# A.P. Biology Summer Packet
# Karch – '20/21

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**Assignment Sheet for Campbell Biology in Focus, 2nd Edition**

**HOW TO SUBMIT SUMMER WORK:**

**For each of the six summer assignments:**

- Summer assignments will lock at 9:59pm on the day they are due! If you miss the deadline, you receive a zero for that assignment.
    - Complete the Concept Check questions assigned on our Schoology page.
    - Complete the Scientific Skills questions and/or open response questions in a Google Document and submit via Schoology.
- Summer assignments are graded for completion, not accuracy. In this way, you will have a sense of how well you understand the foundation materials. By the end of the summer, you will have a good idea of the difficulty level of the course.

**It is expected that all students meet the due dates for each summer assignment. If you know in advance that you will be away from a computer with Internet access during a period of time that would cause you to miss a deadline, plan to complete and share the assignment ahead of time.**

**It is expected that the homework answers you submit are your own thoughts and ideas and demonstrate YOUR understanding of concepts, not someone else's. Presenting someone else's thoughts, writing, or work as answers to assigned questions is unacceptable and constitutes a violation of Pingree School's academic honesty policy.**

**TIME MANAGEMENT: FORM GOOD HABITS NOW!!**

1) ***How much time should you budget for reading the textbook?***
    a. *budget 5 minutes per textbook page (just for reading).*
        i. *For example:*
            1. *Chapter 2 in our textbook is 19 pp. long. It should take about 1.5 hours to read it.*
2) ***How much time will you need to complete homework questions?***
    a. *Conservatively, budget about one hour to complete all portions of the homework that go with any given chapter.*
3) ***SPREAD THE WORK OUT OVER SEVERAL DAYS!!!***
    a. *Starting in September, the pace of our course is (about) one chapter per week. That's two hours of AP Bio work every week. If you spread that out, it's 40 minutes of work nightly spread out over three nights. That's quite manageable… provided, you have the self-discipline to adhere to that nightly schedule.*
4) *REMINDER: The times above are estimates only. Some students work faster/slower than others. However, the time estimates SHOULD be close to accurate.*
    a. *If it takes significantly longer to complete the work, that may be a warning sign that this course is going to eat up too much of your time as a Pingree student.*

# AP Biology: Summer Assignments by Chapter

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**Assignment 1— Read Chapter 2: The Chemical Context of Life (19 pages)**

*It is assumed for all students in the course that this material is review of topics learned in prior science courses. The content of this chapter is extremely important for understanding concepts discussed throughout the rest of this course. Make sure you genuinely UNDERSTAND everything in this chapter!*

- Complete the Chapter 2 Concept Check Questions on Schoology.
- Complete and submit the Chapter 2 Scientific Skills Exercise Questions 1-4 via Schoology
  - **Due: Friday, June 19th by no later than 9:59pm**

**Assignment 2— Read Chapter 3: Carbon and the Molecular Diversity of Life (27 pages)**

*It is assumed for all students in the course that this material is review of topics learned in prior science courses. NOTES: The illustrations in this chapter are extremely important.*

- Complete the Chapter 3 Concept Check Questions on Schoology.
- Complete and submit the Chapter 3, Level 3: Synthesis/Evaluation Questions 12 & 14 on page 71 of your textbook via Schoology
  - **Due: Friday, July 3th no later than 9:59pm**

**Assignment 3— Read Chapter 4: A Tour of the Cell (26 pages)**

*It is assumed for all students in the course that this material will be approximately 3/4th review of topics learned in prior science courses and 1/4th new material that goes beyond the detail of prior material.*

- Homework:
  - Complete the Chapter 4 Concept Check Questions on Schoology.
  - Complete and submit the Scientific Skills Exercise: Using a Scale Bar to Calculate Volume and Surface Area of a Cell, p. 80 (Questions 1—4: #2 is an explanation, not a question to answer) via Schoology
    - **Due: Friday, July 17th no later than 9:59pm**

**Assignment 4— Read Chapter 5: Membrane Transport and Cell Signaling (20 pages)**

*It is assumed for all students in the course that this material will be approximately 1/2 review of topics learned in prior science courses and 1/2 new material that goes beyond the detail of prior material.*

- Homework:
  - Complete the Chapter 5 Concept Check Questions on Schoology.
  - Complete and submit the Scientific Skills Exercise: Interpreting a Graph with Two Sets of Data, p. 109 (Questions 1—5) via Schoology
    - **Due: Friday, July 31st no later than 9:59pm**

**Assignment 5— Read Chapter 6: An Introduction to Metabolism (17 pages)**

*It is assumed for all students in the course that this material will be approximately 3/4th review of topics learned in prior science courses and 1/4th new material that goes beyond the detail of prior material.*

- Homework:
  - Complete the Chapter 6 Concept Check Questions on Schoology.
  - Complete and submit the Scientific Skills Exercise: Making a Line Graph and Calculating Slope, p. 134 (Questions 1—5) ← create this graph by hand, photograph it clearly, and embed the image into your google document. On the May exam, you will NOT be able to graph data w/ computer programs, so let's make sure you can make a graph the good old-fashioned way!
    - **Due: Friday, August 14th no later than 9:59pm**

**Assignment 6— Read Chapter 7: Cellular Respiration and Fermentation (18 pages)**

*It is assumed for all students in the course that this material will be approximately 1/2 review of topics learned in prior science courses and 1/2 new material that goes beyond the detail of prior material.*

- Homework:
    - Complete the Chapter 6 Concept Check Questions on Schoology.
    - Complete and submit the Scientific Skills Exercise: Making a Bar Graph and Evaluating a Hypothesis, p. 155 (Questions 1—3) ← create this graph by hand, photograph it clearly, and embed the image into your google document. On the May exam, you will NOT be able to graph data w/ computer programs, so let's make sure you can make a graph the good old-fashioned way!
        - **Due: Friday, August 28th no later than 9:59pm**

***** For questions that ask you to generate a hypothesis, you are expected to create a deductive, cause and effect IF/THEN statement.***

***Example:***

***Good hypothesis: If temperature and metabolic rates are inversely correlated, then increasing the temperature of the water will cause the heart rate of fish to decrease.***
***Poor hypothesis: If the temperature of the water is increased, then the heart rate of fish will decrease.***

***** For questions that ask you to design an experiment:***

- ***Define your independent (experimental) variable and dependent (responding) variable.***
- ***Describe the conditions of your experimental group and control group (and the substances/organisms of each group)***
- ***Identify variables that you will keep constant between the two groups so as to isolate the effects of your independent variable.***
- ***Describe the data you will collect and the method by which you will collect it.***
- ***Explain how you will verify the results of your experiment.***