

AP Biology Summer Work FLHS 2025-26

Do this before school ends:

1. Pick up your textbook: Stop by the 3rd floor book room before you leave for the summer to pick up your textbook, Campbell's *Biology in Focus*.
2. Get the *Survival of the Sickest* book:
 - A digital copy is available using the [Sora link](#). If you are not signed into ClassLink you will be prompted to do so.
 - If you prefer to borrow or purchase a physical copy of the book, visit our LMC, the public library, or purchase your own from a bookstore/Amazon (currently around \$10.51).
3. Review our Academic Integrity policy:
 - We strictly adhere to the academic integrity policy. With a parent or guardian, review the Academic Integrity policy. Both you and your parent or guardian will need to sign the page and submit it to your teacher with the rest of your summer work. **The Academic Integrity Policy applies to your summer assignment.**
4. Read through this entire packet.
 - Assignments 1 & 2 ask you to identify specific examples of things from *Survival of the Sickest*. You'll want to make sure you're looking out for this information as you begin reading the book.



Do this summer:

Assignment 1 - Survival of the Sickest Chapter Reflections with Works Cited submitted to our Google Classroom page. (Your work will be scrutinized for plagiarism and AI use.)

Assignment 2 - Mini-Poster for Survival of the Sickest, the mini poster rubric with the self-score column completed and your signed Academic Integrity Policy page are to be handed in. This poster will be shared at a class book discussion during a class early in the year. (Your work will be scrutinized for plagiarism and AI use.)

Assignment 3- [Foundational Science Skills review packet](#). Review the [learning objectives](#) and complete the paper packet. Submit a paper copy or to our Google Classroom page.

Take Note:

- ★ *Read through this entire packet BEFORE reading the book.*
- ★ *If you have any questions, email your teacher.*
- ★ **Due Date: Thursday, August 28, 2025**
- ★ **Total value of summer work: 60 points**

Acclimating yourself with the AP Biology Curriculum:

The AP Biology Curriculum centers around the **4 Big ideas** and you will need to not only know these but also understand how they are interconnected.

Big Idea 1: The process of evolution drives the diversity and unity of life.

Evolution is a change in the genetic makeup of a population over time, with natural selection as its major driving mechanism. Darwin's theory, which is supported by evidence from many scientific disciplines, states that inheritable variations occur in individuals in a population. Due to competition for limited resources, individuals with more favorable genetic variations are more likely to survive and produce more offspring, thus passing traits to future generations. A diverse gene pool is vital for the survival of species because environmental conditions change. The process of evolution explains the diversity and unity of life, but an explanation about the origin of life is less clear. In addition to the process of natural selection, naturally occurring catastrophic and human-induced events as well as random environmental changes can result in alteration in the gene pools of populations. Scientific evidence supports that speciation and extinction have occurred throughout Earth's history and that life continues to evolve within a changing environment, thus explaining the diversity of life.

Big Idea 2: Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis.

Cells and organisms must exchange matter with the environment. Organisms respond to changes in their environment at the molecular, cellular, physiological, and behavioral levels. Living systems require energy and matter to maintain order, grow, and reproduce. Organisms employ various strategies to capture, use, and store energy and other vital resources. Energy deficiencies are not only detrimental to individual organisms but they can cause disruptions at the population and ecosystem levels. Homeostatic mechanisms that are conserved or divergent across related organisms reflect either continuity due to common ancestry or evolutionary change in response to distinct selective pressures.

Big Idea 3: Living systems store, retrieve, transmit, and respond to information essential to live processes.

Genetic information provides for continuity of life, and, in most cases, this information is passed from parent to offspring via DNA. Non heritable information transmission influences behavior within and between cells, organisms, and populations. These behaviors are directed by underlying genetic information, and responses to information are vital to natural selection and evolution. Genetic information is a repository of instructions necessary for the survival, growth, and reproduction of the organism. Genetic variation can be advantageous for the long-term survival and evolution of a species.

Big Idea 4: Biological systems interact, and these systems and their interactions possess complex properties.

All biological systems comprise parts that interact with one another. These interactions result in characteristics and emergent properties not found in the individual parts alone. All biological systems from the molecular level to the ecosystem level exhibit properties of biocomplexity and diversity. These two properties provide robustness to biological systems, enabling greater resiliency and flexibility to tolerate and respond to changes in the environment. Nothing in our world exists in isolation and even things such as disease and the evolution of disease are more complex than most realize.

