

# AP Biology Summer Assignment 2020

Welcome to AP Biology! I am so excited to be able to spend the next year teaching you about my favorite subject. This summer you are going to experience biology in the world around you and read about some biological issues published in popular books.

This summer assignment has been designed for the following purposes:

- To get you to think during those summer months to keep your mind sharp, because I will expect a lot out of it come August!
- To expand your vocabulary by familiarizing you with terms that we will be using in class.
- To introduce you to major concepts from AP Biology through non-classroom methods of learning.
- To have you earn some strong grades to help you begin the first semester with confidence.
- To get you outside to gain some new experiences

#	Due Date	Assigned Task (see specific instructions on following pages)
1	Monday, June 1	1. Send your e-mail "Letter of Introduction" to Mrs. Rock at <a href="mailto:rock.kelly@mail.fcboe.org">rock.kelly@mail.fcboe.org</a> .
2	Friday, June 19	1. 10 items "collected" and shared (via Google Drive) with Ms. Rock 2. 10 (other) items defined and emailed to Ms. Rock
3	Friday, July 17	1. 10 more items "collected" and shared (via Google Drive) with Ms. Rock 2. 10 (other) items defined and emailed to Ms. Rock
4	Friday, December 18 *optional assignment	1. Submit 2-3 page essay on your selected book; technically not a summer assignment, but giving you the option of completing it early

**\*\*\*IMPORTANT: If you are going to be out of town for any of the due dates, it is your responsibility to make sure that the assignment is submitted by the due date. You may submit these assignments at any point during the summer; however, if they are submitted after the due date, then points will be deducted from your grade. \*\*\***

# Assignment #1

## Letter of Introduction

We will be spending a lot of time together next year, so I would like to begin getting to know you. I also want you to get used to communicating with me via email for any questions or concerns that you may have.

Your first assignment is to successfully send me an email by Monday, June 1 from your school email address.

Your email should follow these guidelines:

1. Use clearly written, complete sentences. Do not abbreviate words like you are texting a friend. Use spell check. This is a professional communication like you would have with a college professor, so let's practice for your rapidly nearing future!
2. Address it to me at: [rock.kelly@mail.fcboe.org](mailto:rock.kelly@mail.fcboe.org)
3. Make the Subject: "AP Bio: Introduction to <Insert Your Name Here>"  
(Do not include the quote marks or the brackets, just the words)
4. Begin the email with a formal salutation, like "Mrs. Rock," or "Dear Mrs. Rock,"
5. Now introduce yourself (your name) and tell me a little bit about yourself, like:
  - a. What do you like to do (hobbies, sports, music, interests, etc.)?
  - b. What commitments do you have (job, other AP classes, sports, etc.)?
  - c. Tell me a little bit about your family (Mom? Dad? Guardian? Siblings? Pets?) What do your parents do for a living?
  - d. Was there anything that you liked about your earlier biology class?
  - e. What was the last book you read for fun?
  - f. What are you looking forward to the most in AP Biology?
  - g. What are you most anxious about in AP Biology?
6. End the email with a formal closing: "Cordially", "Sincerely", "Warm Regards", etc. and add your name as if you signed a letter.

# Assignments #2 and #3

## Biology Collection

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

1. Select 40 terms – 20 due **Friday, June 19** and 20 MORE due **Friday, July 17**.
  - You will be submitting these “terms” to me via email.
  - **10 of the terms will be defined in the body of an email to me (no attachments please).** The subject of the email must be “Biology Collection 1 (definitions): <Insert Your Name Here>”. Do not include the quote marks or the brackets, just the words).
  - **The other 10 terms will be “collected.”** What I mean by “collected” is that you should find that item and take a photograph of that item. You will add these to a document in Google Docs and title it “Biology Collection 1 (photographs): <Insert Your Name Here>”, then share it with me, making sure you give me rights to edit.

You do not need to find the exact item on that list, say for example, if it is an internal part to an organism, but you must apply the term to the specimen you find and **explain** in the same Google Doc how that particular specimen represents the term.

- Remember, all emails to me must be in the formal, professional style with a formal salutation, formal closing, and include your name at the end as if you signed a letter.
2. **EXAMPLE:**

If you choose the term “phloem”, you could submit a photograph you have taken of a plant leaf or a plant stem and then explain in Google docs *what* phloem is and specifically *where* phloem is found in your specimen.
  3. **ORIGINAL PHOTOS ONLY:**

You cannot use an image from any publication or the web. You must have taken the photograph yourself. You will prove this by placing an item in all of your photographs that only you could have added each time, something that you might usually have on you like a key, your watch, a piece of jewelry, etc.
  4. **NATURAL ITEMS ONLY**

Some specimens may be used for more than one item, but all must be from something that you have found in nature. Take a walk around your yard, neighborhood, and city. **DON'T SPEND ANY MONEY!** Research what the term means and in what organisms it can be found...and then go out and find one.
  5. **TEAM WORK**

You may work with other students in the class to complete this project, but each student must turn in his or her own project with a unique set of terms chosen. There are 110 choices....probability says there is a very small chance that any two students will have most of the same 40 terms chosen.

