**SL IB Biology II- Semester 1 Essay #1 & #2**

Objectives:

* To become more informed about various types of cells in various living organisms.
* To become more informed about the biochemistry in living organisms.

Procedure:

* Determine which essay question you and your partner would like to research and indicate it to your teacher.

1. Prokaryotes, fungi, and algae are all included in the realm of botany (plants), yet they are not true plants. Explain why these groups of organisms have historically been considered plants (what are their plant-like characteristics) and why they are not considered true plants (how do they differ from plants).
2. In the seed plants, we see an evolutionary loss of flagellated sperm. Discuss how fertilization is accomplished in these two groups of plants (Is water required? How do sperm get to the egg?) In what ways could this method of fertilization be advantageous over the method employed by mosses and ferns?
3. Select one flowering plant species and do some research on it. Report the details of the flower, how pollination is accomplished, and the fruit. Why did you select this plant? Discover some other interesting information about the plant and tell me about it.
4. Describe the basics of photosynthesis (inputs, outputs, light & dark reactions, organelle parts). In which specific leaf cell or tissue types does PS occur?
5. Glucose is a main product of photosynthesis but most glucose does not remain in a leaf. Describe where it goes in a plant, how it gets there and in what chemical form. Discuss cell and tissue types, plant organs, and processes of movement.

**Product Requirements:**

* + The paper should be a **minimum** of 4 pages in length (not including the work cited page) and should follow the proper rules of **APA** for in-text citations and work cited ONLY.
  + Minimum of 4 sources and 2 of them have to be books or journals.
  + Use Times New Roman size 12 font with double spacing.
  + Deadline for Turnitin.com: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Rubric for IB Biology Essay**

**Format criteria -** Typed; proper font, margins, and line spacing; four pages in length; all pages numbered and have students names; quotes or outside sources referenced in text; reference section done properly

**Composition criteria-** Grammar, punctuation, and spelling

**Quality of Response criteria-** Completeness and accuracy, thesis statement, references cited inside essay, written at appropriate level

**An excellent report (grade=AD):**

Format= all guidelines followed.

Composition= grammatically solid with no mistakes (use of complete sentences; proper punctuation; paragraphs that flow well; concepts don’t skip around)

Quality of response= proper use of biological terminology; writing reflects strong understanding of all aspects of question/problem with thesis; all aspects of solution are included and thorough; response is appropriate for IB Biology students.

**A good report (grade= PR)**

Format= most guidelines followed – missing one

Composition= grammatically moderate with one mistake (may be excellent in some aspect and poor in others; or just mediocre throughout).

Quality of response= many biological terms included and properly used; weak thesis; writing reflects understanding of many aspects of the problem or question; some aspects of solution are unclear or inaccurate; response level OK (more like high school level).

**A poor report (grade= BA)**

Format= most guidelines ignored – missing two (handwritten; wrong margins or font line spacing; not page numbered; students names not included; less than two or more than four pages in length; information not referenced; Not APA; reference section not APA).

Composition= grammatically poor throughout report with two mistakes(incomplete sentences; misspelled words; improper punctuation; concepts skip around).

Quality of response= biological terms lacking or misused; missing thesis; writing does not reflect understanding of most or all concepts of problem; most aspects of solution are lacking or inaccurate; response at inappropriate level.

**A poor report (grade= MI)**

Format= most guidelines ignored – missing three or more (handwritten; wrong margins or font line spacing; not page numbered; students names not included; less than two or more than four pages in length ;information not referenced; reference section missing).

Composition= grammatically poor throughout report with three or more mistakes (incomplete sentences; misspelled words; improper punctuation; concepts skip around).

Quality of response= biological not used; missing thesis; writing does not reflect understanding of most or all concepts of problem; inaccurate information; response at inappropriate level (i.e., grade school).

**APA Citation Example: ALWAYS indent any line after the first line in work cited.**

**Example: book**

Alexopoulos, R, Mims, C, and Blackwell, M.(1996). *Introductory Mycology*, 4th ed. Wiley & Sons, New York.

**Example: internet**

Gould, R.(2000). *Cell Biology*. <http://greatcells.edu accessed 3 September 2001>

**Example: journal**

Smith, E., and Jones, K.(2001). *Recycling of nutrients in the ocean*. Nature 59 (3):21-24