These **4 big ideas** are the framework for the **8 main units** of the course:

AP Biology Overview Video: A great resource to use to review but also give you a good idea of what to expect from this course: <https://youtu.be/Kuxic6y6pwkn>

- | | |
|--------------------------------------|-----------------------------------|
| 1. Chemistry of Life | 5. Heredity |
| 2. Cell Structure and Function | 6. Gene Expression and Regulation |
| 3. Cellular Energetics | 7. Natural Selection/Evolution |
| 4. Cell Communication and Cell Cycle | 8. Ecology |

Assignment 1: Survival of the Sickest Chapter Reflections (20 points- Submit to Google Classroom)

You will have the summer to read *Survival of the Sickest*.

- Each reflection should be 4-8 quality sentences, reference the chapter and use evidence from the chapter. (3 points for each reflection)
- Use a different chapter for each prompt. (You'll have reflections for just 6 of the book's 8 chapters.)
- Answers should make connections to your previous knowledge about biology and science in general.
- Identify what chapter and page(s) the concept you are referring to is from.
- At least three of your reflections will require additional research on the web. Use reliable sources. Please include a Works Cited page at the end of all of your reflections for additional resources used. Use Noodle Tools to cite using MLA format and if needed our school [LMC Research page](#) to help you with your Works Cited. (2 points)

Reflection prompts:

1. Pick one topic from a particular chapter and initiate a thoughtful conversation with family or friends. **Describe** the topic and the conversation. What were the thoughts and reactions of those you discussed this information with? Did your understanding of the topic change after sharing the information? Did it spark additional questions?
2. **Describe** your favorite topic from a particular chapter. **Explain** why this was your favorite topic and what relevance it has for you.
3. Delve further into an interesting topic from a chapter. Look outside the book for additional information. **Research** additional information regarding this topic and summarize what you learned. **Cite** your source(s).
4. **Identify** a concept from a chapter that you felt most knowledgeable about. Where and how did you learn about this concept? What new information did you learn after reading the book?
5. What concept from a particular chapter are you still unsure about? Critical thinking is essential in science. **Explain** your thinking. Follow up on this topic by doing additional **research**. **Describe** what you learned from this new source. **Cite** your source(s).
6. This book was published in 2007. Select a topic that you would like to know more current information about. **Research** this topic. What new scientific research/knowledge has been done on this topic? How does this change or confirm what Dr. Molam wrote about? **Cite** your source(s).

NOTE: In the fall, you'll be asked to share your thoughts/reflections about the book both during our class summer reading discussion and one on one with your teacher.

Assignment 2: Mini Poster for Survival of the Sickest (30 points)

A well designed mini poster is a way to visually share key ideas and information that you have learned. Your audience will be your AP Biology teacher, classmates and freshman biology students. You will use it as a part of our summer reading class discussion and it will be hung up outside of our classroom.

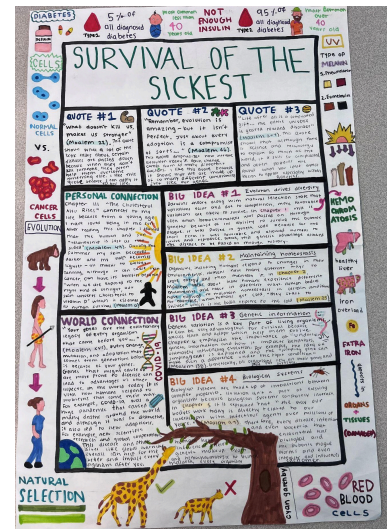
We are handing out 11 x 17 inch pieces of white copy paper for your poster. If you didn't pick one up, you can simply tape 2 pieces of regular 8.5 x 11 inch copy paper together to create a poster of approximately the same size.

Feel free to neatly create your poster by hand or include photos/diagrams and typed elements to ensure your poster is legible, clearly communicates your ideas, and is interesting to look at.

See attached Mini-Poster Grading Rubric for scoring guidelines.

Your Mini Poster MUST INCLUDE:

1. **Border:**
A border on all four sides of your poster. Must include a combination of words, images/photos and/or symbols to accurately reflect your favorite topics from the book (minimum of 4 topics).
2. **3 Quotes:**
A section which shows at least three important quotes from the book, along with relevant symbols/images/diagrams that represent each quote. Include the page number for each quote.
3. **Connection to the world:**
A section that connects this book to what is going on in our world today. Use another quote or section from the book along with relevant symbols/images/diagrams and a brief explanation of how you see this part of the book as it relates to the larger world.
4. **4 Big Ideas:**
The four Big Ideas serve as the foundation of the course and allow students to create meaningful connections among course concepts. Often, these are concepts or themes that become threads that run throughout AP Bio. For each of the four Big Ideas, identify an example from *Survival of the Sickest* that illustrates that idea. Describe in words how you think this concept relates to the Big Idea. Use images/photos/sketches to support your answer. (See p. 2 of this packet for a detailed explanation of each Big Idea.)



