

# AP Biology Summer Assignment

## In Memory of Kim Foglia

This summer you will delve into the world of biology like you never thought you would in those hot months! We will explore many topics to whet your appetite for the coming year of hard work.

This summer assignment has been designed for the following purposes:

- to get you to think during those summer months to keep your mind sharp, because we will expect a lot out of it come September!
- to expand your vocabulary by familiarizing you with terms that we will be using in class.
- to introduce you to major concepts from AP Biology through non-classroom methods of learning.

### Schedule:

## DUE Thursday, August 25, 2011

- “How Do I Take Care of a Coleus or Begonia?” will be submitted to [www.turnitin.com](http://www.turnitin.com).\*
- “An Album of Biological Terms” will be submitted to the blog link on EdLine.\*

*\*You will need to wait until the third week of August to submit your work when your EdLine page and turnitin class pages are live. At that time, further instructions on submitting your assignments to the blog and turnitin will be available on your class EdLine page.\**

## DUE Beginning of the School Year

- Read the book “Survival of the Sickest” by Dr. Sharon Moalem (ISBN 0060889667). Be prepared for a book chat.

### Grading:

This summer assignment is worth a total of 75 points. This assignment counts as a lab grade for marking period 1. All components of the summer assignment must be completed by **August 25, 2011, no exceptions**. Late assignments will not be accepted and will result in a zero.

Feel free to contact your teacher if questions arise.

## ADOPT A PLANT

Meet your new responsibilities:

**Coleus:**



**Begonia:**



### My Objective:

To get you to experience that plants are living, breathing, growing, responsive creatures.

### Your Goal:

You will receive either a Coleus or Begonia plant. Your goal is to nurture your plant successfully throughout the summer. Get it to grow, get it to branch, grow it big and bushy! Specifically...

- **Coleus: A prize for the biggest, bushiest Coleus. You *don't* want this plant to bloom!**  
**OR**
- **Begonia: A prize for the biggest, bushiest, *blooming* Begonia. You *do* want this plant to bloom a lot!**

### How do I take care of a Coleus or Begonia? [25 points]

Look it up! Do some research focusing on your plant.

In one page **MAXIMUM** answer the following questions.

1. *What does a Coleus or Begonia need to survive?*
2. *Do these plants like lots of sun or do they need some shade?*
3. *How do I transplant a Coleus or Begonia? Why?*
4. *How do I stop my Coleus from blooming? Why?*
5. *How do I get my plant to branch and get bushier?*

**Document changes in your plant in pictures. Include these as one additional page in your report.**

### Bonus Prize:

Propagate your *Coleus* or *Begonia*. Come in with a vegetatively propagated offspring from your plant.

**What if your plant dies? You are still responsible for this assignment.**

## An Album of Biological Terms

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. On the next page is the list of terms.

### 1. Each item is worth 2 points. You must earn 50 points.

- **Earn 50 points by “collecting” 25 items from the list of terms.**

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 will post your photographs with appropriate **explanations / descriptions** on the **blog**.

### 2. 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 on the blog *what* phloem is and specifically *where* phloem is in your specimen.

### 3. 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 or a coin or a key or your cell phone, etc.

### 4. 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.

### 5. 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. So working with other students means brainstorming, discussing, going on collecting trips together. It doesn't mean using the same items! There are 100 choices... probability says there is a very slim chance that any two students will have the same items chosen for their 50 points...and we believe in the statistics!

1. **Each item is worth 2 points. You must earn 50 points by collecting 25 items from the list of terms.**
2. 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.
3. You will upload your photographs with appropriate **explanations / descriptions** on the **BLOG**.

- |                                      |   |  |
|--------------------------------------|---|--|
| 1. adaptation of an animal           | 35. eubacteria                            | 68. mutualism                            |
| 2. adaptation of a plant             | 36. eukaryote                             | 69. mycelium                             |
| 3. altruistic behavior               | 37. exoskeleton                           | 70. mycorrhizae                          |
| 4. amniotic egg                      | 38. fermentation                          | 71. niche                                |
| 5. analagous structures              | 39. flower ovary                          | 72. parasitism                           |
| 6. animal that has a segmented body  | 40. frond                                 | 73. parenchyma cells                     |
| 7. anther & filament of stamen       | 41. gametophyte                           | 74. phloem                               |
| 8. archaebacteria                    | 42. genetic variation within a population | 75. pollen                               |
| 9. asexual reproduction              | 43. genetically modified organism         | 76. pollinator                           |
| 10. ATP                              | 44. gibberellins                          | 77. population                           |
| 11. autotroph                        | 45. glycogen                              | 78. predation                            |
| 12. auxin producing area of a plant  | 46. gymnosperm cone – male or female      | 79. prokaryote                           |
| 13. basidiomycete                    | 47. gymnosperm leaf                       | 80. <i>r</i> -strategist                 |
| 14. Batesian mimicry                 | 48. hermaphrodite                         | 81. radial symmetry (animal)             |
| 15. bilateral symmetry               | 49. heterotroph                           | 82. redox reaction                       |
| 16. biological magnification         | 50. homeostasis                           | 83. rhizome                              |
| 17. C3 plant                         | 51. homologous structures                 | 84. seed dispersal (animal, wind, water) |
| 18. C4 plant                         | 52. hydrophilic                           | 85. spore                                |
| 19. CAM plant                        | 53. hydrophobic                           | 86. sporophyte                           |
| 20. Calvin cycle                     | 54. introduced species                    | 87. stigma & style of carpel             |
| 21. cambium                          | 55. keystone species                      | 88. succession                           |
| 22. cellular respiration             | 56. Krebs cycle                           | 89. taxis                                |
| 23. coevolution                      | 57. <i>K</i> -strategist                  | 90. territorial behavior                 |
| 24. commensalism                     | 58. lichen                                | 91. tropism                              |
| 25. connective tissue                | 59. lipid used for energy storage         | 92. unicellular organism                 |
| 26. cuticle layer of a plant         | 60. littoral zone organism                | 93. vestigial structures                 |
| 27. detritovore                      | 61. long-day plant                        | 94. xylem                                |
| 28. dominant vs. recessive phenotype | 62. different alleles for the same trait  | 95. monocot                              |
| 29. ectotherm                        | 63. meristem                              | 96. dicot                                |
| 30. endosperm                        | 64. modified leaf of a plant              | 97. protist                              |
| 31. endotherm                        | 65. modified root of a plant              | 98. gymnosperm                           |
| 32. enzyme                           | 66. modified stem of a plant              | 99. angiosperm                           |
| 33. epithelial tissue                | 67. Mullerian mimicry                     | 100. bryophyte                           |
| 34. ethylene                         |   |  |