# L&N STEM Academy AP Biology Summer Assignment

**Purpose**:

The purpose of the summer assignment is to help students review foundational material and concepts from Biology I and to reacquaint or introduce them to the general science skills and practices needed for success in AP Biology.

**Introduction**:

It is my pleasure to welcome you to the 2019-20 AP Biology/Honors Biology II class. This course is designed and taught as a one year long sequence of topics identified by the Tennessee State Standards and guidelines set forth by the AP College Board. Please be advised, these are rigorous standards and cover a lot of material at a "break neck" speed. The course layout will be different than in previous years and is still being developed by the AP College Board.

**Assignment:**

The Summer Assignment is comprised of two parts. Each part will be graded separately and each will be recorded separately. In the first assignment, you will watch a series of videos to become familiar with the Science Practices that you will be learning about and employing in the course throughout the year. The second, and more involved portion of the assignment, will have you collecting examples of biological terms and concepts through photography and posting it on a blog site.

# AP Biology Summer Assignment Part I

This assignment covers 10 videos. Each of the videos must be watched and you must take hand-written notes for each of them. The notes must not be copied from the internet or from peers. Each video note sheet will be scored according to the rubric provided below. **This portion of the assignment will be due the first day of class and *will not be accepted late.***

| Video # | Content | Link |
|---|---|---|
| 1 | The Nature of Science | https://youtu.be/TkvjDZseD4k |
| 2 | The Scientific Method | https://youtu.be/GKGtkzgKfkc |
| 3 | Claim-Evidence-Reasoning | https://youtu.be/5KKsLuRPsvU |
| 4 | AP Biology Science Practice 1 | https://youtu.be/v5Nemz_cVew |
| 5 | AP Biology Science Practice 2 | https://youtu.be/jgqYlSKoXak |
| 6 | AP Biology Science Practice 3 | https://youtu.be/2zB272Ak63A |
| 7 | AP Biology Science Practice 4 | https://youtu.be/AzTXnne40wU |
| 8 | AP Biology Science Practice 5 | https://youtu.be/0JqukouOtZA |
| 9 | AP Biology Science Practice 6 | https://youtu.be/3gK1xWNM7kk |
| 10 | AP Biology Science Practice 7 | https://youtu.be/7l4bcs49JP8 |
| | | |

## Rubric:

| 0<br>No Credit | 2<br>Below Exp. | 4<br>Meets Exp. | 5<br>Exceeds Exp. |
|---|---|---|---|
| No notes, typed notes or copied from another source | Criteria missing from entry | All criteria met with room for improvement | All criteria listed below are met or have been exceeded for each entry |

## Expectation:

- Each video should have its own page in a notebook.
- Each Note should be properly titled
- All notes should be legibly written.
- Highlighting or colors are used to emphasize key points, new vocabulary, and/or important concepts.
- Examples are documented in some way when given in the video.
- Each video note ends with a summary of the video content Please identify the summary in some way (titled, asterisks, highlight, boxed in, etc.)

# AP Biology Summer Assignment Part II

Biology is not confined to classrooms, labs, and textbooks. Biology is the study of living systems and we are surrounded by living systems. As you go about your summer activities, you will collect photographs that represent some of the biology terms and concepts listed below and post them to a blog where you will write about them. This activity is designed to engage students' creativity while helping them to see the connections between their environment and the terms and concepts encountered in AP Biology and Honors Biology II. **Part Two will be due the second day of class and *will not be accepted late.*** Each student will turn in a hardcopy of the *Photo Blog Table of Contents* with the accompanying **link** to the Blog.