Assignment 3: [Foundational Science Skills review packet](#) (8 points Submit to Google Classroom)

- This information will prepare you for a quiz on foundational science skills that you'll take the week of September 1st.
- Please review the packet's [learning objectives](#) and complete the [paper packet](#).
- Note, there are many diagrams that you may want to view online so that you can see them in color.

Name: _____

Mini-Poster Grading Rubric/Self Rating

Section:		Points	Student Self Score	Teacher Score
Border	<ul style="list-style-type: none"> Four borders are present and contain concepts and information related to the book. This may be accomplished by picking at least four favorite topics from the book. Borders include pictures, words, symbols, to clearly reflect chosen ideas/topics. 	4		
4 Big Ideas	<ul style="list-style-type: none"> 4 Big Ideas are addressed and display concepts and ideas related to each Big Idea. Identify an example from the text that exemplifies each of the Big Ideas. Include an image, illustration or diagram for each big idea. 	8		
3 Quotes	<ul style="list-style-type: none"> List 3 favorite quotes from the book that resonated with you. (Reference book's page numbers.) Provide a reflection for each quote demonstrating your understanding of the quote and explain why it resonated with you. Include/create an illustration, model, diagram, or other visual to display the concepts behind the quote chosen. 	9		
Connection to world	<ul style="list-style-type: none"> How does this book connect to the world? Reflect on a topic, idea, or quote from the book that connects to the world today. Describe the connection and why you chose this topic. Include/Create an illustration, model, diagram, etc to represent your chosen topic. 	4		
Illustrations & Overall Appearance	<ul style="list-style-type: none"> The poster was organized, neat, and easy to read. Can be handwritten or typed Includes a minimum of 8 colorful illustrations to convey ideas and concepts. Poster design/visuals are creative 	5		
Total Score		___/30		

ACADEMIC INTEGRITY POLICY overview (2 points- submit a paper copy)

Our school values academic integrity as reflected by the Fairfield Ludlowe High School Core Values. Cheating or plagiarism on academic work will result in no credit for the material. Parents will be notified. Disciplinary action may result from multiple offenses. The Fairfield Public Schools comply with all copyright laws, and plagiarism in the academic environment is strictly prohibited.

As a learning community of students, parents, and staff, we all must accept responsibility for establishing and maintaining a climate of academic integrity at Fairfield Ludlowe High School. The Academic Integrity Policy assures that consistent and appropriate measures are taken to address offenses to academic integrity.

Violations of academic integrity are defined as, but not limited to:

- Using or possessing unauthorized notes or electronic devices during a test or quiz.
- Copying or possessing another student’s work during a test or quiz.
- Sharing answers during a test or quiz.
- Giving information to others who have not taken the test or receiving information from those who have.
- Copying another student’s class work or homework or providing your work to be copied. Intent cannot be judged. Students cannot use “I didn’t know he/she would copy my work and turn it in,” as an excuse.
- Plagiarizing another person’s work from any resource (periodical, book, internet, etc.) and submitting it as one’s own.
- Plagiarism by paraphrasing or using parts of another person’s work (ideas, text, images, etc.) without citing it as a resource in context or in a footnote.
- Using an electronic, computer-based, or internet site and/or program translator for the purpose of completing any written or oral class assignment including homework in a world language class.

Students should not place themselves in the position of having their actions viewed as cheating. We cannot judge intent, whether innocent or not. Students should pay particular attention to sharing documents electronically when individual work is required in the classroom.

[Source: FLHS Student-Parent Handbook 2024-25](#)

AP BIOLOGY LAB REPORT EXPECTATIONS:

All science courses require laboratory work as a part of the curriculum. This often involves students working together to complete the laboratory activity. A written lab report is turned in to the teacher with information regarding the procedure, data, and an analysis/conclusion based on the data gathered during the lab exercise. It is the expectation of the Fairfield Public Schools that ALL of the information included in a student’s lab report **except** for the procedure and the raw data will be done independently by the student. The purpose of the lab report is for each student to demonstrate his/her own understanding of the concept(s) used in the lab activity and the report should be treated just as any test or quiz would be. Students are not permitted to “work together” on any parts of the lab report beyond the procedure and raw data.

I have read and agree to abide by this academic integrity policy. _____ (Date)

_____	_____
(Student printed name)	(Parent/guardian printed name)
_____	_____
(Student signature)	(Parent/guardian signature)