

# AP Biology



## Summer Assignment Instructions

# North Salem University

**MISSION:** *Engage students to continuously learn, question, define and solve problems through critical and creative thinking.*

# Summer 2024

## Welcome to North Salem University!!!

**This summer assignment has been designed for the following purposes:**

1. to keep your mind sharp during those summer months, because I will expect a lot out of it come September!
2. to reinforce that reading, especially reading about science can be FUN!!!
3. to introduce you to a new method of learning that we will be using next year in AP Biology.
4. to have you earn some strong grades to help you begin your first semester at North Salem University with confidence.

*If you have any problems or questions – please feel free to email me at:  
[dcollea@northsalemsschools.org](mailto:dcollea@northsalemsschools.org).*

**Mr. Collea  
Room W19**

[dcollea@northsalemsschools.org](mailto:dcollea@northsalemsschools.org)  
<https://colleascorner.weebly.com/>

# AP BIOLOGY SUMMER ASSIGNMENT - 2024

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## ASSIGNMENT #1 - LETTER OF INTRODUCTION (Due Date 6/28/2024)

We are going to spend a lot of time together next year, so it's best if I get a head start on learning a bit more about you. Also, we will use the Internet a lot next year for this course, so let's get you used to communicating with me via e-mail. Now that I have your contact information, your second digital assignment is to successfully send me via e-mail a letter about yourself.

**Your Letter of Introduction must abide by the following rules:**

1. Use clearly written, **full sentences**. Do not abbreviate words like you are texting 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!
2. Address it to me, Mr. Collea at: ***dcollea@northsalemschools.org***
3. Make the **Subject**: "AP Bio: Letter of Introduction"
4. Begin the e-mail with a **formal salutation**, like "Mr. Collea," or "Dear Mr. Collea,"
5. Now introduce yourself (your name) and tell me a little bit about yourself, like:
  - \* Why have you chosen to take a challenging class like AP Biology?
  - \* What are you looking forward to the most in AP Biology?
  - \* What are you most anxious about in AP Biology?
  - \* Was there anything that you liked about your earlier biology class?
  - \* What do your future college plans entail?
  - \* What do you like to do in what little free you will have next year (hobbies, sports, music, interests, etc.)?
  - \* Do you have a job?
  - \* Tell me a little bit about your family (Grand Parents? Mom? Dad? Guardian? Siblings? Pets?)
  - \* What do your parents do for a living?
  - \* What was the last book you read for fun?
  - \* Anything else I should know about you, your family and your style of learning **[CONFIDENTIAL]**
  - \* End the e-mail with a **formal closing**: "Cordially", "Sincerely", "Warm regards", etc. and add your name as if you signed a letter.

## ASSIGNMENT #2 – Khan Academy Registration

Please join our Kahn Academy class using the class code **M76X6M**  
(At your earliest convenience)

# ASSIGNMENT #3 – Root Word Investigation

(Due 1<sup>st</sup> Day of School)

## The Language of Science

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 hodge podge of little 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. Use this list to guess the meaning of each of the terms.

Science root words, also known as scientific prefixes, suffixes, and roots, are used in scientific terminology to convey specific meanings related to various branches of science. These root words are often derived from Latin or Greek and are combined to form words that describe concepts, processes, structures, or phenomena in the natural world. Here are some common ways science root words are used:

**Prefixes:** Prefixes are added to the beginning of a word to modify its meaning. For example:

"Micro-" means small or microscopic, as in microorganism (*a small organism*).

"Macro-" means large or macroscopic, as in macroeconomics (*the study of large-scale economic systems*).

**Suffixes:** Suffixes are added to the end of a word to modify its meaning or indicate a specific function. For example:

"-logy" refers to the study of a particular subject, as in biology (*the study of living organisms*).

"-meter" refers to a measuring device or instrument, as in thermometer (*an instrument for measuring temperature*).

**Root Words:** Root words are the building blocks of scientific terminology and convey core meanings. For example:

"Bio-" refers to life or living organisms, as in biology (*the study of living organisms*).

"Hydro-" refers to water, as in hydrology (*the study of water and its distribution*).

