To: AP Biology Students  
From: Bro. Tim Paul  
Re: Preparation for the first class  
Date: Summer 2018

AP Biology Students:

In order to get off to a fast start, I have an assignment to give you which I would like you to complete before the first day of class. Our school year next year will be busy and short. Getting ahead on this work will make your year a bit easier.

Please read **Chapters 22, 23, 24, and 25** (Unit 4) before the first day of class. It sounds like a lot but it’s less than 100 pages. These chapters, however, develop the theoretical basis of all of modern biology. We will study them first. It would be wise as well, to review the chapter headings in the 10th edition of Biology by Campbell and Reese in order to get a general idea of what we will be studying this year. Note that this edition of the text is the AP Edition. Do yourself a favor and take the self quizzes at the end of the chapters. The answers are at the end of the text.

Many of your homework assignments will be done online. You will need to register your personal subscription at [www.masteringbiology.com](http://www.masteringbiology.com). I will provide instructions on how to sign in over the summer.

Welcome again to the AP Biology Course. I hope that this year will be interesting, challenging, and exciting for you. Be prepared to read – the text is only 1200 pages!

Enjoy the rest of the summer and if you’re at the beach, bring along your text and read Chapter 33 on invertebrates!

Bro. Tim Paul  
[tpaul@stjohnsprep.org](mailto:tpaul@stjohnsprep.org)
Unit 4 ideas to look at carefully:

Chapter 22

- The historical context of Darwin’s life and ideas (Figure 22.2)
- The theories of Gradualism
- Lamarck’s Theory of Evolution
- Descent with modification and the role of natural selection
- Homology and the fossil record

Chapter 23

- What is population genetics?
- Gene pools and allele frequencies (oh no! higher math!)
- Hardy-Weinberg equilibrium
- Mutation and genetic recombination provide variation, the raw material of evolution

Chapter 24

- What is speciation?
- Reproductive barriers (Figure 24.3)
- Adaptive radiation
- Evolution is not goal oriented

Chapter 25

- What is phylogeny and systematics?
- Analyzing fossils
- Molecular homologies
- Binomial nomenclature
- Cladistics
- Molecular clocks