## Photo Blog Guidelines:

1. Make an entry from the list of Terms and Concepts by posting a picture of an item along with the definition and explanation to a blog. **Define**, in your own words and not from the internet or text, the biological term/concept that the picture represents. **Explain** how the picture represents the term or concept from the list
2. Students will use Google's Blogger, which is a free and easy blog.
3. Use your creativity!!! Some of the terms are difficult/impossible to represent directly with a photograph. As long as you provide an adequate explanation as to how the concept is related to the photograph, the spirit of the assignment is maintained.
4. You **MUST** use your own, original photos! You will not receive credit for any photos used from any other source. To prove each of your pictures' originality, select an object to be included in each of your photos as a "proof token." The item should be small and original like a key chain, pendent, pen, small toy, etc.
5. The subject of your pictures should be natural structures. You don't have to go to the wilderness to experience living systems, places like the zoo, house plants, pets, beach, greenways and trails in Knox Co., etc. Humans are good subjects but should only be included in a few of the slides. Try and select things in your environment.
6. Your work should be your own! Some collaboration is encouraged, but the images, definitions and explanations should be unique!
7. **DO NOT** pick any plants, kill any animals, harm any insects for this project. Please respect the subjects of your photos. **BE SAFE,** don't touch any unknown plants or animals or try and get "extreme" pictures.
8. Please blog safely. Read and use the guidelines for safe blogging listed below.

| **Photo Blog Rubric** | | | | |
|---|---|---|---|---|
| Points | Photo Blog Entry (per photo) | | Points | Photo Blog Table of Contents |
| 1 | Original Photo with Proof Token | | 3 | Blog URL provided and emailed to teacher |
| 1 | Selected a proper term/concept | | 2 | All entries recorded in proper order |
| 1 | Term/concept properly defined | | 10 | All Blog entries are professional in nature |
| 2 | Term/Concept properly linked to Photo with adequate explanation | | 10 | Blog Entries are presented neatly and easy to follow |
| Points awarded for Part 2 are all or nothing. If the criteria are not 100% met, then the student receives a zero for that criteria. | | | | |

# Photo Blog Collection List

1. Adaptation of an animal
2. Adaptation of a plant
3. Altruistic behavior
4. Amniotic egg
5. Analogous structures
6. Animal that has a segmented body
7. Anther and filament of stamen
8. Archaebacteria
9. Asexual reproduction
10. ATP
11. Autotroph
12. Auxin producing area of a plant
13. Basiodiomycete
14. Batesian mimicry
15. Bilateral symmetry
16. Biological magnification
17. C3 Plant
18. C4 Plant
19. CAM Plant
20. Calvin Cycle
21. Cambium
22. Cellular respiration
23. Coevolution
24. Commensalism
25. Connective tissue
26. Cuticle layer of a plant
27. Detritivore
28. Dominant vs. recessive phenotype
29. Ectotherm
30. Endosperm
31. Endotherm
32. Enzyme
33. Epithelial tissue
34. Ethylene
35. Eubacteria
36. Eukaryote
37. Exoskeleton
38. Fermentation
39. Flower ovary
40. Frond
41. Gametophyte
42. Genetic variation within a population
43. Genetically modified organism
44. Gibberellins
45. Glycogen
46. Gymnosperm cone – male or female
47. Gymnosperm leaf
48. Hermaphrodite
49. Heterotrophy
50. Homeostasis
51. Homologous structures
52. Hydrophilic
53. Hydrophobic
54. Introduced species
55. Keystone species
56. Krebs cycle
57. K-strategist
58. Lichen
59. Lipid used for energy storage
60. Littoral zone organism
61. Long-day plant
62. Mating behavior (be careful!!)
63. Meristem
64. Modified leaf of a plant
65. Modified root of a plant
66. Modified stem of a plant
67. Mullerian mimicry
68. Mutualism
69. Mycelium
70. Mycorrhizae
71. Niche
72. Parasitism
73. Parenchyma cells
74. Phototaxis
75. Pollen
76. Pollinator
77. Population
78. Predation
79. Prokaryote
80. R-strategist
81. Radial symmetry (animal)
82. Redox reaction
83. Rhizome
84. Seed dispersal (animal, wind, water)
85. Spore
86. Sporophyte
87. Stigma and style of carpel
88. Succession
89. Taxis
90. Territorial behavior
91. Tropism
92. Unicellular organism
93. Variegation
94. Vestigial structures
95. Xylem

# Student Photo Blog Table of Contents

Name:_____

Blog 

URL: _____ Emailed

| Photo Order | Term/Concept from Table | Comments | Points Earned |
|---|---|---|---|
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Photo Blog Examples: Examples can be found at this blog URL: https://dhawkbio.blogspot.com/
For help setting up a Blogger Account: https://www.wikihow.com/Start-a-Blog-on-Blogger