

Cornelia Connelly School

AP Biology

Summer Assignments

Chapters 1-3 (*Life: The Science of Biology*, 8th Ed.)

1. Read and take outlined notes on all assigned chapters; include definitions of terms, section headings, and copy down any scientific processes. Pay attention to labeled pictures and diagrams. You may use your preferred method, but I suggest using the Cornell Notes Method:
http://lsc.sas.cornell.edu/LSC_Resources/cornellsystem.pdf
2. Answer all *Recap* questions for all sections and the *For Discussion* and *For Investigation* questions. Make sure your answers are in complete sentences and paragraphs. Make sure answers are of college-level quality and use proper English grammar and punctuation.
3. Do the three AP Essays at the bottom of this sheet. Make sure you use proper English and grammar. Explain the concepts well. These do not have to be in standard essay format, but they need to explain the concepts well and have proper flow. They should be 1-2 pages long and be written in under 30 minutes once you have studied the concepts. Be sure you know the concept well before you attempt the essay and do not use the book, the internet, or any other aids once you sit down to write. This is a bit of practice for what we will be doing throughout the year.
4. You will have a test covering chapters 1-2 *the first day of class*. Be ready! It may be essay, multiple choice, or a combination of these formats. All notes and questions are *due by the beginning of class on the first day* with no exceptions.

Read and report on a groundbreaking science book

1. Choose a groundbreaking book by a prominent scientist to read. The book chose must be from the list below.
2. Write a three to four page summary of the book. Explain what effect this book had on the world and the scientific community historically. Outline the important theory (ies) in the book.
3. The report will be typed in Arial 10 point font, with 1 inch margins on all sides, double spaced, and no excessive spacing for titles etc. All work must be done in [MLA format](#) following all guidelines. There will not need to be a Works Cited page for this report. If any of these guidelines are not followed, the paper may be given a zero or downgraded.
4. A paper copy of the report is *due by the beginning of class the first day* of school. The report will be turned in to Turnitin.com after the first day of classes. Keep your electronic copy. I will give you the information on how to do this on the first day of class.

Write a short research paper on a relevant experiment

1. You will be assigned a topic at the AP Biology lunch meeting on June 4th, 2009. You will be writing a four to five page research paper on the topic provided. You must include at least 5 sources for your research, two of which must be a book, periodical, or scientific abstract. **Wikipedia.com and the textbook are not valid sources for this paper** but can be used to find valid sources. Make sure your sources are updated and reputable.
2. Be sure to include an [MLA format](#) Works Cited page. This does NOT count toward the four to five pages. You can use <http://easybib.com/> if you are unsure of how to make an MLA format Works Cited page. Just input your data to the website, and it will crank out the Works Cited page.
3. The report will be typed in Arial 10 point font, with 1 inch margins on all sides, double spaced, and no excessive spacing for titles etc. All work must be done in [MLA format](#) following all guidelines. If any of these guidelines are not followed, the paper may be given a zero or downgraded.
4. A paper copy of the research paper is *due by the beginning of class the first day* of school. The report will be turned in to [Turnitin.com](#) after the first day of classes. Keep your electronic copy. I will give you the information on how to do this on the first day of class.

Important Notes:

- ✓ This is a college credit course that needs to be completed by May 1, 2009. There are 57 chapters to cover, which means we will be going very quickly and you will have large amounts of reading, memorization, and homework to do. Be prepared!
- ✓ Be ready to do work outside of class and attend possible study sessions outside of normal school time.
- ✓ Everyone who takes this class **MUST** take the AP TEST or no AP credit will be given on your transcript!
- ✓ To familiarize yourself with the test, you will want to look at the practice exam (.pdf) on pages 20 – 36 (according to acrobat or 18 – 34 conventional page numbers) on the AP website at: http://www.collegeboard.com/prod_downloads/ap/students/biology/ap-cd-bio-0708.pdf ---- This is the test you will be taking and the description of the course. It will most likely be harder than any test you have taken before. Respect the test and work hard and you will do well!

Book Report Booklist:

- On the Origin of Species by Means of Natural Selection - Charles Darwin

- Why Big Fierce Animals Are Rare – Colinvaux
- Stem Cell Now – Scott
- The Selfish Gene – Dawkins
- Silent Spring – Carson
- Punctuated Equilibrium – Gould
- In the Shadow of Man - Jane Goodall
- The Blind Watchmaker – Dawkins
- Living within Limits: Ecology, Economics, and Population Taboos – Garrett Hardin
- Man's Place in Nature – Thomas Huxley
- King Solomon's Ring – Konrad Lorenz
- On Aggression – Konrad Lorenz
- This is Biology – Ernst Mayr
- Embryology and Genetics – Thomas Hunt Morgan
- The Hot Zone – Richard Preston
- How Animals Work – Knut Schmidt-Nielsen
- Life in Moving Fluids – Steven Vogel
- Sociobiology – Edward Wilson

Research Paper Topic List

You will have been assigned one of the following experiments to research and write about:

- Gregor Mendel's Pea Plant Genetics Experiments
- Thomas Hunt Morgan's *drosophila melanogaster* experiments involving sex-linkage
- Frederick Griffith's Bacterial Transformation experiment with pneumonia
- The Miller-Urey abiogenesis experiment
- The Hershey-Chase T2 bacteriophage virus experiment
- The Meselson-Stahl semiconservative DNA replication experiment
- The Avery-MacLeod-McCarty bacterial transformation experiment
- The Beadle-Tatum *neurospora* mutant experiments
- The Sutherland et al cAMP second messenger experiment
- The Boyer-Cohen genetic recombination of DNA
- Charles and Francis Darwin's phototropism experiment
- Frits W. Went's phototropism experiment
- Diane Dodd's allopatric speciation from food sources experiment
- Anthony Dodd et al experiment on the circadian rhythms of plants
- DeVries experiments with polyploid plants
- The Dolly the sheep cloning experiment
- Lorenz's Fixed Action Pattern (FAP) Graylag Goose experiments
- Niko Tinbergen's wasp behavior experiments
- Thomas Malthus' population growth rates experiments
- Hubbard Brook Experimental Forest biogeochemical cycles experiments





