

AP BIOLOGY SUMMER ASSIGNMENT 2019

Welcome to AP Biology!

I am looking forward to working with all of you this year. This is a college level course, which means it will require college level effort. Please be prepared to put in the time needed to fully understand concepts. AP Biology has very high expectations and no time to waste (you may view the entire College Board AP Biology syllabus [here](#)). Therefore, to ensure your success in class and on the AP exam in May, we need to start before class begins. Hopefully these assignments will help to ease the transition back to school in August.

The following assignments are due on the first day of school:

Part 1 – Video Learning – Bozeman AP Biology

Part 2 – Chemistry and Genetics Review

Part 3 – Root Word Investigation

Note that this will be your first grade in the class, so if you fail to complete it, you will start off the year with a major disadvantage. In addition, **you will have a quiz during the first week of school** and anything from this summer assignment will be fair game!

Also note that **plagiarism/copying from others will only harm your own learning**, in addition to violating school and district policy and resulting in a zero on the assignment.

If you have any questions, feel free to email me at rdziopa@ichspride.org

Have a great summer!

Ms. Dziopa

Part I: Video Learning – Bozeman Science

We will be using a lot of videos from Bozeman Science this year, so this will give you a good introduction to the host, Mr. Paul Andersen (AP Biology teacher extraordinaire), and his website. Each video ranges from 6-13 minutes but allow yourself plenty of time to pause the video and answer questions.

Go to bozemanscience.com/ap-biology and view the **seven “AP Biology Practices”** videos:

1. Models & Representation
2. Using Mathematics
3. Scientific Questioning
4. Data Collection Strategies
5. Analysis & Evaluation of Evidence
6. Scientific Explanations & Theories
7. Scales, Concepts & Representations

Each video has a corresponding worksheet that can be accessed by a link at the bottom of the video page (under “Education Resources”). **Print out and complete each of the worksheets and place them in the notebook you will be using for our class. If you do not have a printer then please write down your answers in this notebook!**

Part 2: Chemistry and Genetics Review

In order to truly understand the concepts presented in AP Biology, you will need a solid foundation in chemistry and genetics. To review important chemistry content, watch the following Crash Course videos with host Hank Green (approximately 11-14 minutes each). Remember that your first quiz will cover content presented in these videos, so **take notes on important concepts and vocabulary words**. This assignment may be either typed or hand-written.

Crash Course Biology #1: "That's Why Carbon is a Tramp"

https://www.youtube.com/watch?v=QnQe0xW_JY4

Crash Course Biology #2: "Water – Liquid Awesome"

https://www.youtube.com/watch?v=HVT3Y3_gHGg

Crash Course Biology #3: "Biological Molecules – You Are What You Eat"

<https://www.youtube.com/watch?v=H8WJ2KENIK0>

In addition, watch and take notes on the following two videos to review important genetics concepts. We will be starting off the year with some math and statistics that will require you to be comfortable with this material.

Crash Course Biology #9: "Hereditiy"

<https://www.youtube.com/watch?v=CBezq1fFUEA>

Review of Punnett Squares:

<http://www.bozemanscience.com/beginners-guide-to-punnett-squares>

Part 3: Root Word Investigation

One of the main reasons students find it difficult to understand science is because of all the hard-to-read/spell/write big 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. Research the following Greek/Latin root words and write the definition for each.

Word	Meaning
a- / an-	
meso-	
leuco- /leuko-	
aero-	
anti-	
amphi-	
aqua- / hydro-	
arthro-	
auto-	
bi- / di-	

bio-	
cephal-	
chloro-	
chromo-	
-cide	
cyto-	
derm-	
haplo-	
ecto- / exo-	
endo-	
epi-	

gastro-	
-genesis	
herba-/herbi-	
hetero-	
homo-	
ov-	
kary-	
neuro-	
soma-	
saccharo-	
primi-/ archea-	
-phyll	
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 bigger 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. Hydrophobic _____

2. Cytolysis _____

3. Protozoa _____

4. Epidermis _____

5. Spermatogenesis _____

6. Phototaxis _____

7. Abiotic _____

8. Leukocyte _____
9. Pseudopod _____
10. Heterozygous _____
11. Endocytosis _____
12. Herbicide _____
13. Anaerobic _____
14. Bilateral _____
15. Autotroph _____
16. Monosaccharide _____
17. Arthropod _____
18. Polymorphic _____
19. Hypothermia _____
20. Biogenesis _____

Part 4: Get Out Into Nature! (Highly recommended, but not required)

In order to gain a deeper appreciation for biology, it helps to get up close and personal with Mother Nature once in a while. Here are some suggestions for places to go and visit this summer:

1. Branch Brook Park
2. Eagle Rock Reservation
3. Garrett Mountain Reservation
4. Great Swamp National Wildlife Refuge
5. Lakota Wolf Preserve
6. Loantaka Brook Reservation
7. Paterson Great Falls National Park
8. The Raptor Trust

If you take a trip to any of the places listed above please take pictures and document any wildlife you see! Feel free to email me if you need help with directions to any of the locations. 😊