**AP BIOLOGY SUMMER ASSIGNMENT**

Welcome to the world of Advanced Placement Biology! The attached summer assignment is required for all AP Biology students and is due the first day of class.

**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.**

Allparts 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** . 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. abiotic
2. adaptation
3. actin
4. allopatric speciation
5. amniotic egg
6. amino acid
7. amylase
8. anaerobic respiration
9. angiosperm
10. anther & filament of stamen
11. arthropod
12. archaebacteria
13. artificial selection
14. autotroph
15. auxin producing area of a plant
16. basidiomycete
17. Batesian mimicry
18. biological magnification
19. bryophyte
20. C3 plant
21. C4 plant
22. CAM plant
23. Calvin cycle
24. carbohydrate -fibrous
25. cellulose
26. chitin
27. chlorophyll
28. conifer leaf
29. commensalism
30. community (ecology)
31. convergent evolution
32. concentration gradient
33. cuticle layer of a plant
34. denaturation
35. density-dependent factor
36. deciduous leaf
37. deuterostome
38. dicot plant
39. diploid chromosomes
40. echinoderm
41. ecological succession
42. ectotherm
43. endosperm
44. endotherm
45. enzyme
46. ethylene
47. eubacteria
48. eukaryote
49. exponential growth
50. exoskeleton
51. fermentation
52. flower ovary
53. frond
54. gametophyte
55. gastropod
56. genetically modified organism
57. gibberellins
58. glycogen
59. gymnosperm cone
60. heterotroph
61. homologous traits
62. hydrogen bond
63. K-strategist
64. keratin
65. leaf – gymnosperm
66. lichen
67. ligand
68. lipid used for energy storage
69. littoral zone organism
70. logistic growth
71. long-day plant
72. meristem
73. modified leaf of a plant
74. modified root of a plant
75. modified stem of a plant
76. monocot plant w/flower & leaf
77. mutualism
78. mycelium
79. niche
80. organic molecule
81. parasite
82. parenchyma cells
83. phloem
84. phototropism
85. platyhelminthes
86. polar
87. pollen
88. pollinator
89. polygenetic inheritance
90. prokaryote
91. protostome
92. r-strategist
93. spore
94. sporophyte
95. unicellular organism
96. 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