

2019-2020 AP Biology Summer Assignment

The purpose of the summer assignment has been designed for the following purposes:

- To get you to think during those summer months to keep your mind sharp, because we will expect a lot out of it come September!
- To expand your vocabulary by familiarizing you with terms that we will be using in class.
- To decrease the amount of new material that you will have to learn during the semester.
- To expose you to the living world around you and maybe have a little fun.
- To give you the opportunity to practice taking notes and exposed you to different methods of note taking.

The summer assignment has 3 parts.

1. **Introductory Email:** Due date: July 1st, 2019 (Yes – the middle of the summer!)
2. **The Ecology Infocapture assignment:** Due date: September 3rd (First day of school)
3. **Biological Scavenger Hunt:** Due date Friday September 6th.

1. Introductory Email:

The purpose of this email is to let Mrs. Gabel get to know you before the first day of school. You will find out that we will move at a fast pace and this will help us learn how to help you!

Please follow these rules in drafting your letter:

- a. Use clearly written, **full sentences**. Do not abbreviate words. 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!
- b. Address it to Mrs. Gabel at: kristin_gabel@edenpr.k12.mn.us
- c. Make the **Subject**: "AP Bio: Introduction to <Insert Your Name Here>" (Do not include the quote marks or the brackets, just the words)
- d. Begin the e-mail with a **formal salutation**.
- e. Now introduce yourself (your name) and tell a little bit about yourself, like:
 - What do you like to do (hobbies, sports, music, interests, etc.)?
 - Do you have a job?
 - Tell me a little bit about your family (Mom? Dad? Guardian? Siblings? Pets?)
 - Was there anything that you liked about your earlier biology class? Who was your teacher? Did you take honors or regular biology?
 - What was the last book you read for fun?
 - What are you doing for fun this summer?
 - What are you looking forward to the most in AP Biology?
 - What are you most anxious about in AP Biology?
- f. End the e-mail with a **formal closing**: "Cordially", "Sincerely", "Warm regards", etc. and add your name as if you signed a letter.

This is part of the summer assignment grade and therefore worth points! The easiest points of the entire class!

2. Ecology Unit Infocapture:

Due to the wide range of material we are asked to cover in AP Biology, it is helpful to start learning prior to the school start to take a bit of pressure off of you in September. We will start Ecology in the summer. We will be using OpenStax (from Rice University) as our on-line textbook. Below are the chapters and sections you will be responsible for. Your assignment is to do an Infocapture on this reading. Please read carefully the **HOW TO INFOCAPTURE HANDOUT!!** The link was sent to you and is also posted on the HS website under summer assignments.

OpenStax Online Text: <https://openstax.org/details/books/biology-ap-courses>

[Chapter 35: Sections 1-2, and 5](#)

[Chapter 36: Sections 1--7](#)

[Chapter 37: Sections 1-3](#)

[Chapter 38](#)

[How to Infocapture Handout](#)

The Ecology unit will technically be the second unit of the year. We will however do part of it the first week back because it has an investigation that must be done outside. Our time in class will be spent on labs and activities so by doing the Infocapture now you will be able to review it during September. It will also give you some time to see which methods you prefer to use as we will do similar assignments throughout the course.

3. Biological Photo Scavenger Hunt

Collect 40 terms – Due Friday, September 6th (these can be submitted prior to this date):

To “collect” the items from this list of terms, you should find it and take a **photograph** of that item. You do not need to find the exact item on the 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 how this specimen represents the term. All photographs must have a label and an explanation. Each item must have its own picture. **Reusing pictures for more than one item is not allowed** (this includes taking the same picture from a different angle!)

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 *what* phloem is and specifically *where* phloem is in your specimen.

ORIGINAL PHOTOS ONLY: You cannot use an image from any publication or the Web. You must have taken the photograph yourself. You cannot share pictures with others in the class. **To prove that you have taken that photo include yourself in the photo or place an item (same object for all pictures and your choice – your favorite small Elmo toy etc..) in all of your photographs that only you could have added each time.**

NATURAL ITEMS ONLY: Take a walk around your yard, neighborhood, and town. **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.

TEAM WORK: □ Feel free to go out with a friend but you must do your own project.

Each student must turn in their own project with a **unique** set of terms chosen. There are 100 choices... probability says there is a very small chance that any two students will have most of the same 40 terms chosen.

CAUTION:

* Never touch plants or animals with exposed fingers. Avoid touching the organisms but if you must, use gloves and/or forceps.

* Remember, we don't want to deplete the environment. Don't kill organisms.

It **must** be shared through **EP Apps** to kristin_gabel@edenpr.k12.mn.us.

Do not use Powerpoint or Word. The file will be too large to email to me. The easiest and safest way to turn this in is to share it through Google drive.

Specimen List:

- | | |
|----------------------------------------------------------------------------------------|--------------------------------------|
| 1. adaptation of an animal | 34. endotherm |
| 2. adaptation of a plant | 35. ethylene |
| 3. abscisic acid | 36. eubacteria |
| 4. amniotic egg | 37. eukaryote |
| 5. amylase | 38. fermentation |
| 6. an organism that cannot be classified according to the "biological" species concept | 39. flower ovary |
| 7. angiosperm | 40. gametophyte |
| 8. anther & filament of stamen | 41. gastropod |
| 9. apical dominance | 42. genetically modified organism |
| 10. archaebacteria | 43. gibberellins |
| 11. autotroph | 44. glycogen |
| 12. auxin producing area of a plant | 45. gymnosperm cone |
| 13. Batesian mimicry | 46. haploid chromosome number |
| 14. biological magnification | 47. insect |
| 15. bryophyte | 48. invasive species |
| 16. C 4 plant | 49. <i>K-strategist</i> |
| 17. Calvin cycle | 50. keratin |
| 18. cambium | 51. keystone species |
| 19. cellulose | 52. lepidoptera |
| 20. chitin | 53. lichen |
| 21. chlorophyta | 54. lipid used for energy storage |
| 22. conifer leaf | 55. littoral zone organism |
| 23. commensalism | 56. long-day plant |
| 24. cuticle layer of a plant | 57. meristem |
| 25. deciduous leaf | 58. modified leaf of a plant |
| 26. decomposer | 59. modified root of a plant |
| 27. density dependent limiting factor | 60. modified stem of a plant |
| 28. density independent limiting factor | 61. monocot plant with flower & leaf |
| 29. dicot plant with flower & leaf | 62. mutualism |
| 30. diploid chromosome number | 63. mycelium |
| 31. echinoderm | 64. mycorrhizae |
| 32. ectotherm | 65. myosin |
| 33. endosperm | 66. niche |
| | 67. nymph stage of an insect |

68. parasite
69. parenchyma cells
70. phloem
71. phototropism
72. pine cone - female
73. platyhelminthes
74. pollen
75. pollinator
76. porifera
77. prokaryote
78. protein - fibrous
79. protein - globular
80. pteridophyte
81. *r-strategist*
82. rhizome
83. scale from animal with
two-chambered heart
84. spore
85. sporophyte
86. stigma & style of carpel
87. succession
88. unicellular organism
89. vascular plant tissue
90. xylem
91. taxis
92. kinesis
93. altruism
94. operant conditioning
95. classical conditioning
96. Feed ducks on 3 different
occasions(a picture of each)
97. Hold 5 earthworms or 2 slugs
98. Play the board game "Settlers of
Catan" or "Risk" or the card game
"Apples to Apples"(or another if you
have a favorite game!)
99. Sleep outside under the stars
100. Catch a fish