**Find the meaning of the following Greek/Latin root words using Google or a dictionary.**

Root Word	Meaning	Example
a- / an		
auto-		
aero-		
endo-		
entero-		
anti-		
amphi-		
archea-		
aqua-		

Root Word	Meaning	Example
anthro-		
bi / di-		
bio-		
carne-		
carcin-		
chloro-		
chromo-		
-cide		
cyto- / -cyte		
derm		
ecto- / exo-		
-emia		
endo-		
epi-		
glyc-		
-genesis		
-gen		
haplo		
hemo-		
hetreo-		
homo-		
hydro-		
hypo-		

<b>Root Word</b>	<b>Meaning</b>	<b>Example</b>
hyper-		
intra-		
inter-		
-itis		
-iso		
-lysis		
kary		
-meter		
mono-		
morph		
macro-		
micro-		
multi-		
poly-		
neuro		
-path		
-onco		
phage-		
phobia-		
philia-		
proto-		
photo-		
-phyll		
poly-		

<b>Root Word</b>	<b>Meaning</b>	<b>Example</b>
primi-		
pseudo-		
soma- some		
sacchar-		
-stasis		
sub		
sym-		
syn-		
-taxis		
-troph		
tonic		
-tropism		
-therm		
tri-		
zoo- / -zoa		
zyg- -zygous		

Once you have completed the root word table above, use it to develop a **SIMPLE definition, IN YOUR OWN WORDS**, for each of the following terms.

Root Word	SIMPLE Definition in YOUR OWN WORDS
Aerobic Respiration	
Anaerobic Respiration	
Antigen	
Archaeobacteria	
Autotroph	
Carcinogen	
Chromosome	
Heterotroph	
Hydrophobic	
Hydrophilic	
Hydrolysis	
Hypertonic	
Hypotonic	
Isotonic	
Homozygous	
Heterozygous	
Hypoglycemia	
Hyperglycemia	
Intracellular	
Intercellular	
Extracellular	
Monosaccharide	
Disaccharide	
Polysaccharide	
Pathogen	

## ASSIGNMENT #4 – TEXT BOOK CHAPTERS 1 - 5

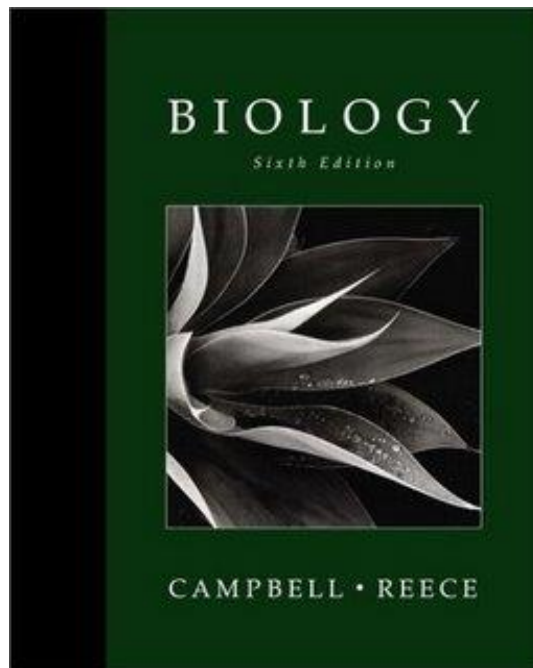
(Due 1<sup>st</sup> Day of School)

1. Read Chapters 1- 5 in your Textbook along with a relating chapter(s) from Bill Bryson's book, *A Short History of Nearly Everything*.
2. Complete the attached Interactive Learning Guides **and** multiple choice questions for textbook chapters 1 - 5.
3. Complete the Bill Bryson questions associated for each chapter. You do **NOT** have to write or type the answers to the Bill Bryson questions, you can simply **highlight the answers in the chapters**. Feel free to write yourself notes or the question # in the margins next to the answer and **be prepared to discuss your answers in class**.
4. Check out the AP Biology Home Page along with the Summer Assignment / Biochemistry page on my website for assistance and extra copies of this assignment.

<http://colleascorner.weebly.com>

## ASSIGNMENT #5 – CLASS MATERIALS (Due 1<sup>st</sup> Day of School)

1. 3-ring binder (2 inch MINIMUM) for Interactive Learning Guides and other handouts.
2. **I HIGHLY RECOMMEND** if you plan on majoring in biology and/or medicine in college to purchase our Textbook: Biology (*6th Edition*) by Neil A Campbell and Jane B. Reece ISBN # 0-8053-6624-5.



*Textbook*

*There are many used versions of our textbook for sale on the internet for less than \$5.00 - just be sure to get the Campbell / Reece 6<sup>th</sup> edition)*