AP Biology
Summer Assignments 2020
Mrs. Heenan

Part A

Vocabulary Photography Component:

Listed on the next page are over one hundred important terms in the AP Biology curriculum. You must select 50 of these terms to use in your summer work. You may choose any of the words below for your 50 pictures. You will need to take an **ORIGINAL PICTURE** of an example of the vocabulary word and describe how your image fits the definition of the vocabulary term and the function or use of that item in nature. You should also include the date that the picture was taken. You may turn them in as a PowerPoint presentation or in scrapbook form, but not just posted in a notebook.

a) You can be creative:
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 *what* phloem is and specifically *where* phloem is in your specimen.

b) Original Photos Only:
You cannot use an image from any publication or the Web. You must have taken the photograph yourself. The best way to prove that is to **place 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 pen, jewelry, a coin, a key, etc. You must **use the same totem in every picture** to identify the photographs as your own work.

c) Natural items only:
All items must be from something that you have found in nature. 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 an example. ALL PHOTOGRAPHS MUST BE SCHOOL APPROPRIATE.

1. adaptation of an animal
2. adaptation of a plant
3. adaptive radiation
4. adhesion and cohesion
5. altruistic behavior
6. amniotic egg
7. analogous structures
8. anabolic and catabolic pathways
9. allele frequency
10. aposematic coloring
11. artificial selection
12. asexual reproduction
13. ATP
14. autotroph
15. auxin producing area of a plant
16. basidiomycete
17. Batesian mimicry
18. bilateral symmetry
19. biological magnification
20. bottleneck effect
21. C3 plant
22. C4 plant
23. CAM plant
24. Calvin cycle
25. conjugation
26. cellular respiration
27. cellulose
28. chemoautotrophs
29. chitin
30. coevolution
31. commensalism
32. connective tissue
33. cuticle layer of a plant
34. clade
35. community
36. coleoptiles
37. countercurrent exchange
38. detritovore
39. diploid cell
40. dominant vs. recessive phenotype
41. ectotherm
42. endosperm
43. endotherm
44. endergonic reaction
45. epigenetic inheritance
46. enzyme
47. epithelial tissue
48. ethylene
49. eubacteria
50. eukaryote
51. exoskeleton
52. fermentation
53. flower ovary
54. gene expression
55. gametophyte
56. genetic variation within a population
57. genetically modified organism
58. gibberellins
59. glycogen
60. glycerol
61. gymnosperm leaf
62. histamine
63. hermaphrodite
64. heterotroph
65. homeostasis
66. homologous structures
67. hydrophilic
68. hydrophobic
69. invasive species
70. keystone species
71. Krebs cycle
72. *K*-strategist
73. lichen
74. lipid used for energy storage
75. littoral zone organism
76. long-day plant
77. mating behavior (*be careful!)*
78. macromolecules
79. mechanical isolation
80. medulla
81. modified leaf of a plant
82. Mullerian mimicry
83. mutualism
84. metabolism
85. mycorrhizae
86. negative feedback
87. niche
88. parasitism
89. polar and nonpolar
90. phloem
91. pollen
92. pollinator
93. population
94. predation
95. prokaryote
96. *r*-strategist
97. radial symmetry (animal)
98. redox reaction
99. rhizome
100. ruminant
101. sarcomere
102. seed dispersal (animal, wind, water)
103. semelparity
104. sexual dimporphism
105. spore
106. sporophyte
107. starch
108. succession
109. taxis
110. territorial behavior
111. tropism
112. turgor pressure
113. unicellular organism
114. vestigial structures
115. xylem

Part B

Concept Review:

After having taught AP Biology for several years, I have noticed that students come into the course year after year without a basic understanding of some of the concepts that are fundamental to the course. Some of these topics are listed below.

During the school year we will discuss the specifics of these topics and go over in more depth how they relate to each other, but the basics of these topics should not be new to you when these topics come up in class.

You should come into AP Biology with a basic understanding of these concepts, so please review the basics of these concepts before the start of the school year. To assess your understanding, **there will be a test on the second day of school** to ensure that you have sufficient knowledge of these topics to proceed through the course.

Make sure you understand the basics of the following topics:

Cell Organelle Structure and Function
Photosynthesis
Cellular Respiration
Mitosis
Meiosis
DNA Replication
Protein Synthesis

Academic Honesty:

Each student is responsible for completing work independently of other students. Period. If you are caught cheating you will receive a zero for that assignment. I will call parents upon the very first offense and issue a disciplinary referral. Downloading essays from the internet, plagiarism and copying homework or essays from former and/or current students are all considered cheating. If you are unsure what constitutes cheating, ask. It is better to err on the side of caution.

Due date for the summer work:

- The 50 vocabulary photographs will be due on the first day of class – September 2, 2020 (If you create a digital "scrapbook" you can email it to me at suzannemheenan@bpsma.org)
- There will be a test on the concepts from the concept review section on September 3, 2020

Have a great summer!!