

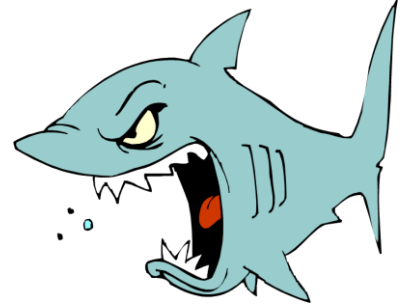
# Welcome to the AP Biology "Summer of Biology" 2018

## An evolving creation!

Dun....dun...dun...dun...dun...

Is it safe to go back in the water? NO! Like a shark, there lurks the AP Biology Summer Assignment!

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 five 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 date	Assigned Task
1	Fri., June 9	1. Sign into Mrs. Cruz's AP Biology 2018-2019 Google Classroom-join code is f5xcmp9
2	Tues., June 12	1. MANDATORY after school meeting 2. Pick up your plants from Room 314A by Friday June 15.
3	Wed., June 26	1. Visit my Google Site and poke around: address <a href="https://sites.google.com/a/norwalkps.org/mrs-r-cruz/">https://sites.google.com/a/norwalkps.org/mrs-r-cruz/</a> 2. Post your "Letter of Introduction" into the appropriate folder in Google Classroom.
4	Mon., July 2	1. Start your Biology Scavenger Hunt 2. Start reading <i>Your Inner Fish</i> , and get ready to post about your reading EVERY OTHER Friday!

## SCHEDULE (continued)

5	Fri., July 6	<p>1. Complete the first three chapters of <i>Your Inner Fish</i> and comment about it on the AP Bio Google Classroom.</p> <ul style="list-style-type: none"> <li>• What did you think about the reading?</li> <li>• What did you learn?</li> <li>• What questions do you still have?</li> </ul>
6	Fri., July 13	1. 1 <sup>st</sup> Biology Scavenger Hunt post — at least 5 photos.
7	Fri., July 20	<p>1. Complete Chapters 4- 6 of <i>Your Inner Fish</i> and comment about it on the AP Bio Google Classroom.</p> <ul style="list-style-type: none"> <li>• What did you think about the reading?</li> <li>• What did you learn?</li> <li>• What questions do you still have?</li> </ul>
8	Fri., July 27	1. 2 <sup>nd</sup> Biology Scavenger Hunt post — at least 5 photos.
9	Fri., Aug 3	<p>1. Complete Chapters 7-9 of <i>Your Inner Fish</i> and comment about it on the AP Bio Google Classroom.</p> <ul style="list-style-type: none"> <li>• What did you think about the reading?</li> <li>• What did you learn?</li> <li>• What questions do you still have?</li> </ul>
10	Fri., Aug 10	1. 3 <sup>rd</sup> Biology Scavenger Hunt post — at least 5 photos.
11	Fri., Aug 17	<p>1. Complete Chapters 10-11 of <i>Your Inner Fish</i> and comment about it on the AP Bio Google Classroom.</p> <ul style="list-style-type: none"> <li>• What did you think about the reading?</li> <li>• What did you learn?</li> <li>• What questions do you still have?</li> </ul>
12	Fri., Aug 24	1. 4 <sup>th</sup> Biology Scavenger Hunt post — at least 5 photos.
13	Wed., Aug 29	1. Photo collage due. Must be uploaded into Google Classroom BEFORE the start of class.
14	Fri., Aug 31	<p>1. Buy &amp; bring to school class supplies 2. Adopt a Plant Show-and-Tell &amp; Contest</p>

## ASSIGNMENT #1

### ADOPT A PLANT

Meet your new responsibilities:

**Coleus:**



**Begonia:**



#### **My Objective:**

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

#### **Your Goal:**

To nurture your plants successfully throughout the summer. Get them to grow, get them to branch, grow them big and bushy! Specifically...

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

#### **Questions:**

*How do I take care of a Coleus or Begonia? How do I transplant a Coleus or Begonia? How do I stop my Coleus from blooming? How do I get my plant to branch and get bushier? Do these plants like lots of sun or do they need some shade?*

#### **Answers:**

Look it up! Do some research!

#### **Extra Credit:**

Propagate your *Coleus* and *Begonia*. Come in with a vegetatively propagated offspring from your plants.

## ASSIGNMENT #2

### LETTER OF INTRODUCTION

Welcome to AP Biology!

We are going to spend a lot of time together next year, so it's best if we get a head start on learning a bit about you. Also we will use the Internet and the Web a lot next year for this course, so let's get you used to communicating with me via e-mail.

Your first digital assignment is to successfully send an e-mail to your AP Biology teacher.