## BIOLOGY COLLECTION TERMS

1. Adaptation of an animal
2. Adaptation of a plant
3. Abscisic acid
4. Actin
5. Amniotic egg
6. Amylase
7. Angiosperm
8. Animal that has a segmented body
9. Annelid
10. Anther and filament of stamen
11. Arthropod
12. Archaeobacteria
13. Autotroph
14. Auxin producing area of a plant
15. Basidiomycete
16. Batesian mimicry
17. Biological magnification
18. Bryophyte
19. C4 plant
20. Calvin cycle
21. Carbohydrate
22. Cambium
23. Cellulose
24. Chitin
25. Chlorophyta
26. Cnidarian
27. Coelomate
28. Conifer leaf
29. Commensalism
30. Connective tissue
31. Cuticle layer of a plant
32. Deciduous leaf
33. Deuterostome
34. Dicot plant with flower and leaf
35. Diploid chromosome number
36. Echinoderm
37. Ectotherm
38. Endosperm
39. Endotherm
40. Enzyme
41. Epithelial tissue
42. Ethylene
43. Eubacteria
44. Eukaryote
45. Exoskeleton
46. Fermentation
47. Flower ovary
48. Frond
49. Fruit – dry with seed
50. Fruit – fleshy with seed
51. Gametophyte
52. Gastropod
53. Genetically modified organism
54. Gibberellins
55. Glycogen
56. Gymnosperm cone
57. Haploid chromosome number
58. Heartwood
59. Hermaphrodite
60. Insect
61. K-strategist
62. Keratin
63. Leaf- gymnosperm
64. Lepidoptera
65. Lichen
66. Lignin
67. Lipid used for energy storage
68. Littoral zone organism
69. Long-day plant
70. Meristem
71. Modified leaf of a plant
72. Modified root of a plant
73. Modified stem of a plant
74. Monocot plant with flower and leaf
75. Muscle fiber – striated
76. Mutualism
77. Mycelium
78. Mycorrhizae
79. Myosin
80. Nematode
81. Niche
82. Nymph stage of an insect
83. Parasite
84. Parenchyma cells
85. Phloem
86. Pine cone – female
87. Platyhelminthes
88. Pollen
89. Pollinator
90. Porifera
91. Prokaryote
92. Protein – fibrous
93. Protein – globular
94. Protostome
95. Pteridophyte
96. r – strategist
97. radial symmetry
98. rhizome
99. scale from animal with two-chambered heart
100. spore
101. sporophyte
102. stem- herbaceous
103. stem – woody
104. stigma and style of carpel
105. tendril of a plant
106. thorn of a plant
107. unicellular organism
108. vascular plant tissue
109. xerophyte
110. xylem

## Assignment #4

### Book Selection

#### (OPTIONAL ASSIGNMENT)

Many biology concepts can be found outside of your text in popular reading. I would like for you to experience some of these readings. For this assignment, you can select one book from the following list:

- *Survival of the Sickest* by Dr. Sharon Moalem
- *The Forever Fix* by Ricki Lewis
- *The Hot Zone* by Richard Preston
- *The Immortal Life of Henrietta Lacks* by Rebecca Skloot
- *The Omnivore's Dilemma* by Michael Pollan

After reading the book you select, you should submit a 2-3 page typed, double-spaced (Times New Roman, 12-point font) essay that covers the following items:

- A description of the major biological concept the book covers
- Why it's important to know about the biological concept the book covers
- Your review of the book: Did you like the book? Why or Why not?

In writing your essay, you need to cite specific sections or quotes from the book to help support your viewpoints in your essay.

Your essay should be shared with me as a Google Doc. The essay should be saved as "Book Selection: <Insert Your Name Here>". Once again, please do not include the quotations or the brackets. The essay is due **Friday, December 18**. You do not have to complete this assignment, but it will be an additional grade to supplement your average. I am assigning it now because you typically have more time in the summer to complete assignments than the fall.

These books can be purchased or ordered through a local bookstore or you can check them out from the library. If you are purchasing the books, it is acceptable to "share" with a classmate. However, every student's essay should be unique.