

## **AP BIOLOGY SUMMER ASSIGNMENT 2022**

Welcome to the world of Advanced Placement Biology! The attached summer assignment is required for all AP Biology students for the 2022-2023 school year.

### **The AP Biology course**

The AP Biology course is rigorous as it is a college level course. You will get out what you put in to the course. You will be given the tools needed to get a 4 or 5 on the AP Biology exam by taking this course, but it will be up to you to use them. Expect to do homework every night and to have weekly quizzes.

During the year we will complete the 8 required AP labs as well as many additional labs and activities. You will gain practice in writing AP Free Response Questions, and in answering AP level multiple choice questions.

### **You are required to do 2 things before school starts in September:**

**Part 1 – Biology Scavenger hunt – 50 pts**

**Part 2 – Root word investigation – 30 pts**

By completing the assignment you will get an understanding of the AP biology course and have some basics to succeed in class.

### **The assignments are due the FISRT DAY of class, if not submitted earlier.**

All parts of the assignment need to be uploaded to google classroom before the due date. Please double check the all parts are uploaded correctly and visible, late assignments will receive a point reduction. Note that the summer assignment will be your first grade for the class for a total of **80 pts**.

- 1) If you do not do the summer assignment, you will start behind in the course.
- 2) Don't get overwhelmed. Plan out when you will do it. Have your list of terms ready to take a quick picture when you see something.

### **Questions?**

If you have questions about this assignment or the class, you may contact me via google classroom or you can email me at [LVanSicklin@prestonhs.org](mailto:LVanSicklin@prestonhs.org) . Don't wait until the week before school to get started!

Have a great summer!

Ms. Van Sicklin

## Part I: Biology Term Scavenger Hunt - 50 pts

For this part of your summer assignment, you will be familiarizing yourself with science terms that we will be using at different points throughout the year and finding them in a practical situation

**Select and “collect” 25 words/terms from the list (On Next Page)**

When I say “collect”, I mean you should collect that item by finding it and taking a **photograph**. You will make a digital “collection”, along with corresponding explanations. Use google drive to create a **slide show** with pictures pasted in along with identification and description for each. If you do not have computer access, I will accept an actual photo album to physically turn in.

**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 in your finished project how this specimen represents the term.**

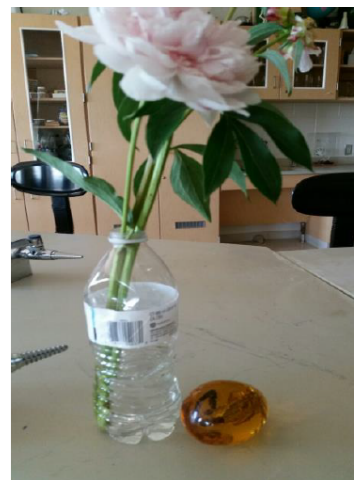
**EXAMPLE:** For the word “phloem”, take a picture of a flower and stem and then write a description of phloem and where it is in the flower

### **ORIGINAL PHOTOS ONLY:**

You cannot use an image from any publication or the Web. You must have taken the photograph yourself.

### **NATURAL ITEMS ONLY:**

Specimens may be used for only one item/word, and all must be from something that you have found in nature that is or once was alive. Ex. You cannot use your little sister’s stuffed pony for a picture of a mammal. Take a walk around your yard, neighborhood, and town or even the beach. Go to a store that has living things, like home depot (plants) or PetSmart (animals) **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.



**Be sure to include a description of the term and how it relates to the Photograph**

## Biology Scavenger Hunt list.

You must photograph at least 25 of the terms below as well as identify and describe each

