

Dear AP Biologist,

I'm really excited for you to join me next year in AP Biology! Whether you are a seasoned pro when it comes to AP classes, or you are challenging yourself for the first time with an upper level science class, you will find your place here and I am excited to help you gain a deeper understanding of the natural world.

This last year was not a normal year and this summer will be anything but a normal summer break for all of us. I understand that everyone is in a different place right now and you may not have the bandwidth to focus on biology. That is OK. You can put this aside and come back to it later when you have more time or mental capacity beyond what is happening in the world around us.

To be best prepared for your year of AP Biology, I strongly recommend staying connected to the natural world this summer. That can be as rigorous as reading a book or as simple and relaxing as going outside and appreciating the vast diversity of life that surrounds you. I do not expect you to come in next year as an expert in Biology, but if you are thinking about our world over the summer you will probably have an easier time in the fall.

Everything on this document is merely recommended and it is all ungraded. That being said, I would love to connect with you over the summer about what you see, what you learn, and what you experience. I can be contacted at any time over the summer at my email, emellgren@pps.net (it is summer though, so don't expect an immediate response).

Go Outside!

iNaturalist is a website and free app that is social media for biology nerds. You post photographs of organisms that you find interesting and the people in the community help to identify the organism. Plants, animals, and fungi are all fair game. My advice is that you pick your favorite natural haven in the Portland area (Mt. Tabor Park, Forest Park, a Beach, a trail in the Gorge, etc.) and visit it several times over the course of the summer. Document the organisms you find on iNaturalist and see how the biodiversity changes over the summer. Are different animals more active at certain times of the year or at certain times of day? I will be using iNaturalist to document the range of species I find on my bike ride from Seattle to Glacier National Park this summer, my username is emellgren.

Do Citizen Science!

Biologists collect a lot of data as part of their research projects and then they look for volunteers to help them analyze the data. Pick a project and help out from the comfort of your home. Head to [Zooniverse.org](https://www.zooniverse.org) and pick a project to help out with. Some projects to consider:

- **Wild Mont-Blanc** - Help analyze photos from cameras in the wild to document the biodiversity of Mont-Blanc in the Alps of France
- **Seal Watch** - Tag time-lapse and drone photographs of seals to help monitor populations of males, females, and pups
- **Chimp and See** - Monitor camera footage to help researchers learn about Chimpanzee behavior

Read a Book!

Are you an avid reader looking for some great books that will inspire your sense of wonder about the natural world. Looking for recommendations? Check out some of these:

- **The Gene by Siddhartha Mukherjee** - The human history of genes and genetics as well as an exploration of the implications of the understanding of our genetic code.

- **Serengeti Rules by Sean B. Carrol** - Examines some of the most important ecological experiments and discoveries and how they work together to create the set of rules that all life follows on our planet.
- **The Sixth Extinction by Elizabeth Kolbert** - A series of vignettes highlighting different organisms and ecosystems around the planet that have been dramatically affected by humanity. The main thesis being that we are currently in the 6th great extinction event of our planet, precipitated by humanity
- **Braiding Sweetgrass by Robin Wall Kimmerer** - The author fuses her training as a botanist and the teachings of her heritage as a citizen of the Potawatomi Nation to talk about ecological understanding and conservation biology.
- **The Hidden Life of Trees by Peter Wohlleben** - Details the incredibly complex and unseen interactions and communication between trees.
- **Other Minds by Peter Godfrey-Smith** - Exploration of the evolution and nature of consciousness using mammals, cephalopods like octopus and cuttlefish, and birds.
- **Genome by Matt Ridley** - An autobiography of the human genome told in 23 chapters for the 23 pairs of chromosomes in humans.
- **The Rise and Fall of the Dinosaurs by Steve Brusatte** - Like dinosaurs, read about the age ruled by the terrible lizards
- **The Red Queen by Matt Ridley** - An exploration of how sexual selection has driven evolution and has changed human nature

Watch a Nature Documentary

Is reading not really your thing? Well, you'll want to work on that before you get to college, but here are some things you can tune into.

- **Our Planet** - [Free on Youtube HERE](#) or Find it on Netflix - Documentary exploring life on Earth, the dangers imposed by human activity, and what we can do to fix it.
- **Serengeti Rules** - [Free on PBS HERE](#) or Rent it on Amazon Prime or Apple+ - The book I recommended above was turned into an hour long documentary. Check it out.
- **Crash Course AP Bio** - [Watch the Crash Course videos](#) on Youtube that go over what we will discuss this year in AP Biology. Watching through these videos before the year will give you a framework when we revisit all these ideas.

AP biology can be somewhat labor intensive, but it is very rewarding and can be very fun. I look forward to seeing some of you again and meeting some of you more completely in the fall. If you have any questions over the summer, I can be contacted by email at emellgren@pps.net. I cannot guarantee you an immediate response, but I should check it regularly. Have a fantastic summer and I will see you in the fall.