**Due date: Wed., June 26, 2018**

**Draft an e-mail to us following these rules:**

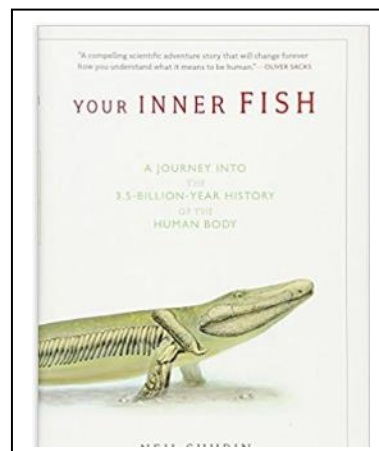
- a. Use clearly written, **full sentences**. Do not abbreviate words like you are on snapchat with a friend. Use **spell check**! This is a professional communication like you would have with a college professor, so let's practice for your rapidly nearing future!
- b. Address it to: [cruzr@norwalkps.org](mailto:cruzr@norwalkps.org)
- c. Make the **Subject**: "**AP Bio: Introduction to <Insert Your Name Here>**" (Do not include the quote marks or the brackets, just the words)
- d. Begin the e-mail with a **formal salutation**, like "Mrs. Cruz"
- e. Now introduce yourself (your name) and tell us a little bit about yourself, like:
  - What do you like to do (hobbies, sports, music, interests, etc.)?
  - Do you have a job?
  - Tell me a little bit about your family (Mom? Dad? Guardian? Siblings? Pets?) What do your parents do for a living?
  - Was there anything that you liked about your earlier biology class?
  - What was the last book you read for fun?
  - What are you looking forward to the most in AP Biology?
  - What are you most anxious about in AP Biology?
- f. End the e-mail with a **formal closing**: "Cordially", "Sincerely", "Warm regards", etc. and add your name as if you signed a letter.

## ASSIGNMENT #3

### SUMMER READING — *Your Inner Fish*

This is not textbook reading! Your summer reading is an exciting book about science. You can access a pdf of this book in Google Classroom or you can buy a copy to read.

Yes, there are people who love science so much that they spend their time researching and writing books about it and there are people who love science even more that they spend their time *reading* these science books. You too may become one of these people, Young Grasshopper!



A bit about *Your Inner Fish*:

“Why do we look the way we do? What does the human hand have in common with the wing of a fly? Are breasts, sweat glands, and scales connected in some way? To better understand the inner workings of our bodies and to trace the origins of many of today's most common diseases, we have to turn to unexpected sources: worms, flies, and even fish.

Neil Shubin, a leading paleontologist and professor of anatomy who discovered *Tiktaalik*—the “missing link” that made headlines around the world in April 2006—tells the story of evolution by tracing the organs of the human body back millions of years, long before the first creatures walked the earth. By examining fossils and DNA, Shubin shows us that our hands actually resemble fish fins, our head is organized like that of a long-extinct jawless fish, and major parts of our genome look and function like those of worms and bacteria

Shubin makes us see ourselves and our world in a completely new light. *Your Inner Fish* is science writing at its finest—enlightening, accessible, and told with irresistible enthusiasm”.

This summer, we will talk about this reading via our Google Classroom Blog. It's summer... It will be a little bit loose, but we do expect you to read and respond with thoughtful ideas throughout the summer!

**SUMMER READING: *Your Inner Fish* by Neil Shubin**

**DUE DATES: POST COMMENTS EVERY 2 WEEKS!**

- What did you think about the reading?
- What did you learn?
- What questions do you still have?



## ASSIGNMENT #4

### BIOLOGY COLLECTION

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 100 points by Friday August 27. You are required to post 5 photos each week:**

- **Earn 100 points by “collecting” 50 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) of that item. You will post some of your photographs with appropriate **explanations / descriptions** on the **AP Biology Google Classroom** to illustrate that you have been keeping up with your project.

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. To prove that this is your own work, take a “selfie” with the item.

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. **ORGANIZE YOUR ITEMS:**

You should organize your items into a unique digital collage that contains your “selfies” and explanations to be uploaded into Google Classroom. You may use Prezi, Google Slides, or similar format to organize your photos and explanations. Presentations will be shared on the first days of school as we get to know one another.

6. **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 almost 100 choices... probability says there is a very slim chance that any two students will have the same items chosen for their 100 points... and I believe in the statistics!

## BIOLOGY COLLECTION TERMS

Below are the items you are to “collect”. An individual organism can only be used **once**. Humans are acceptable for **one** category only. You must take all photos yourself; no Internet photos!

### GROUPINGS

Each specimen in a category is worth 2 points up to a total of 5 specimens in the category. Except where noted every specimen must be native to Connecticut.

1. Different biomes (only 3 must be within CT)
2. Different types of carbohydrates
3. Different classes of proteins
4. Evidence of different alleles for the same trait
5. Distinguishing characteristics between monocots & dicots
6. Organisms in different kingdoms
7. Organisms in different animal phyla
8. Organisms in different plant divisions
9. Organisms in same class but different orders
10. Organisms in same order but different family
11. Organisms in same genus but are different species
12. Organisms on different levels of the same food chain

### INDIVIDUAL ITEMS

Each specimen is worth 2 points You may have up to 2 examples of each item; submitting more than 2 will not add any additional points. These do not need to be native to Connecticut.

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

## ASSIGNMENT #5

### AP BIOLOGY SUPPLIES

Please use the summer as your opportunity to get your supplies for AP Biology early!

Come in prepared on Day 1.

**DUE DATE: FRIDAY AUGUST 31**

#### MATERIALS

1. 3-ring class notebook/binder (2.5 – 3 inch) for handouts (Yes, I know that's BIG, but you will fill it more than once!). Be sure to have loose leaf paper.
2. Bound (marble) notebook of graph paper — to be used as a lab notebook.
3. Blue or black pens and pencils to be brought to class EVERY day.
4. Colored pencils to be brought to class EVERY day.
5. Calculator to be brought to class EVERY day.
6. Textbook (will be supplied to you before summer): Campbell Biology (8th Edition) by Campbell, Reese et al.  
The textbook should be **left at home** for your nightly homework.