Each photo and description is worth 2 pts for a total of 50 pts

1. adaptation of an animal
2. adaptation of a plant
3. actin
4. amniotic egg
5. amylase
6. angiosperm
7. annelid
8. anther & filament of stamen
9. arthropod
10. archaeobacteria
11. artificial selection
12. autotroph
13. auxin producing area of a plant
14. basidiomycete
15. Batesian mimicry
16. biological magnification
17. bryophyte
18. C3 plant
19. C4 plant
20. CAM plant
21. Calvin cycle
22. carbohydrate - fibrous
23. cellulose
24. chitin
25. chlorophyta
26. conifer leaf
27. commensalism
28. community (ecology)
29. convergent evolution
30. cuticle layer of a plant
31. denaturation
32. deciduous leaf
33. deuterostome
34. dicot plant with flower & leaf
35. diploid chromosome number
36. echinoderm
37. ecological succession
38. ectotherm
39. endosperm
40. endotherm
41. enzyme
42. ethylene
43. eubacteria
44. eukaryote
45. exponential growth
46. exoskeleton
47. fermentation
48. flower ovary
49. frond
50. gametophyte
51. gastropod
52. genetically modified organism
53. gibberellins
54. glycogen
55. gymnosperm cone
56. haploid chromosome number
57. heterotroph
58. homologous traits
59. hydrogen bond
60. insect
61. K-strategist
62. keratin
63. leaf – gymnosperm
64. lichen
65. ligand
66. lipid used for energy storage
67. littoral zone organism
68. logistic growth
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 w/flower & leaf
75. mutualism
76. mycelium
77. niche
78. organic molecule
79. parasite
80. parenchyma cells
81. phloem
82. phototropism
83. platyhelminthes
84. pollen
85. pollinator
86. polygenetic inheritance
87. porifera
88. prokaryote
89. protostome
90. r-strategist
91. spore
92. sporophyte
93. unicellular organism
94. xerophyte
95. xylem

## Part II: Root Word Investigation – 30 points

The main reason students find it difficult to understand science is because of all the hard to write, spell and read words. Actually, scientific vocabulary is a mix of small words that are linked together to have different meanings. If you learn the meanings of the little words, you'll find scientific vocabulary much easier to understand. Find the mean to the following Greek/Latin root words.

Root Word	Meaning
a- / an-	
meso-	
leuco-	
aero-	
anti-	
amphi-	
aqua- / hydro-	
arthro-	
auto-	
bi- / di-	
bio-	
cephal-	
chloro-	
chromo-	
-cide	
cyto-	
derm-	
haplo-	
ecto- / exo-	
endo-	
epi-	
gastro-	
-genesis	
herb-	
hetero-	
homo-	
ov-	
kary-	
neuro-	
soma-	
saccharo-	
primi-/ archea-	
-phyll	
Root Word	Meaning

hemo-	
hyper-	
hypo-	
intra-	
-itis	
lateral	
-logy	
-lysis	
-meter	
mono-	
morph-	
micro-	
macro-	
multi- / poly-	
-path / -pathy	
-ped / -pod	
phago-	
-phobia	
-philia	
proto-	
photo-	
pseudo-	
-stasis	
sub-	
sym- / -syn	
-synthesis	
-taxis	
-troph	
-tropism	
-therm	
tri-	
zoo-, -zoa	
zyg- / -zygous	

## Using Root words to define unknown words

Once you have completed the above root word table, use it to develop a SIMPLE definition, **in your own words**, for each of the following terms:

1. Hydrology \_\_\_\_\_
2. Cytolysis \_\_\_\_\_
3. Protozoa \_\_\_\_\_
4. Epidermis \_\_\_\_\_
5. Spermatogenesis \_\_\_\_\_
6. Exoskeleton \_\_\_\_\_
7. Abiotic \_\_\_\_\_
8. Pathogen \_\_\_\_\_
9. Pseudopod \_\_\_\_\_
10. Hemophilia \_\_\_\_\_
11. Endocytosis \_\_\_\_\_
12. Herbicide \_\_\_\_\_
13. Anaerobic \_\_\_\_\_
14. Bilateral \_\_\_\_\_
15. autotroph \_\_\_\_\_
16. Monosaccharide \_\_\_\_\_
17. Arthropod \_\_\_\_\_
16. Monosaccharide \_\_\_\_\_
17. Arthropod \_\_\_\_\_
18. Polymorphic \_\_\_\_\_
19. Hypothermia \_\_\_\_\_
20. Biogenesis \_\_\_\_\_

You will have a **QUIZ** on these words and the above root words during the first week of class