. Bilateral symmetry
15. Biological magnification
16. C3 Plant
17. C4 Plant
18. CAM Plant
19. Catabolism
20. Calvin Cycle
21. Carbohydrate
22. Cell Division
23. Cell Organelle
24. Cellular Respiration
25. Cellulose
26. Clone
27. Coevolution
28. Commensalism
29. Cuticle layer of a plant
30. Decomposer
31. Denaturation
32. Density-Dependent Factor
33. Density-Independent Factor
34. Diffusion
35. Ecological Succession
36. Ectotherm
37. Endotherm
38. Enzyme
39. Eubacteria
40. Eukaryote
41. Exoskeleton
42. Fermentation
43. Gas Exchange
44. Genetic variation in a population
45. Genetically modified organism
46. Glucose
47. Glycogen
48. Gymnosperm cone—male or female
49. Heterotroph
50. Homeostasis
51. Homologous Structure
52. Hydrogen Bonding
53. Hydrophilic
54. Hydrophobic
55. Invasive Species
56. Keystone species
57. Krebs Cycle
58. K-strategist
59. Ligand
60. Lipid
61. Meiosis
62. Mitosis
63. Monomer
64. Mutualism
65. Mutation
66. Natural Selection
67. Negative Feedback
68. Net Primary Productivity
69. Niche
70. Nucleic Acid
71. Osmosis
72. Parasitism
73. Passive Transport
74. Permeability
75. pH
76. Phenotype
77. Phloem
78. Photosynthesis
79. Phylogeny
80. Polymer
81. Positive Feedback
82. Primary Productivity
83. Prokaryote
84. Protein
85. R-strategist
86. Reproductive Isolation
87. Selectively Permeable
88. Sex-Linked Trait
89. Speciation
90. Species
91. Surface Area to Volume Ratio
92. Transgenic Organism
93. Transpiration
94. Trophic Level
95. Tropism
96. Unicellular Organism
97. Vestigial Structure
98. Viral Infection
99. Water Potential
100. Xylem

Again, email me the link to your digital specimen collection by 9:15am on August 26, 2019!

Use the subject line, “(First Name Last Name), Digital Specimen Collection”

Assignment # 3: Join the class REMIND!

I use Remind A LOT for announcements regarding homework/quizzes tests, along with review sessions, funny science memes, interesting articles, etc. Whether you join via text, app, or email, you must be enrolled in the AP Bio Remind group no later than **11:59pm on August 26th 2019!**

Ms. Sauer would like you to join AP
Biology!



To receive messages via text, text
@apbiosauer to **81010**. You can
opt-out of messages at anytime by
replying, 'unsubscribe @apbiosauer'.

Trouble using 81010? Try texting
@apbiosauer to **(424) 277-2238**
instead.



For years, students have accepted the challenge of the product and absolutely risen to the occasion. It is possible, it will not kill you and, provided you start early, it should prove to be an enjoyable, immensely valuable experience.

And this leads me to a word on class philosophy for AP Biology... There are other courses that will not challenge you in this way. If you're right for this course, you have the personal integrity to desire rigorous academics for the sake of self-development. I truly believe there is VALUE, real value, in struggling to improve intellectually. Many talented high school students have impressive grades because they've mastered this system—they complete assignments and study hard—and that's an accomplishment. However, many of those same students haven't actually acquired any academic skills since middle school. This course is about going far beyond what is required of you at this school, at this level. This course will prepare you for academic excellence in competitive undergraduate and graduate programs around the world.

I am available via email over the summer and excited to meet and help you. Please contact me as needed.

Very sincerely,

Brooke Sauer

Brooke.Sauer@dpsnc.net