

AP Biology Summer Assignment 2024-25

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Welcome to AP Bio! I hope to make AP Biology an exciting tour through an in-depth analysis of biological concepts and issues. Whether you've experienced high school biology prior to taking AP or not, our learning process is meant to ensure success in the AP Bio program, as long as you are willing to put forth the appropriate level of effort. Your summer assignments are a good indicator of what to expect in AP – interesting reading, thoughtful analysis, with a high level of connections and application to life outside the classroom. Your introductory video/power point is due by August 30th and should be emailed to me directly. The reading assignment should be completed by the first day of school in preparation for our Socratic Circle discussion that first week; and the Bozeman Biology Video Notes should be ready to hand in the first day of class. **All assignments receive a grade.**

1. Read *Bad Science* by Ben Goldacre. **You MUST read the first 2 chapters, plus 2 others of your choice. The way the book is written means you do NOT have to read consecutive chapters** **Take notes (ONE PAGE ONLY per chapter), annotate, sticky note ... You will need to submit your notes on the day of our Socratic Circle, and expect a graded discussion/Socratic Circle the first week.** We will be discussing the concepts of the book throughout the year, but especially with our first unit on scientific processes and data collection.
<https://www.goodreads.com/book/show/3272165-bad-science>
2. Find and ENJOY the biology of LIFE in your environment. Visit a State or National Park or nature preserve and take photographs of the **life** around you, examples of the **diversity of life** and the **interconnectiveness of life, i.e. symbioses**. Be sure to include **FLORA and FAUNA**. See the attached list of themes & vocabulary to guide your project. **Create a powerpoint, Prezi, pictograph or movie that introduces me to YOU and your various world (so inserting text blocks and commenting on the vocabulary above is part of your graded work).** Your images should show YOU in them wherever possible. **E-mail your introductory project to me by August 30th.**
3. **Unit 8 Ecology videos and guided notes. See attached page with video links. Due the first day of class.**

Themes and Vocabulary for Outdoor project

Try to use as much vocab as you can as you describe your images; that might mean you need to look up vocab! **DO NOT SIMPLY SUBMIT IMAGES WITHOUT SOME SORT OF DESCRIPTOR**

OF THE THEME USING THE SUGGESTED VOCABULARY

Let's aim for 3-5 images per theme – you can do one slide per theme with descriptions

Themes to capture (and be sure to show YOURSELF in each themed collection)

- **Life finds a Way** – survivability, tenaciousness, the fight for life
- **More, please** – populations, colonies, groups etc... showing growth of a population
- **Break it down, Build it up** – death, decomposition, rebirth
- **Home sweet home** – habitats for life, homes/nests/caves, etc
- **Inner Beauty** – look for something that seems ugly on the outside, but has some inner secret beauty (especially flowers)
- **Bring it on** – predators, prey, symbiotic relationships
- **Shine the light on me** – photosynthesis and ways plants maximize photosynthesis
- **Endless forms most beautiful** – geometry and symmetry in nature, adaptations for environment
- **Man meets environment, Environment meets man** – show me how we affect the environment, and how the environment fights back
- **My spirit animal** – find an organisms (from any Kingdom) that “speaks” to you; make this your last slide and tell me why this is your spirit organism.. I’ll go first ... Honey Bee, because of their industrious nature and their community work ethic.

Vocabulary you might use:

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|-----------------------------------|---------------------------------------|
| • Biome | Ecotone |
| • Ecosystem | community |
| • Producer/autotroph | consumer/heterotroph |
| • Decomposer/detrivore | Trophic levels |
| • Food web/food chain | keystone species |
| • Symbiosis | parasite/host |
| • Mutualism | commensalism |
| • Ammensalism | predator/prey |
| • Energy sources | trophic cascade |
| • Senescence/Aging/Death | dormancy |
| • Birth | germination/pollination/fertilization |
| • Growth/development | differentiation |
| • Population | organism |
| • Logistic vs. exponential growth | r-strategist/K-strategist |
| • Adaptations | selection pressures |
| • Niche | habitat |

AP Bio summer videos for Ecology Unit 8

EVEN with double periods, I cannot fit in the Ecology Unit as a unit. I weave in concepts throughout the course, but you can ensure your preparedness by watching the following videos and using the guided notes to “capture” the information. You can expect to take a test on Ecology within the first 2 weeks of school. All resources are found on: [bozemanscience](http://bozemanscience.com). ~7 minutes to ~16 minutes. You MUST do all work on paper as studies have shown that pen to paper is the best way to learn and retain information (pdf paper copies were provided at our meeting June 12th; you can print from website)

Life on Earth organization:

[Three Domains of Life — bozemanscience](http://bozemanscience.com)

[Microsoft Word - AP Bio Supplemental - Three Domains of Life Worksheet-WL.docx \(squarespace.com\)](#)

Populations

[050 - Populations — bozemanscience](http://bozemanscience.com)

[Microsoft Word - AP Bio-050 Populations Worksheet-WL.docx \(squarespace.com\)](#)

Communities

[046 - Communities — bozemanscience](http://bozemanscience.com)

[Microsoft Word - AP Bio-046 Communities Worksheet-WL.docx \(squarespace.com\)](#)

Ecosystems

[047 - Ecosystems — bozemanscience](http://bozemanscience.com)

[Microsoft Word - AP Bio-047 Ecosystems Worksheet-WL.docx \(squarespace.com\)](#)

[020 - Biotic and Abiotic Factors — bozemanscience](http://bozemanscience.com)

[AP Bio-020 Biotic and Abiotic Factors CM PDF \(squarespace.com\)](#)

Biodiversity

[055 - Biodiversity — bozemanscience](http://bozemanscience.com)

[Microsoft Word - AP Bio-055 Biodiversity Worksheet-WL.docx \(squarespace.com\)](#)

Changes in our World

[051 - Ecosystem Change — bozemanscience](http://bozemanscience.com)

[Microsoft Word - AP Bio-051 Ecosystem Change Worksheet-WL.docx \(squarespace.com\)](#)