

## AP Biology Northview High School 2017-2018

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AP Biology is a year-long course intended to model a college level introductory Biology course. It will require college-level work and study habits.

Big Ideas of AP Biology:

- Big Idea 1: Evolution
  - o The process of evolution drives the diversity and unity of life
- Big Idea 2: Energy
  - o Biological systems utilize free energy and molecular building blocks to grow, to reproduce, and to maintain dynamic homeostasis
- Big Idea 3: Information
  - o Living systems store, retrieve, transmit and respond to information essential to life processes
- Big Idea 4: Systems
  - o Biological systems interact, and these systems and their interactions possess complex properties

Checklist:

- Communication: sign up for Edmodo
- Send me an introduction email
- Scavenger Hunt
- Look for supply list to be posted in the summer

### Communication

I want to establish communication for the summer and on into the year. Please join my Edmodo group **Northview HS AP Biology 17-18**. code is **298r7t**. If you can't join, please request through Edmodo or email me at [simonsenr@fultonschools.org](mailto:simonsenr@fultonschools.org) and I will add you. The code may expire after a few weeks. I will use this over the summer to let you know about any updates to the summer assignment and any supply lists.

Once the school year starts, I will establish google classrooms for each class.

### Introduction Email

Please send me an email written in letter format telling me about yourself and your goals for your experience in this class.

Subject Line: AP Biology 17-18

Body: Your full name (& nickname that you go by if you have one) & stuff about you!

1. Who was your last science teacher? What class?
2. What other science classes have you taken? Are planning to take next year?
3. What do you like to do (hobbies, sports, music, interests, etc.)?
4. Do you have a job or plan on getting a job next year? What kind?
5. What are your personal strengths when it comes to learning new material?
6. What causes you to struggle in a course?
7. What is the most effective way for you to prepare for a test?
8. How many AP classes have you taken so far? How many have you passed with a 3 or higher?

9. How many AP classes are you taking this year (please list)?
10. Was there anything that you liked or disliked about your previous biology class?
11. What are you looking forward to the most in AP Biology?
12. What are you most anxious about in AP Biology? (If you have heard anything about AP Bio you are concerned about, please let me know)
13. Why are you taking AP Biology? What do you hope to accomplish/gain?

### **Scavenger Hunt (The Fun Part)**

This is meant to get you out into the natural world and think about biological concepts. It is also meant to be fun.

SELECT 50 terms

“Collect” 50 items from this list of terms (They are worth 2 points each).

When I say “collect”, I mean you should collect that item by finding it and taking a photograph (digital or paper printed) 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.

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. The photograph must be original. As proof of its originality you or an ID / license / paper with your name must be in the photo. YOU MAY ONLY use an individual photo twice. Be creative!

**NATURAL ITEMS ONLY:**

Some specimens may be used for more than one item, but all must be from something that you have found in nature. If you use a picture for more than one item, then you have to make a copy of the picture. There will be one picture, one term, and one explanation per page.

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.

**PROJECT:**

When you hand in this project, the following need to be included:

1. Coversheet (include your name, due date, and project name)
2. Table of contents (All 50 items with page number... Ex. Actin ..... Page 1)
3. 50 pages of items (1 item per page, Term at the top of page with picture and explanation below)
4. You can do up to 10 terms for extra credit (each extra term will count 1 point)

**TEAM WORK:**

You may work with other students in the class to complete this project, but each student must turn in his or her own project with a unique set of terms chosen. There are 110 choices... probability says there is a very small chance that any two students will have most of the same 50 terms chosen.

## BIOLOGY COLLECTION TERMS

1. Adaptation of an animal
2. Adaptation of a plant
3. Abscisic acid
4. Actin
5. Amniotic egg
6. Amylase
7. Angiosperm
8. Animal that has a segmented body
9. Annelid
10. Anther & filament of stamen
11. Arthropod
12. Archaeobacteria
13. Autotroph
14. Auxin producing area of a plant
15. Basidiomycete
16. Batesian mimicry
17. Biological magnification
18. Bryophyte
19. C 4 plant
20. Calvin cycle
21. Carbohydrate – fibrous
22. Cambium
23. Cellulose
24. Chitin
25. Chlorophyta
26. Cnidarian
27. Coelomate
28. Conifer leaf
29. Commensalism
30. Connective tissue
31. Cuticle layer of a plant
32. Deciduous leaf
33. Deuterostome
34. Dicot plant with flower & leaf
35. Diploid chromosome number
36. Echinoderm
37. Ectotherm
38. Endosperm
39. Endotherm
40. Enzyme
41. Epithelial tissue
42. Ethylene
43. Eubacteria
44. Eukaryote
45. Exoskeleton
46. Fermentation
47. Flower ovary
48. Frond
49. Fruit – dry with seed
50. Fruit – fleshy with seed
51. Gametophyte
52. Gastropod
53. Genetically modified organism
54. Gibberellins
55. Glycogen
56. Gymnosperm cone
57. Haploid chromosome number
58. Heartwood
59. Hermaphrodite
60. Insect
61. K-strategist
62. Keratin
63. Leaf – gymnosperm
64. Lepidoptera
65. Lichen
66. Lignin
67. Lipid used for energy storage
68. Littoral zone organism
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. Mollusk
75. Monocot plant with flower & leaf
76. Mutualism
77. Mycelium
78. Mycorrhizae
79. Myosin
80. Nematode
81. Niche
82. Nymph stage of an insect
83. Parasite
84. Parenchyma cells
85. Phloem
86. Pine cone – female
87. Platyhelminthes
88. Pollen
89. Pollinator

90. Porifera  
91. Prokaryote  
92. Protein – fibrous  
93. Protein – globular  
94. Protostome  
95. Pteridophyte  
96. R-strategist  
97. Radial symmetry  
98. Rhizome  
99. Scale from animal with two-chambered heart

100. Spore  
101. Sporophyte  
102. Stem – herbaceous  
103. Stem – woody  
104. Stigma & style of carpel  
105. Tendril of a plant  
106. Thorn of a plant  
107. Unicellular organism  
108. Vascular plant tissue  
109. Xerophyte  
110. Xylem